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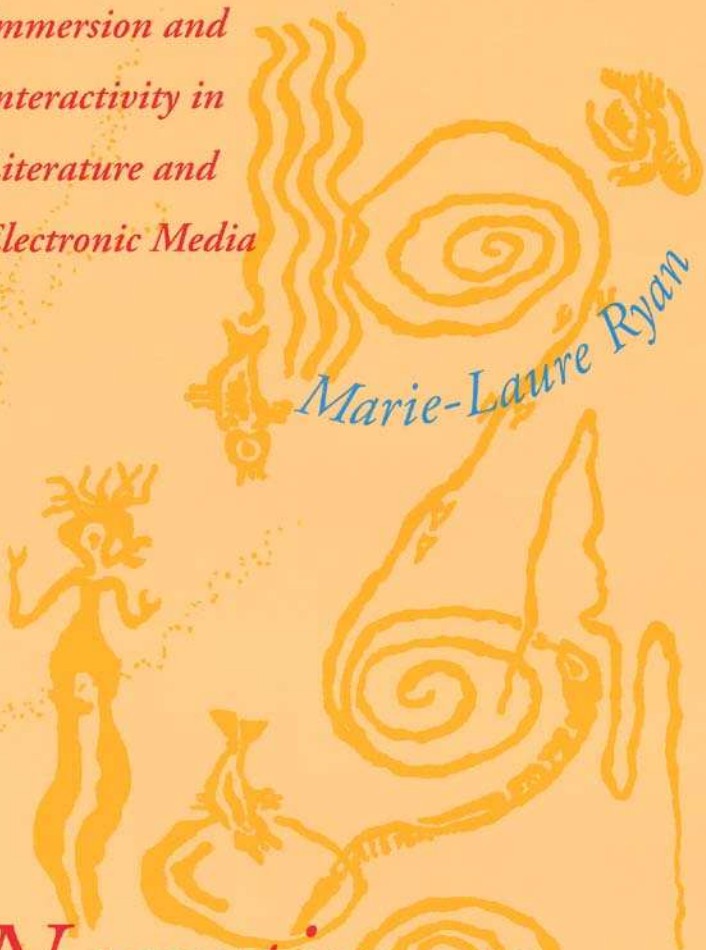
Immersion and Interactivity in Literature and Electronic Media



Marie-Laure Ryan

Narrative as Virtual Reality

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Introduction

Few of us have actually donned an HMD (head-mounted display) and DGs (data gloves), and none has entered the digital wonderland dangled before our eyes by the early developers of virtual reality: a computer-generated three-dimensional landscape in which we would experience an expansion of our physical and sensory powers; leave our bodies and see ourselves from the outside; adopt new identities; apprehend immaterial objects through many senses, including touch; become able to modify the environment through either verbal commands or physical gestures; and see creative thoughts instantly realized without going through the process of having them physically materialized.

Yet even though virtual reality as described above is still largely science fiction, still largely what it is called—a virtual reality—there is hardly anybody who does not have a passionate opinion about the technology: VR will someday replace reality; VR will never replace reality; VR challenges the concept of reality; VR will enable us to rediscover and explore reality; VR is a safe substitute for drugs and sex; VR is pleasure without risk and therefore immoral; VR will enhance the mind, leading us to new powers; VR is addictive and will enslave us; VR is a radically new experience; VR is as old as Paleolithic art; VR is basically a computer technology; all forms of representation create a VR experience; VR undermines the distinction between fiction and reality; VR is the triumph of fiction over reality; VR is the art of the twenty-first century, as cinema was for the twentieth; VR is pure hype and ten years from now will be no more than a footnote in the history of culture and technology.

We may have to wait until the new century reaches adulthood to see whether these promises and threats will materialize. But since the *idea* of VR is very much a part of our cultural landscape, we don't have to wait that long to explore the perspectives it opens on representation. Approaching VR as a semiotic phenomenon, I propose in this book to rethink textuality, mimesis, narrativity, literary theory, and the cognitive processing of texts in the light of the new modes of artistic world construction that have been made possible by recent developments in electronic technology.

VR has been defined as an "interactive, immersive experience generated by a computer" (Pimentel and Teixeira, *Virtual Reality,* 11). As a literary theorist I am primarily interested in the two dimensions of the VR experience as a novel way to describe the types of reader response that may be elicited by a literary text of either the print or the electronic variety. I propose therefore to transfer the two concepts of immersion and interactivity from the technological to the literary domain and to develop them into the cornerstones of a phenomenology of reading, or, more broadly, of art experiencing. In the course of this investigation we will visit both traditional literary texts and the new genres made possible by the digital revolution of the past two decades, such as hypertext, art CD ROMs, synchronic role-playing games (MOOs), the largely virtual genre of interactive drama, and its embryonic implementations in electronic installation art. My purpose will be twofold: to revisit print literature, more specifically the narrative kind, in terms of the concepts popularized by digital culture, and, conversely, to explore the fate of traditional narrative patterns in digital culture.

The history of Western art has seen the rise and fall of immersive ideals, and their displacement, in the twentieth century, by an aesthetics of play and self-reflexivity that eventually produced the ideal of an active participation of the appreciator—reader, spectator, user—in the production of the text. This scenario affects both visual and literary art, though the immersive wave peaked earlier in painting than in literature.

In pre-Renaissance times painting was more a symbolic representation of the spiritual essence of things than an attempt to convey the illusion of their presence. Its semiotic mode was signification rather than simulation. More attentive to what Margaret Wertheim (*Pearly Gates,* 87) calls "the inner eye of the soul" than to the "physical eye of the body," medieval artists painted objects as they believed them to be, not as they appeared to easily deceived senses. (The same can be said of children's drawings that represent the sky as a thin line at the top of the page rather than as a background behind figures.) Pictorial space was a strictly two-dimensional surface from which the body of the spectator was excluded, since bodies are three-dimensional objects.

All this changed when the discovery of the laws of perspective allowed the projection of a three-dimensional space onto a two-dimensional surface. This projection opens up a depth that assigns spatial coordinates—the center of projection, or physical point of view—to the body of the spectator. Perspective painting immerses a virtual body in an environment that stretches in imagination far beyond the confines of the canvas. From its spatial point of view the embodied gaze of the spectator experiences the depicted objects as virtually present, though the flat surface of the painting erects an invisible wall that prevents physical interaction. This strictly visual immersion reached its high point in the incredible trompe l'oeil effects of the Baroque age. The frescoes of Baroque churches blur the distinction between physical and pictorial space by turning the latter into a continuation of the former.

The illusion of a penetrable space received a first challenge when impressionism disoriented the eye with visible brushstrokes that directed attention to the surface of the canvas, and with shimmering light effects that blurred the contours of objects. Though impressionistic space is still three-dimensional, it opens itself to virtual bodies only after the mind completes a complex process of interpretation and construction of sensory data. For the spectator who has assimilated the lesson of impressionism, visual space can no longer be taken for granted.

In the early twentieth century, pictorial space either folded down into a play of abstract shapes and colors on a canvas that openly displayed its two-dimensionality, or exploded into the multiple perspectives of cubist experiments. Whereas the return to flat representation expelled the body from pictorial space, the cubist approach shattered the physical integrity of both space and the body by forcing the spectator to occupy several points of view at the same time. If abstract and cubist paintings lure the spectator into a game of the imagination, this game is no longer the projection of a virtual body in a virtual space but the purely mental activity of grouping shapes and colors into meaningful configurations. As art became more and more conceptual, the eye of the mind triumphed once again over the eye of the body.

But the appeal of a pictorial space imaginatively open to the body is

hard to kill off, and in the second third of the twentieth century, immersive ideals made a notorious comeback with the sharply delineated dreamscapes of surrealism. The art scene is now split between conceptual schools that engage the mind, hyperrealistic images that insist on the presence of objects to the embodied eye, and three-dimensional installation art in which the actual body is placed in an intellectually challenging environment. By letting the user walk around the display, and occasionally take physical action to activate data, installation art offers a prefiguration of the combination of immersion and interactivity that forms the ideal of VR technology.

In the literary domain, no less than in the visual arts, the rise and fall of immersive ideals are tied to the fortunes of an aesthetics of illusion, which implies transparency of the medium. The narrative style of the eighteenth century maintained an ambiguous stance toward immersion: on one hand, it cultivated illusionist effects by simulating nonfictional narrative modes (memoirs, letters, autobiographies); on the other, it held immersion in check through a playful, intrusive narrative style that directed attention back and forth from the story told to the storytelling act. The visibility of language acted as a barrier that prevented readers from losing themselves in the story-world.

The aesthetics of the nineteenth-century novel tipped this balance in favor of the story-world. Through techniques that are examined in greater detail in chapters 4 and 5 of this book, high realism effaced the narrator and the narrative act, penetrated the mind of characters, transported the reader into a virtual body located on the scene of the action, and turned her into the direct witness of events, both mental and physical, that seemed to be telling themselves. Readers not only developed strong emotional ties to the characters, they were held in constant suspense by the development of the plot. The immersive quality of nineteenth-century narrative techniques appealed to such a wide segment of the public that there was no sharp distinction between "popular" and "high" literature: wide strata of society wept for Little Nell or waited anxiously for the next installment of Dickens's serial novels.

The rest of the story has been told many times: how literature, cross-fertilized with the New Criticism, structuralism, and decon-

struction, took a "linguistic turn" in the mid-twentieth century, privileged form over content, emphasized spatial relations between words, puns, intertextual allusion, parody, and self-referentiality; how the novel subverted plot and character, experimented with open structures and permutations, turned into increasingly cerebral wordplay, or became indistinguishable from lyrical prose. This evolution split literature into an intellectual avant-garde committed to the new aesthetics and a popular branch that remained faithful to the immersive ideals and narrative techniques of the nineteenth century. (Ironically, the high branch turned out to be heavily dependent on the resources of the low branch for its game of parody.) As happened in the visual arts, immersion was brought down by a playful attitude toward the medium, which meant in this case the exploitation of such features as the phonic substance of words, their graphic appearance, and the clusters of related or unrelated senses that make up their semantic value field. In this carnivalesque conception of language, meaning is no longer the stable image of a world in which the reader projects a virtual alter ego, nor even the dynamic simulation of a world in time, but the sparks generated by associative chains that connect the particles of a textual and intertextual field of energies into ever-changing configurations. Meaning came to be described as unstable, decentered, multiple, fluid, emergent—all concepts that have become hallmarks of postmodern thought.

Though this game of signification needs nothing more than the encounter between the words on the page and the reader's imagination to be activated, it is easy to see how the feature of interactivity conferred upon the text by electronic technology came to be regarded as the fulfillment of the postmodern conception of meaning. Interactivity transposes the ideal of an endlessly self-renewable text from the level of the signified to the level of the signifier. In hypertext, the prototypical form of interactive textuality (though by no means the most interactive), the reader determines the unfolding of the text by clicking on certain areas, the so-called hyperlinks, that bring to the screen other segments of text. Since every segment contains several such hyperlinks, every reading produces a different text, if by *text* one understands a particular set and sequence of signs scanned by the reader's eye. Whereas the reader of a standard print text constructs

personalized interpretations out of an invariant semiotic base, the reader of an interactive text thus participates in the construction of the text as a visible display of signs. Although this process is restricted to a choice among a limited number of well-charted alternatives—namely, the branching possibilities designed by the author—this relative freedom has been hailed as an allegory of the vastly more creative and less constrained activity of reading as meaning formation.

These analogies between postmodern aesthetics and the idea of interactivity have been systematically developed by the early theorists of hypertext, such as George Landow, Jay David Bolter, Michael Joyce, and Stuart Moulthrop. These authors were not only literary scholars, they had also contributed to the development of hypertext through the production of either software, instructional databases, or literary works,[1] and they had a stake in the promotion of the new mode of writing. They chose to sell hypertext to the academic community—an audience generally hostile to technology but also generally open to postmodern theory—by hyping their brainchild as the fulfillment of the ideas of the most influential French theorists of the day, such as Barthes, Derrida, Foucault, Kristeva, Deleuze, Guattari, and Bakhtin—the latter an adopted ancestor. Many of those who came to electronic textuality from literary theory happily joined in the chorus. To cite a few particularly telling examples of this rhetoric, Bolter calls hypertext a "vindication of postmodern theory," as if postmodern ideas were the sort of propositions that can be proved true or false ("Literature in the Electronic Space," 24); Richard Lanham speaks of an "extraordinary convergence" of postmodern thought and electronic textuality (*Electronic Word,* chap. 4);[2] and Ilana Snyder argues that hypertext teaches "deconstructive skills" that readers supposedly do not acquire from standard texts (*Hypertext,* 119).[3] Though all these comments describe hypertext, not interactivity per se, it was the interactive nature of the genre that inspired these pronouncements.

The list of the features of hypertext that supports the postmodernist approach is an impressive one. It is headed by Roland Barthes and Julia Kristeva's notion of *intertextuality,* the practice of integrating a variety of foreign discourses within a text through such mechanisms as quotation, commentary, parody, allusion, imitation, ironic trans-

formation, rewrites, and decontextualizing/recontextualizing operations. Whether intertextuality is regarded as a specific aesthetic program or as the basic condition of literary signification, it is hard to deny that the electronic linking that constitutes the basic mechanism of hypertext is an ideal device for the implementation of intertextual relations. Any two texts can be linked, and by clicking on a link the reader is instantly transported into an intertext. By facilitating the creation of polyvocal structures that integrate different perspectives without forcing the reader to choose between them, hypertext is uniquely suited to express the aesthetic and political ideals of an intellectual community that has elevated the preservation of diversity into one of its fundamental values.

The device also favors a typically postmodern approach to writing closely related to what has been described by Lévi-Strauss as *bricolage* (tinkering, in Sherry Turkle's translation). In this mode of composition, as Turkle describes it (*Life on the Screen,* 50–73), the writer does not adopt a "top-down" method, starting with a given idea and breaking it down into constituents, but proceeds "bottom-up" by fitting together reasonably autonomous fragments, the verbal equivalent of *objets trouvés,* into an artifact whose shape and meaning(s) emerge through the linking process. The result is a patchwork, a collage of disparate elements, what Gilles Deleuze and Félix Guattari have called a "machinic assemblage" (*A Thousand Plateaus,* 332–35). As Silvio Gaggi has shown, this broken-up structure, as well as the dynamic reconfiguration of the text with every new reading, proposes a metaphor for the postmodern conception of the subject as a site of multiple, conflicting, and unstable identities.

While hypertext can bring together the heterogeneous, it can also break apart elements traditionally thought to belong together. The dismantling effect of hypertext is one more way to pursue the typically postmodern challenge of the epistemologically suspect coherence, rationality, and closure of narrative structures, one more way to deny the reader the satisfaction of a totalizing interpretation. Hypertext thus becomes the metaphor for a Lyotardian "postmodern condition" in which grand narratives have been replaced by "little stories," or perhaps by no stories at all—just by a discourse reveling in the Derridean performance of an endless deferral of signification. Through

its growth in all directions, hypertext implements one of the favorite notions of postmodernism, the conceptual structure that Deleuze and Guattari call a "rhizome." In a rhizomatic organization, in opposition to the hierarchical tree structures of rhetorical argumentation, the imagination is not constrained by the need to prove a point or to progress toward a goal, and the writer never needs to sacrifice those bursts of inspiration that cannot be integrated into a linear argument.

Building interactivity into the object of a theoretical mystique, the "founding fathers" of hypertext theory promoted the new genre as an instrument of liberation from some of the most notorious bêtes noires of postmodern thought: linear logic, logocentrism, arborescent hierarchical structures, and repressive forms of power. George Landow writes, for instance, that hypertext embodies the ideal of a nonhierarchical, decentered, fundamentally democratic political system that promotes "a dialogic mode of collective endeavor" (*Hypertext 2.0,* 283): "As long as any reader has the power to enter the system and leave his or her mark, neither the tyranny of the center nor that of the majority can impose itself" (281). Over twenty years ago Roland Barthes identified the figure of the author as one of these oppressive forms of authority from which readers must be liberated: "We know to give writing its future, it is necessary to overthrow the myth [of the author]: the birth of the reader must be at the cost of the death of the Author" ("Death of the Author," 78). The purpose of new forms of writing—such as what Barthes called "the scriptible"—is "to make the reader no longer a consumer but a producer of text" (*S/Z,* 4).

For the critics mentioned above, interactivity is just what the structuralist doctor (would have) ordered: "There is no longer one author but two, as reader joins author in the making of the text," writes Bolter ("Literature in the Electronic Space," 37). For Michael Joyce, hypertexts are "read when they are written and written as they are read" (*Of Two Minds,* 192). Or to quote again Landow: "Electronic linking reconfigures our experience of both author and authorial property, and this reconception of these ideas promises to affect our conceptions of both the authors (and authority) of texts we study and *of ourselves as authors*" (*Hypertext 2.0,* 25; my italics). In *Grammatron,* a hypertextual novel-cum-theory that challenges traditional generic distinctions, Mark Amerika takes the cult of interactivity to new extremes, by

hailing what he calls "hypertextual consciousness" as the advent of a new stage, perhaps the final one, in the political, spiritual, and artistic growth of mankind:

> The teleportation of Hypertextual Consciousness (HTC) through the smooth space of discourse networks creates an environment where conceptions of authorship, self, originality, narrative and commentary take on different meanings. One can now picture a cyborg-narrator creating a discourse network that serves as a distribution point for various lines of flight to pass through and manipulate data linked together by the collective-self. Directing a site (giving birth to a node) will be one way to reconfigure our notion of authorship but in reconfiguring this notion aren't we in effect radically-altering (killing) the author-as-self and opening up a more fluid vista of potential-becomings? (Fragment "Teleport")

To the skeptical observer, the accession of the reader to the role of writer—or "wreader," as some agnostics facetiously call the new role—is a self-serving metaphor that presents hypertext as a magic elixir: "Read me, and you will receive the gift of literary creativity." If taken literally—but who really does so?—the idea would reduce writing to summoning words to the screen through an activity as easy as one, two, three, click. Under these conditions no writer would ever suffer from the agony of the blank page. Call this writing if you want; but if working one's way through the maze of an interactive text is suddenly called writing, we will need a new word for retrieving words from one's mind to encode meanings, and the difference with reading will remain. One wonders what conclusions would have been drawn about the political significance of hypertext and the concept of reader-author if the above-mentioned critics had focused on the idea of *following* links, or on the limitation of the reader's movements to the paths designed by the author. Perhaps they would have been more inclined to admit that aesthetic pleasure, like political harmony, is a matter not of unbridled license but of controlled freedom.

While interactivity has been hyped as a panacea for evils ranging from social disempowerment to writer's block, the concept of immersion has suffered a vastly different fate. At best it has been ignored by

theorists; at worst, regarded as a menace to critical thinking. (A notable exception is Janet Murray, who devotes a chapter of her book *Hamlet on the Holodeck* to immersion as part of a more general discussion of the aesthetics of the electronic medium.) If we believe some of the most celebrated parables of world literature, losing oneself in a book, or in any kind of virtual reality, is a hazard for the health of the mind. Immersion began to work its ravages as early as the first great novel of European literature. "In short," writes Cervantes in *Don Quixote,* "he so immersed himself in those romances that he spent whole days and nights over his books; and thus with little sleeping and much reading, his brains dried up to such a degree that he lost the use of his reason" (58). The situation does not seem to be better in the virtual realities of the electronic kind: we hear tales of people suffering from AWS (Alternate World Syndrome), a loss of balance, feeling of sickness, and general "body amnesia" (Heim, *Virtual Realism,* 52), when they leave VR systems; of MOO addicts who cannot adapt to ROL (Sherry Turkle's acronym for "the rest of life"); or of children who experience emotional trauma when they inadvertently let their virtual pets die.

The major objection against immersion is the alleged incompatibility of the experience with the exercise of critical faculties. The semiotic blindness caused by immersion is illustrated by an anecdote involving the eighteenth-century French philosopher Diderot. As Wallace Martin reports, "He tells us how he began reading *Clarissa* several times in order to learn something about Richardson's techniques, but never succeeded in doing so because he became personally involved in the work, thus losing his critical consciousness" (*Recent Theories,* 58). According to Jay Bolter, the impairment of critical consciousness is the trademark of both literary and VR immersion: "But is it obvious that virtual reality cannot in itself sustain intellectual or cultural development. . . . The problem is that virtual reality, at least as it is now envisioned, is a medium of percepts rather than signs. It is virtual television" (*Writing Space,* 230). "What is not appropriate is the absence of semiosis" (231).

The cause of immersion has not been helped by its resistance to theorization. Contemporary culture values those ideas that produce brilliant critical performances, that allow the critic to deconstruct the

text and put it back together again in the most surprising configurations, but what can be said about immersion in a textual world except that it takes place? The self-explanatory character of the concept is easily interpreted as evidence that immersion promotes a passive attitude in the reader, similar to the entrapment of tourists in the self-enclosed virtual realities of theme parks or vacation resorts. This accusation is reinforced by the association of the experience with popular culture. "Losing oneself in a fictional world," writes Bolter, "is the goal of the naive reader or one who reads as entertainment. It is particularly a feature of genre fiction, such as romance or science fiction" (*Writing Space,* 155). Through its reliance on stereotypes, popular literature indeed turns the reading experience into something like taking a dip in a Jacuzzi: it is easy to get in, but you cannot stay in very long, and you feel tired once you get out.

But this does not mean that immersive pleasure is in essence a lowbrow, escapist gratification, as Bolter seems to imply. At its best, immersion can be an adventurous and invigorating experience comparable to taking a swim in a cool ocean with powerful surf. The environment appears at first hostile, you enter it reluctantly, but once you get wet and entrust your body to the waves, you never want to leave. And when you finally do, you feel refreshed and full of energy. As for the allegedly passive character of the experience, we need only be reminded of the complex mental activity that goes into the production of a vivid mental picture of a textual world. Since language does not offer input to the senses,[4] all sensory data must be simulated by the imagination. In "The Circular Ruins" Jorge Luis Borges writes of the protagonist, who is trying to create a human being by the sheer power of his imagination, "He wanted to dream a man: he wanted to dream him with minute integrity and insert him into reality" (*Ficciones,* 114). Similarly, we must dream up textual worlds with "minute integrity" to conjure up the intense experience of presence that inserts them into imaginative reality. Is this the trademark of a passive reader?

To counter these two trends it will be necessary to take a more critical look at interactivity, and a more sympathetic one at immersion. This attitude is admittedly no less biased than the approaches I want to avoid, but it offers an alternative to both the rapturous celebrations of digital literature and the Luddite laments for the book that

have greeted the recent explosion of information technologies. If I appear harsher on interactive than on immersive texts, it is not because I view the intrusion of the computer into literary territory as a threat to humanistic values, as does Sven Birkerts, the most eloquent champion of immersion, but because interactivity is still in an experimental stage while literature has already perfected the art of immersive world construction. It is precisely its experimental nature that makes interactivity fascinating. I am interested in the device not as a ready-made message-in-the-medium, as its postmodern advocates read it, but as a language and a *design* problem whose solutions will always be in the making. In my discussion of interactivity I therefore avoid allegorical readings and concentrate instead on the expressive properties of the feature, its potential and limitations, its control of the reader, and its problematic relation to immersion.

The organization of this book grew out of the very definition that inspired the whole project: "virtual reality is an immersive, interactive experience generated by a computer." We will begin by visiting the virtual as philosophical concept, move on to VR as technology, explore its two components, immersion and interactivity, and conclude the itinerary by considering what is for me the ultimate goal of art: the synthesis of immersion and interactivity. This book, then, is as much about virtual literature—literature that could be—as about the actual brand. But since we cannot even begin to envision the virtual without an eye on the real, my presentation interleaves theoretical chapters on the problematics of immersion and interactivity with short case studies of actual texts, labeled interludes, that anticipate, allegorize, or concretely implement one or both of the dimensions of the archetypal VR experience.

Judging by their current popularity in both theory and advertising language, the terms *virtual* and *virtuality* exert a powerful magnetism on the contemporary imagination, but as is always the case when a word catches the fancy of the general public, their meaning tends to dissolve in proportion to the frequency of their use. In its everyday usage the word *virtual* is ambiguous between (1) "imaginary" and (2) "depending on computers." (A third, more philosophical sense, does not seem as influential on the popular usage.) When we speak of

"virtual pets" we mean the computer image of corporeally nonexistent animal companions, but when we speak of "virtual technologies" we certainly do not mean something that does not exist, or we would not spend hundreds of dollars for computer software. Virtual technologies fabricate objects that are virtual in sense 1 but they are themselves virtual in sense 2. When N. Katherine Hayles characterizes the condition of contemporary mankind as "virtual," and further defines this condition as "the cultural perception that material objects are interpenetrated by information patterns" ("Condition of Virtuality," 69), she makes a culturally well accepted, but philosophically less evident, association: Why should information be regarded as virtual, or at least as meaningfully connected with virtuality? Is it because information enables us to build "virtual realities"—digital images that offer simulacra of physically habitable environments? Is it because informational patterns contain *in potentia* new forms of life (as in biological engineering), new forms of art, and, for the dreamers of the coupling of man and machine, new forms of humanity? Is it because information lives principally these days in the silicon memory of computers, invisible and seemingly inexistent until the user summons it to the screen?

I have suggested here three distinct senses of *virtual:* an optical one (the virtual as illusion), a scholastic one (the virtual as potentiality), and an informal technological one (the virtual as the computer-mediated). All three are involved in VR: the technological because VR is made of digital data generated by a computer; the optical because the immersive dimension of the VR experience depends on the reading of the virtual world as autonomous reality, a reading facilitated by the illusionist quality of the display; and the scholastic because as interactive system, VR offers to the user a matrix of actualizable possibilities. In the first chapter of this book I explore the optical and the scholastic interpretation of the virtual by relating them to the work of two prominent French theorists: Jean Baudrillard for the virtual as illusion and Pierre Lévy for the virtual as potentiality. I dwell on these two versions of the virtual not only for the sake of their involvement with VR technology but also because each of them presents important implications for literary theory and the phenomenology of reading.

In the second chapter I turn to VR proper. Though the current

state of the technology falls way short of the expectations raised at the time of its first introduction to the general public, the "myth" matters as much as the technological reality for a project that uses VR as metaphor, and I therefore move back and forth between the exalted vision of the early prophets and the more sober descriptions of the technical literature. Immersion in a virtual world is discussed from both a technological and a phenomenological point of view. Whereas the technological approach asks what features of digital systems produce an immersive experience, the phenomenological issue analyzes the sense of "presence" through which the user feels corporeally connected to the virtual world. I look for answers to this second question in the writings of a philosopher acutely aware of the embodied nature of perception, Maurice Merleau-Ponty. If these concerns seem to showcase immersion to the detriment of interactivity, it is not because VR subordinates one to the other—it may or it may not, depending on its ultimate purpose—but because immersion is by far the more problematic concept. We all know instinctively what interactivity consists of in a computer program—submitting input and receiving output—but it is much harder to tell what it means to feel immersed in a virtual world, and how digital technology and interface design can promote this experience.

The phenomenological idea of consciousness as a sense of being-in-the-world—or in this case, in a simulated world—is at the core of the theory and poetics of immersion presented in the second part of the book. The term *immersion* has become so popular in contemporary culture that people tend to use it to describe any kind of intensely pleasurable artistic experience or any absorbing activity. In this usage, we can be immersed in a crossword puzzle as well as in a novel, in the writing of a computer program as well as in playing the violin. Here, however, I would like to single out and describe a specific type of immersion, one that presupposes an imaginative relationship to a *textual world*—an intuitive concept to be refined in chapter 3. In the phenomenology of reading, immersion is the experience through which a fictional world acquires the presence of an autonomous, language-independent reality populated with live human beings.

For a text to be immersive, then, it must create a space to which the reader, spectator, or user can relate, and it must populate this space

with individuated objects. It must, in other words, construct the setting for a potential narrative action, even though it may lack the temporal extension to develop this action into a plot. This fundamentally *mimetic* concept of immersion remains faithful to the VR experience, since the purpose of VR technology is to connect the user to a simulated reality. It applies to novels, movies, drama, representational paintings, and those computer games that cast the user in the role of a character in a story, but not to philosophical works, music, and purely abstract games such as bridge, chess, and Tetris, no matter how absorbing these experiences can be.

Immersion may not have been particularly popular with the "textual" brands of literary theory—those schools that describe the text as a system of signs held together by horizontal relations between signifiers—but this does not mean that the experience has been totally ignored since these theories became mainstream. Chapter 3 discusses the work of some scholars working on the outskirts of literary studies—cognitive psychology, empirical approaches to literature, or analytic philosophy—who have addressed the issue that I call immersion, though they have done so under a variety of other names: Victor Nell's analysis of the psychological state of being "lost in a book"; Richard Gerrig's concept of transportation; the possible-worlds approach to the semantics of fictionality and its description of the phenomenology of reading fiction as an imaginative "recentering" of the universe of possibilities around a new actual world; Kendall Walton's theory of fiction as game of make-believe and his concept of "mental simulation"; and in an interlude, the spiritual exercise recommended by St. Ignatius of Loyola of a reading discipline involving all the senses in the mental representation of the textual world. These theories show that, far from promoting passivity, as its opponents have argued, immersion requires an active engagement with the text and a demanding act of imagining.

Whether textual worlds function as imaginary counterparts or as models of the real world, they are mentally constructed by the reader as environments that stretch in space, exist in time, and serve as habitat for a population of animate agents. These three dimensions correspond to what have long been recognized as the three basic components of narrative grammar: setting, plot, and characters. The

"poetics" proposed in chapters 4 and 5 associates these narrative elements with three distinct types of immersion—spatial, temporal, and emotional—and analyzes the narrative devices that favor each of them. In my discussion of temporal and emotional immersion I seek explanations for two closely related immersive paradoxes that have generated lively debate among philosophers and cognitive psychologists for a number of years: how readers can experience suspense the second or third time they read a text, even though they know how it ends; and how the fate of fictional characters can generate emotional reactions with physical symptoms, such as crying, even though readers know fully well that these characters never existed.

Chapter 6 examines the change of metaphor that marked the transition from immersion to interactivity as artistic ideals. Whereas the aesthetics of immersion implicitly associates the text with a "world" that serves as environment for a virtual body, the aesthetics of interactivity presents the text as a game, language as a plaything, and the reader as the player. The idea of verbal art as a game with language is admittedly not a recent invention; ancient literatures and folklore are full of intricate word games, and the novel of the eighteenth century engaged in very self-conscious games of narration. But it is only in the middle of the twentieth century, after the concept of game rose to prominence as a philosophical and sociological issue and began infiltrating many other disciplines, that literary authors developed the metaphor into an aesthetic program. The concept of "game" covers, however, a wide variety of activities, and it is too often used in a generic sense by literary critics. Chapter 6 narrows down the metaphor by exploring what kind of games and what specific features pertaining to these games provide meaningful analogies with the literary domain.

No less intuitively meaningful than immersion, the concept of interactivity can be interpreted figuratively as well as literally. In a figural sense, interactivity describes the collaboration between the reader and the text in the production of meaning. Even with traditional types of narrative and expository writing—texts that strive toward global coherence and a smooth sequential development—reading is never a passive experience. As the phenomenologist Roman Ingarden and his disciple Wolfgang Iser have shown, the construction of a textual world

or message is an active process through which the reader provides as much material as he derives from the text. But the inherently interactive nature of the reading experience has been obscured by the reader's proficiency in performing the necessary world-building operations. We are so used to reading classic narrative texts—those with a well-formed plot, a setting we can visualize, and characters who act out of a familiar logic—that we do not notice the mental processes that enable us to convert the temporal flow of language into a global image that exists all at once in the mind. Postmodern narrative deepens the reader's involvement with the text by proposing new reading strategies, or by drawing attention to the construction of meaning. Through their experimental and self-referential character, these texts stand as the illustration of a strong figural version of interactivity.

But the type of interactivity that receives the greatest attention in these pages is the one that largely owes its existence to electronic technology: the textual mechanisms that enable the reader to affect the "text" of the text as a visible display of signs, and to control the dynamics of its unfolding. Here again we encounter a contrast between a weak and a strong form. In the weak literal sense, discussed in chapters 7 and 8, interactivity is a choice between predefined alternatives. In chapters 9 and 10 I consider a stronger form in which the reader—more aptly called the interactor—performs a role through verbal or physical actions, thus actually participating in the physical production of the text. (By *text* I do not necessarily mean something that is permanently inscribed.)

Symmetry would demand that I split my coverage of interactivity into a theory and a poetics chapter, as I do for immersion, but in the case of interactivity the two concepts are much more entangled, and the scope and purpose of theory much more problematic. As a type of reading experience, immersion is a relatively speculative idea that needs to be defined. Its theorization depends on a particular conception of the literary text, while its poetics is a typology of its various manifestations. Interactivity, by contrast, is an empirical feature of certain types of text, and its plain existence is no more in need of demonstration in texts than in VR. We can debate endlessly what it means to be immersed, but if we stick to what I call a literal conception of interactivity, the mechanism is easily defined. What distin-

guishes the pure theory from the poetics of interactivity, in the current literature, is mainly a matter of ideological slant: we may call "theory" the postmodern/deconstructionist readings of interactivity discussed above, while a "poetics" would be a more descriptive and empirical approach that keeps its mind open as to what the uses and effects of interactivity might be. Most work on the subject of electronic textuality is a blend of the two approaches, but I would place the work of Landow, Bolter, Joyce, and Moulthrop on the theory end, though these scholars did make important contributions to both areas, while the more recent books of Espen Aarseth and Janet Murray clearly occupy the poetics end of the spectrum.

Bypassing theory, then, I present in chapter 7 a list of lists that examine a variety of concrete rhetorical problems associated with interactivity: the forms and functions of the device; the relations between interactivity, electronic support, and ergodic design (a concept proposed by Aarseth); the properties of the electronic medium and their exploitation in the creation of new modes of interface between the text and the reader; and the metaphors through which hypertext readers conceptualize interactivity.

Chapter 8 narrows down the inquiry to the possibility of creating genuinely narrative structures in an interactive environment. If narrativity is a reasonably universal semantic structure, a cognitive framework in which we arrange information to make sense of it as the representation of events and actions, it consists of a certain repertory of basic elements arranged into specific logical and temporal configurations. Several scholars have raised the question of narrativity in conjunction with hypertext, but the paradox of maintaining a reasonably solid semantic structure in a fluid environment has been generally avoided in favor of more discourse-oriented issues. (I am alluding here to the classic narratological distinction between discourse, the "expression plane of narrative" [Prince, *Dictionary,* 21], and story, the "content plane," the "what," the "narrated.") Aarseth, for instance, proposes a narratological reading of hypertext and computer games that remains entirely focused on the relevance of the parameters of Gérard Genette's model of the fictional narrative act: author, reader, narrator, and narratee. Landow discusses hypertext as a "reconfiguration of narrative" (*Hypertext 2.0,* chap. 6), but the interactive presen-

tation that he has in mind is either a novel discourse phenomenon that leaves the narrative deep structure intact, or a fundamentally antinarrative device that results in the breaking apart of this deep structure. Literature can admittedly achieve significance by challenging narrative coherence and traditional plot structures, as postmodernism has amply demonstrated, but in giving up well-formed narrative content it also renounces the most time-tested formula for creating immersion.

The realization of the ideal of immersive interactivity is therefore crucially dependent on the development of what Janet Murray (*Hamlet,* chap. 7) has called "multiform plot" or "storytelling system": a collection of textual fragments and combinatory rules that generate narrative meaning for every run of the program, much in the way a Chomsky-type grammar produces a vast number of well-formed sentences by combining words according to syntactic rules. In such a "kaleidoscopic system," as Murray also calls it, the user's actions would create unforeseen combinations of elements, but the pieces would always interlock into a narratively meaningful picture. Murray illustrates the idea of the storytelling system with the example of the bards of oral culture who built ever-new narrative performances out of a fixed repertory of phrases, epithets, similes, and episodes, but the example cannot be directly transferred to the domain of electronic text design because oral epics are not interactive on the level of plot. Though live oral performance reacts to subtle clues from the audience—facial expressions, laughter, and the particular quality of the atmosphere—the bard does not normally consult the audience on how to continue the tale; and even if he did, the audience, knowing the plot, would probably ask for an episode that would readily fit into the global structure. In chapter 8 I look into designs that provide feasible solutions to the problem of interactive narrativity. This leads to an examination of the options between which the interactive text will have to choose in order to survive as an art form when the interest due to its novelty recedes.

Even when narrative coherence is maintained, though, immersion remains an elusive experience in interactive texts. In the last two chapters I argue that the marriage of immersion and interactivity requires the imagined or physical presence of the appreciator's body

in the virtual world—a condition easily satisfied in a VR system but problematic in hypertext because every time the reader is asked to make a choice she assumes an external perspective on the worlds of the textual universe. In VR we act within a world and experience it from the inside, but in interactive texts of the selective variety we choose a world, more or less blindly, out of many alternatives, and we are not imaginatively committed to any one of them, because the interest of branching texts lies in the multiplicity of paths, not in any particular development.

As chapter 9 shows, VR is not the only environment that offers an experience both immersive and interactive: children's and adults' games of make-believe, fairs and amusement parks, ritual, Baroque art and architecture, and certain types of stage design in the theater propose an active participation of either an actual or virtual body in a reality created by the imagination. The study of these experiences should therefore provide valuable guidelines for the design of electronic texts. Chapter 10 expands the search for immersive interactivity to digital projects, such as computer games, MOOs, automated dialogue systems, installation art, and even a virtual form of VR—a blueprint for future projects—called interactive drama. It is symptomatic of the utopian nature of this quest for the ultimate artistic experience that the most perfect synthesis of immersion and interactivity should be found not in a real work but in a fictional one: the multimedia "smart" book described in Neal Stephenson's science-fiction novel *The Diamond Age*.

By proposing to read VR as a metaphor for total art, I do not mean to suggest that the types of art or entertainment discussed in these last two chapters are superior to the mostly immersive forms of part II or the mostly interactive ones of part III. If aesthetic value could be judged by numerical coefficients, as in certain "artistic" sports such as equestrian dressage or figure skating, a text that scored 10 on immersion and 1 on interactivity—a good realistic novel—would place higher than a text that scored 3 for each criterion. Whether or not future VR installations will be able to offer more than mediocrity on both counts, however, we can still use the *idea* of VR as a metaphor for the fullest artistic experience, since in the Platonic realm of ideas VR scores a double 10.

But why should the synthesis of immersion and interactivity matter so much for aesthetic philosophy? In its literal sense, immersion is a corporeal experience, and as I have hinted, it takes the projection of a virtual body, or even better, the participation of the actual one, to feel integrated in an art-world. On the other hand, if interactivity is conceived as the appreciator's engagement in a play of signification that takes place on the level of signs rather than things and of words rather than worlds, it is a purely cerebral involvement with the text that downplays emotions, curiosity about what will happen next, and the resonance of the text with personal memories of places and people. On the shiny surface of signs—the signifier—there is no room for bodies of either the actual or the virtual variety. But the recipient of total art, if we dare to dream such a thing, should be no less than the subject as Ignatius of Loyola defined it: an "indivisible compound" of mind and body.[5] What is at stake in the synthesis of immersion and interactivity is therefore nothing less than the participation of the whole of the individual in the artistic experience.

PART I Virtuality

The Two (and Thousand) Faces of the Virtual

ONE

I dwell in Possibility
A fairer House than Prose,
More numerous of Windows,
Superior for Doors.

Of Chambers, as the Cedars—
Impregnable of eye;
And for an everlasting Roof
The Gambrels of the Sky.

Of Visitors—the fairest—
For Occupation—This—
The spreading wide my narrow Hands
To gather Paradise—

—EMILY DICKINSON

In the popular imagination of the last decade of the twentieth century, the word *virtual* triggers almost automatically the thought of computers and digital technology. This association was built in several steps, though the early ones have largely fallen into oblivion. Nowadays we label virtual everything we experience or meet in "cyberspace," the imaginary place where computers take us when we log on to the Internet: virtual friends, virtual sex, virtual universities, virtual tours of virtual cities. Before the Internet forced itself, almost overnight, into our daily lives, the virtuality of digital technology was associated with the concept of VR, introduced to the public in the late 1980s. Computers were credited with the power to create artificial worlds, and though the Internet is a far cry from the three-dimensional, multisensory, immersive, and interactive environments envisioned by the promoters of VR, we projected onto cyberspace the dreams that the VR industry had awakened but largely failed to deliver.

Earlier in the history of the semantic liaison, *virtual* was a technical term of computer architecture that expressed the discrepancy between the physical machine and the machine with which users and

high-level programmers think they are communicating. Computer programs are written in a quasi-human language made up of a large number of powerful modules and commands, but the actual processor can understand only a small number of instructions coded in zeros and ones. It takes a translator, known as a compiler or an interpreter, to turn the instructions typed by the user into executable code. In the same vein, the term *virtual* was applied to memory to refer to a type of storage, such as a floppy disk, that is not physically part of the computer's active memory but whose contents can easily be transferred back and forth to the brain of the machine, so that from the point of view of the user this storage behaves as if it were an integral and permanent part of computer memory.

Yet another virtual feature of computers resides in their versatility. As a machine, a computer has no intrinsic function. Through its software, however, it can simulate a number of existing devices and human activities, thus becoming a virtual calculator, typewriter, record player, storyteller, babysitter, teacher, bookkeeper, or adviser on various matters. Or even, as VR suggests, a virtual world and living space. The software industry exploited these technical uses—of which there are many others—by metonymically promoting its products as "virtual technologies." For the general public, the narrow technical meaning meant nothing; but the label *virtual* became a powerful metaphor for the accelerating flight of technology into the unknown. The term gave an almost science-fictional aura to the products of a culture that had to be hatching something fundamentally new, since it was approaching the mythical landmark of the turn of the millennium.

Let us backtrack even further, in this hopeless but tempting search for pure and original meaning, by asking what is virtual about artificial worlds and pseudo-memory and versatile machines. Etymology tells us that *virtual* comes from the Latin *virtus* (strength, manliness, virtue), which gave to scholastic Latin the philosophical concept of *virtus* as force or power. (This sense survives today in the expression "by virtue of.") In scholastic Latin *virtualis* designates the potential, "what is in the power *[virtus]* of the force." The classic example of virtuality, derived from Aristotle's distinction between potential and actual existence *(in potentia* vs. *in actu),* is the presence of the oak in the acorn. In scholastic philosophy "actual" and "virtual" exist in a

dialectical relation rather than in one of radical opposition: the virtual is not that which is deprived of existence but that which possesses the potential, or force, of developing into actual existence. Later uses of the term, beginning in the eighteenth and nineteenth centuries, turn this dialectical relation to actual into a binary opposition to real: the virtual becomes the fictive and the nonexistent. This sense is activated in the optical use of the term. According to Webster's dictionary, a virtual image, such as a reflection in a mirror, is one made of virtual foci, that is, of points "from which divergent rays of light seem to emanate but do not actually do so." Exploiting the idea of fake and illusion inherent to the mirror image, modern usage associates the virtual with that which *passes as* something other than what it is. This passing involves an element of illegitimacy, dishonesty, or deficiency with respect to the real. A virtual dictator may be "as good"—or in this case as bad—as a real dictator, but he remains inferior to a "legitimate" one, to use an oxymoron, because he is not officially recognized as such. (He could, in principle, be indicted for abuse of power.) Yet the deficiency of the virtual with respect to the real may be so small that "for all practical purposes" the virtual becomes the real.

As we see from these lexical definitions, the meaning of *virtual* stretches along an axis delimited by two poles. At one end is the optical sense, which carries the negative connotations of double and illusion (two ideas combined in the theme of the treacherous image); at the other is the scholastic sense, which suggests productivity, openness, and diversity. Somewhere in the middle are the late-twentieth-century associations of the virtual with computer technologies. For convenience's sake I will call one pole the virtual as fake and the other the virtual as potential. (See table 1 for a list of the connotations I collected in the course of my various readings on virtuality.) Both of these interpretations have found influential and eloquent spokesmen in recent French theory: Jean Baudrillard for the virtual as fake, Pierre Lévy for the virtual as potential.

BAUDRILLARD AND THE VIRTUAL AS FAKE

The philosophy of Baudrillard presents itself as a meditation on the status of the image in a society addicted to "the duplication of the real

TABLE 1 | The Meaning of Virtual

Image Not Available

by means of technology" (Poster, "Theorizing," 42). Once, the power to automatically capture and duplicate the world was the sole privilege of the mirror; now this power has been emulated by technological media—photography, movies, audio recordings, television, and computers—and the world is being filled by representations that share the virtuality of the specular image. The general tone and content of

Baudrillard's meditation on this state of affairs are given by the epigraph to his most famous essay, "The Precession of Simulacra," a quotation attributed to Ecclesiastes nowhere to be found in the Bible (hence, evidently, the lack of reference to a verse number). True to its message and subject matter, the essay thus opens with a simulacrum: "The simulacrum is never what hides the truth—it is truth that hides the fact that there is none. The simulacrum is true" (1). A simulacrum, for Baudrillard, is not the dynamic image of an active process, as are computer simulations, but a mechanically produced, and therefore passively obtained, duplication whose only function is to *pass as that which it is not:* "To simulate is to feign to have what one doesn't have" (3). Baudrillard envisions contemporary culture as a fatal attraction toward simulacra. This "will to virtuality," to borrow Arthur Kroker and Michael Weinstein's evocative term (*Data Trash,* chap. 3), precludes any dialectical relation and back-and-forth movement between the real and its image. Once we break the second commandment, "Thou shalt not make images," we are caught in the gravitational pull of the fake, and the substance of the real is sucked out by the virtual, for as Baudrillard writes in *The Perfect Crime,* "There is no place for both the world and its doubles" (34). In the absence of any Other, the virtual takes the place of the real and becomes the hyperreal. In Baudrillard's grandiose evolutionary scheme, we have reached stage 4 in the evolution of the image:

1. "It is the reflection of a profound reality."
2. "It masks and denatures a profound reality."
3. "It masks the absence of a profound reality."
4. "It has no relation to any reality whatsoever: it is its own pure simulacrum." ("Precession," 6; numbering mine)

Does the seemingly inevitable historical evolution from stage 1 to stage 4 represent a fall into inauthenticity, an abdication of representational responsibility, and a cynical betrayal of the Real, or, on the contrary, a gradual discovery of the True Nature of the image? Has the culture of illusion committed a "perfect crime" that killed reality without leaving any traces, as Baudrillard suggests in the later book by that title, or has it definitively slain the illusion of the real and reached the ultimate semiotic wisdom? Oscillating between the roles

of modern-day Ecclesiastes and solemn theorist of semiotic nihilism—and obviously enjoying himself in both roles—Baudrillard is careful to maintain an ambiguous stance.

The word *virtual* itself is absent from "The Precession of Simulacra," an essay written in the late 1970s, when the principal channel of "the image" and the main threat to the real was television. But when computer technology began to impose the notion of virtuality, in the late 1980s, Baudrillard suddenly discovered a new culprit for modern society's "crime against reality." It is as if technology had caught up with the theory and turned it into prophecy by delivering its missing referent. As Mark Poster writes, "Baudrillard's writing begins to be sprinkled with the terms 'virtual' and 'virtual reality' as early as 1991. But he uses these terms interchangeably with 'simulation,' and without designating anything different from the earlier usage" ("Theorizing," 45). In *The Perfect Crime* (1996) virtual reality is treated not as just another way to produce simulacra but as the ultimate triumph of the simulacrum:

> With the Virtual, we enter not only upon the era of the liquidation of the Real and Referential, but that of the extermination of the Other.
>
> It is the equivalent of an ethnic cleansing which would not just affect particular populations but unrelentingly pursue all forms of otherness.
>
> The otherness . . .
>
> Of the world—dispelled by Virtual Reality. (*Perfect Crime,* 109)

According to Baudrillard, we don't live in a world where there is something called VR technology, we are immersed in this technology, we live and breathe virtual reality. All the concepts and buzzwords associated with VR provide easy fuel for Baudrillard's insatiable theoretical machine. Consider the following passages from "Aesthetic Illusion and Virtual Reality."[1]

On the transparency of the medium, one of the acknowledged goals of VR developers:

> And if the level of reality decreases from day to day, it's because the medium itself has passed into life, and become a common

> ritual of transparency. It is the same for the virtual: all this digital, numerical and electronic equipment is only the epiphenomenon of the virtualization of human beings in their core. (*Art and Artefact,* 20)

By the same logic that denies a place for both the world and its doubles, there is no place in the mind for both life and the lifelikeness of transparent media. Our fascination with the latter turns us into "virtual beings" through a reasoning that skips several intermediary steps in one powerful leap: (1) VR technology (and modern media in general) aims toward transparency; (2) transparency allows immersion; (3) by a metonymic transfer, immersion in a virtual world leads to a virtualization of the experiencer. One must assume that this virtualization involves a loss of humanity, as we offer ourselves as data and as servants to the machine.

On the project of creating three-dimensional environments with which the user can interact:

> For example some museums, following a sort of Disneyland processing, try to put people not so much in front of the painting—which is not interactive enough and even suspect as pure spectacular consumption—but into the painting. Insinuated audiovisually into the virtual reality of the *Déjeuner sur l'herbe* [by Renoir], people will enjoy it in real time, feeling and tasting the whole Impressionist context, and eventually interacting with the picture. The masses usually prefer passive roles and avoid representation. This must change, and they must be made interactive partners. It is not a question of free speaking or free acting—just break their resistance and destroy their immunities. (22)

In this passage Baudrillard's a priori commitment to the idea that we are prisoners of our own technologies of representation allows only one interpretation of interactivity: it is a simulacrum of activity that conceals the fundamental passivity of the user, just as the world outside prisons is for Baudrillard a simulacrum of freedom that conceals the fundamentally carceral nature of society ("Precession," 12).

On the digital coding of information:

> Now what exactly is at stake in this hegemonic trend towards virtuality? What is the idea of the virtual? It would seem to be

> the radical actualization, the unconditional realization, of the world, the transformation of all our acts, of all historical events, of all material substance and energy into pure information. The ideal would be the resolution of the world by the actualization of all facts and data. (23)

If reality has become an edifice of digital information, any bug or virus can bring the end of the world. We have seen the effects of the literalization of this belief in the millenarian hysteria of Y2K cultism.

On telepresence:

> Artificial intelligence, tele-sensoriality, virtual reality and so on—all this is the end of illusion. The illusion of the world—not its analytical countdown—the wild illusion of passion, of thinking, the aesthetic illusion of the scene, the psychic and moral illusion of the other, of good and evil (of evil especially, perhaps), of true and false, the wild illusion of death, or of living at any price—all this is volatilized in psychosensorial telereality, in all these sophisticated technologies which transfer us to the virtual, to the contrary of illusion: to radical disillusion. (27)

Why is virtual reality the end of illusion? Because it is the deliberate and cynical choice of the virtual as fake over the world, as if we faced an absolute binary choice: live in the real, or live in the virtual, and as if we were seduced by the virtual into making the wrong choice. In this black-or-white vision, once we enter the virtual worlds of modern media they close down upon us, and there is no way back to the real. Further on, however, Baudrillard seems to switch sides, gleefully warning us that "fortunately all this is impossible" (27), as if we had invested our hopes in this dystopian vision. Because of technological limitations, VR will never deliver on its promise to provide a perfect duplicate of reality. So what is there to fear? For the numerous admirers of Baudrillard, the value of his thought is less as a description of the real—or of the place of the virtual in the real—than as a theory of the *what if:* What if VR were perfectly realized? Would we spend our entire lives inside a Disneyland of digital data? Would images became our world? How would we tell the difference between simulation and reality? If we could not do so, would this mean that simulations *had become* reality—or alternatively, that reality *was* a simulation?

By asking us to entertain hypothetical situations and dystopic possibilities Baudrillard theorizes the triumph of the virtual as fake as something contained in the virtual as potential, but his language creates a fake all of its own, by hyperbolically couching the potential in the language of actuality: the real does not *threaten* to disappear in Baudrillard's text, it has already been killed *as a matter of fact.* Readers have no problems undoing the hyperbole and linking the theory to real-world tendencies rather than to terminal states of affairs: the invasion of culture by visual representations; the control of the mind by the media; the voracious appetite of modern society for images, an appetite that sometimes tempts us to kill the real in order to produce simulacra; and last but not least a cultural fascination with the hyperreal, a copy more real than the real that destroys the desire for the original. For many cultural critics who draw inspiration from Baudrillard, the real has not disappeared; it has merely exchanged places with the virtual, in the admittedly watered-down sense that time spent in the virtual seems to grow at an alarming rate in lives that ought to be, or used to be, rooted in a solid reality. Our gods are virtual, like the Golden Calf—the image that broke the second commandment at the very moment it was given—when they should be real.

But Baudrillard himself has another idea of the ontological status of his discourse. If we have reached stage 4 in the evolution of the image, this means that his theory falls under the scope of its own pronouncement and becomes one of these simulacra that engender their own reality. In "Radical Thought," an essay from *The Perfect Crime,* Baudrillard distinguishes two kinds of thought and leaves no doubt as to where he situates his own:

> A certain form of thought is bound to the real. It starts out from the hypothesis that ideas have referents and that there is a possible ideation of reality. A comforting polarity, which is that of tailor-made dialectical and philosophical solutions. The other form of thought is eccentric to the real, a stranger to dialectics, a stranger even to critical thought. It is not even a disavowal of the concept of reality. It is illusion, power of illusion, or, in other words, a playing with reality, as seduction is a playing with desire, as metaphor is a playing with truth. (96)

> The ultimate is for an idea to disappear as idea, to become a thing among things. (100)
>
> So, for example, you put forward the idea of the simulacrum, without really believing in it, even hoping that the real will refute it (the guarantee of scientificity for Popper).
>
> Alas, only the fanatical supporters of reality react: reality, for its part, does not seem to wish to prove you wrong. Quite the contrary, every kind of simulacrum parades around it. And reality, filching the idea, henceforth adorns itself with all the rhetoric of simulation. It is the simulacrum which ensures the continuity of the real today, the simulacrum which conceals not the truth, but the fact that there isn't any [stage 3]—this is to say, the continuity of the nothing. . . .
>
> It's terrifying to see the idea coincide with the reality. (101)

Radical thought encounters no resistance from the real, because in contrast to the "regular" brand—the kind that does not understand itself and that lives in the illusion of referentiality—it conceives its mode of operation as declarative rather than as descriptive. Like fictional discourse, it inhabits not the true-or-false but the true by say-so. In *The Perfect Crime,* as Poster observes, "Baudrillard has become virtual and knows himself to be such: he argues that his critical theory of simulation has become the principle of reality" ("Theorizing," 46). As the representation, or virtual, that becomes reality, Baudrillard's theory embodies, literally, the paradoxical idea of *virtual* reality.

For those who are prevented by an enduring sense of the presence and alterity of the real from accepting the idea that it derives from Baudrillard's discourse—should we call this sense simply "common"?—there remains fortunately the alternative of a nonradical interpretation. We live in simulacra because we live in our own mental models of reality. What I call "the world" is my perception and image of it. Therefore, what is real for me is the product of my copy-making, virtual-producing, meaning-making capability. The copies that make up my world cannot be perfect duplications, but this does not make them necessarily false, deceptive, or deprived of referent. In this interpretation, the absolutely real has not disappeared; it is, rather, as Slavoj Zižek defines it, "a surplus, a hard kernel which resists any

process of modeling, simulation, or metaphorization" (*Tarrying,* 44). We know that this "other" real exists, and often we butt into it, but we do not live in it, except perhaps in some moments of thoroughly private and nearly mystical experience, because the human mind is an indefatigable fabricator of meaning, and meaning is a rational simulacrum of things. Disarming the other of its otherness by representing it and building "realities" as worlds to inhabit are one and the same thing. It is simply thinking.

LÉVY AND THE VIRTUAL AS POTENTIAL

Becoming Virtual, the English title of Pierre Lévy's *Qu'est-ce que le virtuel,* may seem at first sight to confirm Baudrillard's most pessimistic prediction for the future of humanity. But the impression is dispelled as early as the second page of the introduction to Lévy's treatise:

> The virtual, strictly defined, has little relationship to that which is false, illusory, or imaginary. The virtual is by no means the opposite of the real. On the contrary, it is a fecund and powerful mode of being that expands the process of creation, opens up the future, injects a core of meaning beneath the platitude of immediate physical presence. (16)

Lévy outlines his concept of virtuality—inspired in part by Gilles Deleuze's ideas on the topic—by opposing two conceptual pairs: one static, involving the possible and the real, and the other dynamic, linking the actual to the virtual.[2] The possible is fully formed, but it resides in limbo. Making it real is largely a matter of throwing the dice of fate. In the terminology of modal logic, this throw of the dice may be conceived as changing the modal operator that affects a proposition, without affecting the proposition itself. All it takes to turn the possibility into the actuality of a snowstorm is to delete the symbol $\Diamond$ (possibility operator) in front of the proposition "It is snowing today." The operation is fully reversible, so that the proposition p can pass from mere possibility to reality back to possibility. In contrast to the predictable realization of the possible, the mediation between the virtual and the actual is not a deterministic process but a form-giving force. The pair virtual/actual is characterized by the following features:

1. The relation of the virtual to the actual is one-to-many. There is no limit on the number of possible actualizations of a virtual entity.
2. The passage from the virtual to the actual involves transformation and is therefore irreversible. As Lévy writes, "Actualization is an *event*, in the strongest sense of the term" (171).
3. The virtual is not anchored in space and time. Actualization is the passage from a state of timelessness and deterritorialization to an existence rooted in a here and now. It is an event of contextualization.
4. The virtual is an inexhaustible resource. Using it does not lead to its depletion.

These properties underscore the essential role of the virtual in the creative process. For Lévy, the passage from the virtual to the actual is not a predetermined, automatic development but the solution to a problem that is not already contained in its formulation:

> [Actualization] is the creation, the invention of a form on the basis of a dynamic configuration of forces and finalities. Actualization involves more than simply assigning reality to a possible or selecting from among a predetermined range of choices. It implies the production of new qualities, a transformation of idea, a true becoming that feeds the virtual in turn. (25)

As this idea of feedback suggests, the importance of Lévy's treatment of virtuality resides not merely in its insistence on the dynamic nature of actualization but in its conception of creativity as a two-way process involving both a phase of actualization and a phase of virtualization. The complementarity of the two processes is symbolized in Lévy's text by the recurrent image of the Moebius strip, an image that stands in stark contrast to Baudrillard's vision of a fatal attraction toward the virtual.

While actualization is the invention of a concrete solution to answer a need, virtualization is a return from the solution to the original problem. This movement can take two forms. Given a certain solution, the mind can reexamine the problem it was meant to resolve, in order to produce a better solution; cars, for instance, are a more

efficient way to solve the problem of transportation than horse-drawn carriages. Virtualization can also be the process of reopening the field of problems that led to a certain solution, and finding related problems to which the solution may be applied. A prime example of this process is the evolution of the computer from a number-crunching automaton to a world-projecting and word-processing machine.

The concept of virtualization is an extremely powerful one. It involves any mental operation that leads from the here and now, the singular, the usable once-and-for-all, and the solidly embodied to the timeless, abstract, general, multiple, versatile, repeatable, ubiquitous, immaterial, and morphologically fluid. Skeptics may object that Lévy's concept of virtualization simply renames well-known mental operations such as abstraction and generalization; but partisans will counter that the notion is much richer because it explains the *mechanisms* of these operations. If thought is the production of models of the world—that is, of the virtual as double—it is through the consideration of the virtual as potential that the mind puts together representations that can act upon the world. While a thought confined to the actual would be reduced to a powerless recording of facts, a thought that places the actual in the infinitely richer context of the virtual as potential gains control over the process of becoming through which the world plays out its destiny.

The power of Lévy's concept of virtualization resides precisely in its dual nature of timeless operation responsible for all of human culture, and of trademark of the contemporary *Zeitgeist.* In our dealing with the virtual, we are doing what mankind has always done, only more powerfully, consciously, and systematically. The stamp of postmodern culture is its tendency to virtualize the nonvirtual and to virtualize the virtual itself. If we live a "virtual condition," as N. Katherine Hayles has suggested (*How We Became Posthuman,* 18), it is not because we are condemned to the fake but because we have learned to live, work, and play with the fluid, the open, the potential. In contrast to Baudrillard, Lévy does not seem alarmed by this exponentiation of the virtual because he sees it as a productive acceleration of the feedback loop between the virtual and the actual rather than as a loss of territory for the real.

Lévy's examples of virtualization include both elementary cultural

activities and contemporary developments. Among the former are toolmaking and the creation of language. Toolmaking involves the virtual in a variety of ways. The concrete, manufactured object extends our physical faculties, thus creating a virtual body. It is reusable, thus transcending the here and now of actual existence. Other virtual dimensions of tools are inherent to the design itself: it exists outside space and time; it produces many physically different yet functionally similar objects; it is born of an understanding of the recurrence of a problem (if I need to drive *this* nail here and now I will need to drive nails in other places and at other times); and it is not worn out by the process of its actualization.

Language originates in a similar need to transcend the particular. The creation of a system of reusable linguistic types (or *langue*) out of an individual or communal experience of the world is a virtualizing process of generalization and conceptualization. In contrast to a proper name, a noun like *cat* can designate not only the same object in different contexts but also different objects in different contexts with different properties: my cat, your cat, the bobcats in the mountains, and the large cats of Africa. It is this recyclable character of linguistic symbols that enables speakers to embrace, if not the whole, at least vast expanses of experience with a finite vocabulary.[3] Whereas the creation of language is the result of the process of virtualization, its use in an act of *parole* is an actualization that turns the types into concrete tokens of slightly variable phonic or graphic substance and binds utterances to particular referents. Even in its manifestation as *parole,* however, language exercises a virtualizing power. Life is lived in real time, as a succession of presents, but through its ability to refer to physically absent objects, language puts consciousness in touch with the past and the future, metamorphoses time into a continuous spread that can be traveled in all directions, and transports the imagination to distant locations.

As examples of more specifically contemporary forms of virtualization, Lévy mentions the transformations currently undergone by the economy and by the human body. In the so-called information age, the most desirable good is no longer solid manufactured objects but knowledge itself, an eminently virtual resource since it is not depleted by use and since its value resides in its potential for creating wealth.

On the negative side, the virtualization of the economy has encouraged the pyramid schemes that currently plague the industries of sales and investments. As for the body, it is virtualized by any practice and technology that aims at expanding its sensorium, altering its appearance, or pushing back its biological limits. In a fake-theory of the virtual, the virtualization of the human body is represented by the replacement of body parts with prostheses; it finds its purest manifestation in the implant of artificial organs and cosmetic surgery. In a potential-theory, the virtualization of the body is epitomized by performance- and perception-enhancing devices, such as the running sneaker and the telescope. The inspiration for these practices is the fundamentally virtualizing question "To what new problems can I apply this available resource, the body I was born with?" as well as the actualizing one "How should I refashion this body to make it serve these new functions?"

The development of simulation technologies such as VR illustrates yet another tendency of contemporary culture: the virtualization to a second degree of the already virtual. Consider computers. They are virtual objects by virtue of being an idea and a design out of which particular machines can be manufactured. These machines are virtual, as we have seen, in the sense that they can run different software programs that enable them to emulate (and improve on) a number of different other machines. Among their applications are simulative programs whose purpose is to test formal models of objects or processes by exploring the range of situations that can develop out of a given state of affairs. The knowledge gained by trying out the potential enables the user to manage the possible and to control the development of the real. If all tools are virtual entities, computer simulations are doubly or perhaps even triply virtual, since they run on virtual machines, and since they incorporate the virtual into their mode of action.

THE TEXT AS DOUBLE AND AS FAKE

As they are implicated in thought, the two faces of the virtual are also implicated in texts, the inscription and communicable manifestation of the thinking process. Descriptions of the text, especially of the

artistic text, as image functioning as a double of the real go back at least as far as Aristotle:

> Imitation comes naturally to human beings from childhood (and in this they differ from other animals, i.e. in having a strong propensity for imitation and in learning their earliest lessons through imitation); so does the universal pleasure in imitation. What happens in practice is evidence of this: we take delight in viewing the most accurate possible images of objects which themselves cause distress when we see them (e.g. the shapes of the lower species of animals, and corpses). The reason for this is that understanding is extremely pleasant, not just for philosophers but for others too in the same way, despite their limited capacity for it. This is the reason why people take delight in seeing images; what happens is that as they view them they come to understand and work out what each thing is. (*Poetics* 3.1, 6)

We can read this passage as the expression of a classic view of representation, Baudrillard's stage 1 in the evolution of the image. It is because the work of art provides "understanding" of objects in the world, as it replaces raw sensory experiences with intelligible models of things, that we derive pleasure from the process of artistic duplication. But in stressing the innate propensity of human beings for imitation and the "delight" caused by images from early childhood on, the *Poetics* fragment suggests to the modern reader a much less didactic type of gratification: we enjoy images precisely because they are not "the real thing," we enjoy them for the skill with which they are crafted. This pleasure presupposes that the readers or spectators of artistic texts do not fall victim to a mimetic illusion; it is because they know in the back of their minds that the text is a mere double that they appreciate the illusionist effect of the image, the fakeness of the fake.

Baudrillard and Umberto Eco describe this attitude as a typically postmodern attraction for the hyperreal. In his *Travels in Hyperreality,* for instance, Eco suggests that visitors to Disneyland experience far greater fascination with automata that reproduce pirates or

jungle animals than they would with live crocodiles or flesh and blood actors. Both Baudrillard and Eco lament this attraction to the image as a loss of desire for the original. But the Disneyland tourist, beloved scapegoat of cultural critics, deserves credit for the ability to appreciate the art that goes into the production of the fake. Rather than ridiculing the tourist's attitude for its lack of intellectual sophistication, I would suggest that we regard this attitude as the admittedly embryonic manifestation of a fundamental and timeless dimension of the aesthetic experience.

In the literary domain, the "fake" interpretation of the virtual entertains obvious affinities with the concept of fictionality. The feature of inauthenticity describes not only the irreal character of the reference worlds created by fiction but also, as John Searle has suggested, the logical status of fictional discourse itself. Some literary theorists, most notably Barbara Herrnstein Smith and Mary Louise Pratt, propose to regard fiction as the imitation of a nonfictional genre, such as chronicle, memoir, letter, biography, or autobiography. Without going this far—for many fictional texts do not seem to reproduce any identifiable type of reality-based discourse—we can profitably describe fiction as a virtual account of fact, or, with Searle, as a pretended speech act of assertion, since even though the fictional text evokes imaginary characters and events, or attributes imaginary properties to counterparts of real-world individuals, it does so in a language that logically presupposes the actual existence of its reference world.

This idea of the text, and in fact of the work of art in general, as a *virtual something else* has been systematically explored by Susanne K. Langer in *Feeling and Form,* a work published in 1953. Langer's interpretation of the virtual foregrounds the optical illusion: "The most striking virtual objects in the natural world are optical—perfectly definite visible 'things' that prove to be intangible, such as rainbows and mirages" (48). And also: "An image is, indeed, a purely virtual 'object.' Its importance lies in the fact that we do not use it to guide us to something tangible and practical, but treat it as a complete entity with only *visual* attributes and relations. It has no others; its visible character is its entire being" (ibid.). To extend the optical concept of

virtuality to nonvisual forms of art, without resorting to worn-out and medium-insensitive metaphors such as "painting" with words or with sound, Langer detaches the notion of image from any individuated content. Though the work of art is an essentially mimetic text, this mimeticism resides more in the production of an equivalent of one of the fundamental, almost Kantian, a priori categories of human experience than in the reproduction of concrete aspects of life or singular objects. The virtual images of art are not primarily images of bodies, flowers, animals, characters, and events, or the abstract expression of feelings, but what we might call today dynamic simulations of abstract objects of thought, such as space, time, memory, and action.

One of the virtual aspects of the artistic image—and perhaps of the image in general—resides in its detachment from any particular spatio-temporal context. As a real object inscribed in space and time, the work of art is *in* the world, but as a virtual object that creates its own space and time, it is not *of* the world. This discontinuity between the artistic image and the surrounding world is particularly prominent in Langer's account of the visual arts as virtual space:

> The space in which we live and act is not what is treated in art at all. The harmoniously organized space in a picture is not experiential space, known by sight and touch, by free motion and restraint, far and near sounds, voices lost and re-echoed. It is an entirely visual affair; for touch and hearing and muscular action it does not exist. For them it is a flat canvas. . . . This purely visual space is an illusion, for our sensory experiences do not agree on it in their report. . . . Pictorial space is not only organized by means of color . . . it is created; without the organizing shapes it is simply not there. Like the space "behind" the surface of the mirror, it is what the physicists call "virtual space"—an intangible image. (72)

As one might expect, there is a form of art that parallels in the time dimension the virtualization of space that takes place in the visual arts. This art form is music. The effect of music, according to Langer, is to create a "virtual time" that differs from what may be called "clock-time" or "objective time" in that it gives form to the succession

of moments and turns its own passing—transfigured as *durée*—into sensory perception:

> The direct experience of passage, as it occurs in each individual life is, of course, something actual, just as actual as the progress of the clock or the speedometer; and like all actuality it is only in part perceived. . . . Yet it is the model for the virtual time created in music. There we have its image, completely articulated and pure. . . . The primary illusion of music is the sonorous image of passage, abstracted from actuality to become free and plastic and entirely perceptible. (113)

The remaining equivalencies in Langer's systematic description of the arts as "virtual-something-else" describe dance as virtual gesture; poetry as virtual life; narrative as virtual memory; drama as virtual history; and film as virtual dream.[4] Though all of these equivalencies offer provocative insights on the genre under consideration, one cannot avoid the impression that Langer is forced into some categorizations by the tyranny of the pattern and the desire to avoid duplicate labels. In several cases the characterization could describe several art forms. The "virtual gesture" of dance, for instance, is defined in such a way that the label applies equally well to the other types of performance art, such as mime, drama, and even film. The respective characterizations of drama and narrative as "virtual history" and "virtual memory" would be better expressed in terms of "mimetic" versus "diegetic" modes of presentation, for what Langer has in mind is the fact that dramatic action takes place in the present while narrative typically (but not necessarily) encodes the result of the narrator's retrospective act of memory. The weakest equivalence of all, in my view, is the description of poetry as "virtual life" on the ground that a poem creates "a world of its own" (228). Why should poetry be more of a simulation of life than drama and narrative, two genres generally credited with far greater world-creating power than lyric art? The entire discussion of poetry seems symptomatic of the belief, widespread in the era of New Criticism—when Langer's book was written—that poetry embodies the essence of language art. As the most sublime of literary genres, it had to virtualize the most "vital" principle, the spark of life itself.

THE TEXT AS POTENTIALITY

As an analytical concept, the virtual as potential is no less fecund for literary and textual theory than the virtual as fake. Here again we must begin with Aristotle: "The function of the poet is not to say what *has* happened, but to say the kind of things that *would* happen, i.e. what is possible in accordance with probability and necessity" (*Poetics* 5.5, 16). This pronouncement may seem to restrict literature unduly to the representation of events and objects that could occur in the real world, given its physical, logical, and perhaps psychological and economic laws. A narrow interpretation of possibility would leave out not only fairy tales, science fiction, the fantastic, and magical realism but also the absurd, the symbolic, the allegorical, and the dreamlike. All these literary landscapes can be reclaimed by broadening the horizon of "probability and necessity" to the territories covered by a purely imaginative brand of possibility. The task of the poet is not necessarily to explore the alternative worlds that can be put together by playing with the laws of the real but to construct imaginary worlds governed by their own rules. These rules—which may overlap to various degrees with the laws of the real—must be sufficiently consistent to afford the reader a sense of what is and isn't possible in the textual world as well as an appreciation of the imaginative, narrative, and artistic "necessity" of what ends up being actualized.

The virtual as potential also lies at the core of the conception of the text developed by the two leading figures of reader-response criticism, the Polish phenomenologist Roman Ingarden and his German disciple Wolfgang Iser. Ingarden conceives the literary work of art, in its written form, as an incomplete object that must be actualized by the reader into an aesthetic object. This actualization requires of the reader a filling in of gaps and places of indeterminacy that can take a highly personal form, since every reader completes the text on the basis of a different life experience and internalized knowledge. Rather than associating the written or oral signs that make up the text with a specific possible world, it is therefore more appropriate to speak, with David Lewis, of a plurality of textual worlds. In this power to unfold into many worlds resides for Iser the virtuality of the work of art and

the condition for the aesthetic experience: "It is the virtuality of the work that gives rise to its dynamic nature, and this in turn is the precondition for the effects that the work calls forth" ("Reading Process," 50).

For Pierre Lévy, the virtual as potential represents not only the mode of being of the literary text but the ontological status of all forms of textuality. "Since its Mesopotamian origin," writes Lévy, "the text has been a virtual object, abstract, independent of any particular substrate" (*Becoming Virtual,* 47). Paradoxically, this virtual object originates in an actualization of thought. The act of writing taps into, and enriches in return, a reservoir of ideas, memories, metaphors, and linguistic material that contains potentially an infinite number of texts. These resources are textualized through selection, association, and linearization. But if the text is the product of an actualization, it reverts to a virtual mode of existence as soon as the writing is over. From the point of view of the reader, as reader-response theorists have shown, the text is like a musical score waiting to be performed. This potentiality is not just a matter of being open to various interpretations or of forming the object of infinitely many acts of perception; otherwise texts would be no more and no less virtual than works of visual art or things in the world such as rocks and tables. The virtuality of texts and musical scores stems from the complexity of the mediation between what is there, physically, and what is made out of it. Color and form are inherent to pictures and objects, but sound is not inherent to musical scores, nor are thoughts, ideas, and mental representations inherent to the graphic or phonic marks of texts. They must therefore be constructed through an activity far more transformative than interpreting sensory data. In the case of texts, the process of actualization involves not only the process of "filling in the blanks" described by Iser but also simulating in imagination the depicted scenes, characters, and events, and spatializing the text by following the threads of various thematic webs, often against the directionality of the linear sequence.

As a generator of potential worlds, interpretations, uses, and experiences, the text is thus always already a virtual object. But the marriage of postmodernism and electronic technology, by producing the freely navigable networks of hypertext, has elevated this built-in vir-

tuality to a higher power. "Thought is actualized in a text and a text in the act of reading (interpretation). Ascending the slope of actualization, the transition to hypertext is a form of virtualization" (Lévy, *Becoming Virtual,* 56). This virtualization of the text matters cognitively only because it involves a virtualization of the act of reading. "Hypertextualization is the opposite of reading in the sense that it produces, from an initial text, a textual reserve and instrument of composition with which the navigator can project a multitude of other texts" (54). In hypertext, a double one-to-many relation creates an additional level of mediation between the text as produced by the author—*engineered* might be a better term—and the text as experienced by the reader. This additional level is the text as displayed on the screen. In a traditional text, we have two levels:

1. The text as collection of signs written by the author
2. The text as constructed (mentally) by the reader

The object of level 1 contains potentially many objects of level 2. In a virtualized text, the levels are three:

1. The text as written or "engineered" by the author
2. The text as presented, displayed, to the reader
3. The text as constructed (mentally) by the reader

In this second scheme, which is also valid for the print implementations of what Eco calls "the open work," the textual machinery becomes "a matrix of potential texts, only some of which will be realized through interaction with a user" (Lévy, *Becoming Virtual,* 52). As a virtualization of the already virtual, hypertext is truly a hyper-text, a self-referential reflection of the virtual nature of textuality.

When Lévy speaks of the virtualization of the text, the type of hypertext he has in mind is not so much a "work" constructed by a single mind as the implementation of Vannevar Bush's idea of the Memex: a gigantic and collectively authored database made up of the interconnection and cross-reference of (ideally) all existing texts.[5] It is, properly speaking, the World Wide Web itself. In this database the function of the links is much more clearly navigational than in the standard forms of literary hypertext. The highlighted, link-activating key words capture the topic of the text to be retrieved and enable

readers to customize the output to their own needs. In Lévy's words, the screen becomes a new "typereader *[machine à lire],* the place where a reserve of possible information is selectively realized, here and now, for a particular reader. Every act of reading on a computer is a form of publishing, a unique montage" (54). As the user of the electronic reading machine retrieves, cuts, pastes, links, and saves, she regards text as a resource that can be scooped up by the screenful. Electronic technology has not invented the concept of text as resource, or database, but it has certainly contributed to the current extension of this approach to reading. The attitude promoted by the electronic reading machine is no longer "What should I do with texts?" but "What *can* I do with them?" In a formula that loses a lot in translation, Lévy writes, "Il y a maintenant du texte, comme on dit de l'eau et du sable" (Now there is only text, as one might say of water and sand [62]). If text is a mass substance rather than a discrete object, there is no need to read it in its totality. The reader produced by the electronic reading machine will therefore be more inclined to graze at the surface of texts than to immerse himself in a textual world or to probe the mind of an author. Speaking on behalf of this reader Lévy writes, "I am no longer interested in what an unknown author thought, but ask that the text make me think, here and now. The virtuality of the text nourishes my actual intelligence" (63). The nonholistic mode encouraged by the electronic reading machine tends to polarize the attitude of the reader in two directions: reading becomes much more utilitarian, or much more serendipitous, depending on whether the user treats the textual database as what Gilles Deleuze and Félix Guattari *(A Thousand Plateaus)* call a striated space, to be traversed to get somewhere, or as a smooth space, to be explored for the pleasure of the journey and for the discoveries to be made along the way.

PART II The Poetics of Immersion

THREE

The Text as World

Theories of Immersion

> One's memory is apparently made up of millions of [sets of images], which work together on the Identikit principle. The most gifted writers are those who manipulate the memory sets of the reader in such a rich fashion that they create within the mind of the reader an entire world that resonates with the reader's own real emotions. The events are merely taking place on the page, in print, but the emotions are real. Hence the unique feeling when one is "absorbed" in a certain book, "lost" in it.
>
> —TOM WOLFE

When VR theorists attempt to describe the phenomenon of immersion in a virtual world, the metaphor that imposes itself with the greatest insistence is the reading experience:

> As [users] enter the virtual world, their depth of engagement gradually meanders away from here until they cross the threshold of involvement. Now they are absorbed in the virtual world, similar to being in an engrossing book.
>
> The question isn't whether the created world is as real as the physical world, but whether the created world is real enough for you to suspend your disbelief for a period of time. This is the same mental shift that happens when you get wrapped up in a good novel or become absorbed in playing a computer game. (Pimentel and Teixeira, *Virtual Reality,* 15)

Literary authors have not awaited the development of VR technology to offer their own versions and dramatizations of the phenomenon. Charlotte Brontë conceives immersion as the projection of the reader's body into the textual world:

> You shall see them, reader. Step into this neat garden-house on the skirts of Whinbury, walk forward in the little parlour—they are there at dinner. . . . You and I will join the party, see what is to be seen, and hear what is to be heard. (*Shirley,* 9)

Joseph Conrad's artistic goal prefigures the emphasis of VR developers on a rich and diversified sensory involvement:

> My task which I am trying to achieve is, by the power of the written word, to make you hear, to make you feel—it is, before all, to make you see. (Preface to *Nigger of the Narcissus,* xxvi)

For Italo Calvino, the transition from ordinary to textual reality is a solemn event, and it must be marked with proper ceremony. The instructions to the reader that open *If on a Winter's Night a Traveler* suggest the rites of passage through which various cultures mark the crossing of boundaries between the profane and the sacred, or between the major stages of life. Opening a book is embarking on a voyage from which one will not return for a very long time:

> You are about to begin reading Italo Calvino's new novel, *If on a winter's night a traveler.* Relax. Concentrate. Dispel every other thought. Let the world around you fade. . . . Find the most comfortable position: seated, stretched out, or lying flat. . . . Adjust the light so you won't strain your eyes. Do it now, because once you're absorbed in reading there will be no budging you. (3–4)

IMMERSION AND THE "WORLD" METAPHOR

The notion of reading as immersive experience is based on a premise so frequently invoked in literary criticism that we tend to forget its metaphorical nature. For immersion to take place, the text must offer an expanse to be immersed within, and this expanse, in a blatantly mixed metaphor, is not an ocean but a textual world. The recent emergence of other analogies for the literary text, such as the text as game (see chap. 6), as network (Landow, *Hypertext;* Bolter, *Writing Space*), or as machinic assemblage (Deleuze and Guattari, *A Thousand Plateaus*), should remind us that "the text as world" is only one possible conceptualization among many others, not a necessary, objective, and literal dimension of literary language, but this relativization should be the occasion for a critical assessment of implications that have too long been taken for granted.

What makes the semantic domain of a text into a world? All texts have a semantic domain, except perhaps for those that consist exclusively of meaningless sounds or graphemes, but not all of them con-

struct a world. A semantic domain is the nonenumerable, fuzzy-bordered, occasionally chaotic set of meanings that is projected by (or read into) any given sequence of signs. In a textual world these meanings form a cosmos. "How does a world exist as a world?" asks Michael Heim, theorist of virtual reality. "A world is not a collection of fragments, nor even an amalgam of pieces. It is a felt totality or whole." It is "not a collection of things but an active usage that relates things together, that links them. . . . World makes a web-like totality. . . . World is a total environment or surround space" (*Virtual Realism,* 90–91). For Heim, moreover, worlds are existentially centered around a base we call home. "Home is the node from which we link to other places and other things. . . . Home is the point of action and node of linkage that becomes a thread weaving the multitude of things into a world" (92). Let me sum up the concept of world through four features: connected set of objects and individuals; habitable environment; reasonably intelligible totality for external observers; field of activity for its members.

For the purpose of immersive poetics, a crucial implication of the concept of textual world concerns the function of language. In the metaphor of the text as world, the text is apprehended as a window on something that exists outside language and extends in time and space well beyond the window frame. To speak of a textual world means to draw a distinction between a realm of language, made of names, definite descriptions, sentences, and propositions, and an extralinguistic realm of characters, objects, facts, and states of affairs serving as referents to the linguistic expressions. The idea of textual world presupposes that the reader constructs in imagination a set of language-independent objects, using as a guide the textual declarations, but building this always incomplete image into a more vivid representation through the import of information provided by internalized cognitive models, inferential mechanisms, real-life experience, and cultural knowledge, including knowledge derived from other texts. The function of language in this activity is to pick objects in the textual world, to link them with properties, to animate characters and setting—in short, to conjure their presence to the imagination. The world metaphor thus entails a referential or "vertical" conception of meaning that stands in stark contrast to the Saussurian and poststruc-

turalist view of signification as the product of a network of horizontal relations between the terms of a language system. In this vertical conception, language is meant to be traversed toward its referents. Sven Birkerts describes this attitude as follows: "When we are reading a novel we don't, obviously, recall the preceding sentences and paragraphs. In fact we generally don't remember the language at all, unless it's dialogue. For reading is a conversion, a turning of codes into contents" (*Gutenberg Elegies,* 97).

The concrete character of the objects that populate textual worlds limits the applicability of the concept to a category of texts that Félix Martínez-Bonati calls mimetic texts. This term refers to texts devoted to the representation of states of affairs involving individual existents situated in time and space, as opposed to those texts that deal exclusively with universals, abstract ideas, and atemporal categories. We can roughly equate mimetic texts with narrative texts, though their evocation of particular existents does not necessarily fulfill the conditions of closure and coherence that we associate with the notion of plot. Since the class of mimetic texts includes both fiction and nonfiction, the notion of textual world does not distinguish the worlds that actually exist outside the text from those that are created by it. Both fictional and nonfictional mimetic texts invite the reader to imagine a world, and to imagine it as a physical, autonomous reality furnished with palpable objects and populated by flesh and blood individuals. (How could a world be imagined otherwise?) The difference between fiction and nonfiction is not a matter of displaying the image of a world versus displaying this world itself, since both project a world image, but a matter of the function ascribed to the image: in one case, contemplating the textual world is an end in itself, while in the other, the textual world must be evaluated in terms of its accuracy with respect to an external reference world known to the reader through other channels of information.

The idea of textual world provides the foundation of a poetics of immersion, but we need more materials to build up the project. As we saw in the introduction, poststructuralist literary theory is hostile to the phenomenon because it conflicts with its concept of language. (More about this in chap. 6.) Reader-response criticism, which should be more open to immersion than any other recent critical school,

does not clearly put its finger on the experience, though it often comes tantalizingly close.[1] The building blocks of the project will therefore have to be found in the quarries of other fields: cognitive psychology (the metaphors of transportation and being "lost in a book"), analytical philosophy (possible worlds), phenomenology (make-believe), and psychology again (mental simulation).

TRANSPORTATION AND BEING "LOST IN A BOOK"

The frozen metaphors of language dramatize the reading experience as an adventure worthy of the most thrilling novel: the reader plunges under the sea (immersion), reaches a foreign land (transportation), is taken prisoner (being caught up in a story, being a *captured* audience), and loses contact with all other realities (being lost in a book). The work of the psychologists Richard Gerrig and Victor Nell follows the thread of these classic metaphors to explore what takes place in the mind of the entranced reader. In his book *Experiencing Narrative Worlds* (10–11), Gerrig develops the metaphor of transportation into a narrative script that could be regarded as a "folk theory" of immersion:

1. *Someone ("the traveler") is transported* . . . For Gerrig, this statement means not only that the reader is taken into a foreign world but also that the text determines his role in this world, thereby shaping his textual identity.
2. *by some means of transportation* . . . If there are any doubts as to the identity of the vehicle, they should be quickly dispelled by these lines from Emily Dickinson: "There is no Frigate like a Book / To take us Lands away" (quoted in Gerrig, 12, and as epigraph to the whole book).
3. *as a result of performing certain actions.* This point corrects the passivity implicit in the metaphor of transportation and introduces another major metaphor developed in Gerrig's book: reading as performance. The goal of the journey is not a preexisting territory that awaits the traveler on the other side of the ocean but a land that emerges in the course of the trip as the reader executes the textual directions into a

"reality model" (Gerrig's term for the mental representation of a textual world). The reader's enjoyment thus depends on his own performance.

4. *The traveler goes some distance from his or her world of origin, . . .* When visiting a textual world, the reader must "do as the Romans do": adapt to the laws of this world, which differ to various degrees from the laws of his native reality. Readers may import knowledge from life experience into the textual world, but the text has the last word in specifying the rules that guide the construction of a valid reality model.
5. *which makes some aspects of the world of origin inaccessible.* This idea can be interpreted in many ways: (a) When the idiosyncratic laws of the textual world take over, we can no longer draw inferences from the real-world principles that were overruled. (b) Our objective knowledge that fictional characters are only linguistic constructs—as structuralism would describe them—does not prevent us from reacting to them as if they were embodied humans. (c) As is the case with any intense mental activity, a deep absorption in the construction/contemplation of the textual world causes our immediate surroundings and everyday concerns to disappear from consciousness.
6. *The traveler returns to the world of origin, somewhat changed by the journey.* There is no need to elaborate here on the educational value of reading, even when we read for pure entertainment. In lieu of a theoretical development let me offer a literary formulation of the same idea: "The reader who returns from the open seas of his feelings is no longer the same reader who embarked on that sea only a short while ago" (Pavić, *Dictionary of the Khazars* [female edition], 294).

The best illustrations of this script come from the realm of fiction, but Gerrig's stated purpose is to describe a type of experience that concerns "narrative worlds"—what I would call the worlds of mimetic texts—not just fictional ones. The metaphor of transportation captures how the textual world becomes present to the mind, not how

this world relates to the real one, and this sense of presence can be conveyed by narratives told as truth as well as by stories told as fiction. Victor Nell writes that "although fiction is the usual vehicle for ludic reading, it is not its lack of truth—its 'fictivity'—that renders it pleasurable" (*Lost in a Book*, 50). Similarly, it is not the imaginative origin of fictional worlds per se that creates the experience that Gerrig calls transportation. But if a theory of transportation—and, by extension, of immersion—should be kept distinct from a theory of fiction, the two cannot be entirely dissociated, because imaginative participation in the textual world is much more crucial to the aesthetic purpose of fiction than to the practical orientation of most types of nonfiction. While nonfiction sends the reader on a business trip to the textual world, often not caring too much about the quality of the experience—what matters most is what happens after the return home—fiction treats the visit as vacation and mobilizes all the powers of language to strengthen the bond between the visitor and the textual landscape.

Another entangled issue is the relation between immersion and aesthetics. We tend to label a literary work immersive when we take pleasure in it, and we (normally) take pleasure in reading when the text presents aesthetic qualities. But aesthetic value cannot be reduced to immersive power: poetry is not as immersive as narrative because its relation to a "world" is much more problematic; and among the texts regarded as narrative, some deliberately cultivate a sense of alienation from the textual world, or do not allow a world to solidify in the reader's mind. For Gerrig, transportation into a narrative world is not dependent on narrative skills. If I read the word *Texas* in a story, no matter how good or bad the text, I will think about Texas, which means that I will be mentally transported to the place: "Some core of processes is likely to allow readers to experience narrative worlds even when the stories themselves are poorly crafted" (*Experiencing*, 5). In Gerrig's Texas example, however, imaginative transportation to Texas is a consequence of the speech act of reference rather than a consequence of embedding the speech act in a narrative context. We must therefore distinguish a minimal form of transportation—thinking of a concrete object located in a time and place other than our present spatio-temporal coordinates—from a strong form of the experience,

by which "thinking of" means imagining not only an object but the world that surrounds it, and imagining ourselves contained in this world, in the presence of this object. The minimal form of transportation is built into language and the cognitive mechanisms of the mind; we cannot avoid it; but the richer forms depend on the resonance in the reader's mind of the aesthetic features of the text: plot, narrative presentation, images, and style.

For Victor Nell, the experience of immersion—or rather, as he calls it, of reading entrancement—is a major source of pleasure but not necessarily a trademark of "high" literary value. *Lost in a Book,* his investigation of the "psychology of reading for pleasure," takes its title from a family of metaphors that present equivalents in many languages: "For example, in Dutch the phrase is 'om in een boek op te gaan'; in German, 'in einem Buch versunken zu sein'; and in French, 'être pris par un livre' "(50). The passivity of these metaphors suggests a smooth passage from physical reality to the textual world. It is indeed in terms of easiness that Toni Morrison describes the experience of a young girl who listens for the umpteenth time to the wondrous story of her birth: "Easily she stepped into the told story that lay before her eyes" (*Beloved,* 29). For a reader to be caught up in a story, the textual world must be accessible through effortless concentration: "In terms of attention theory . . . the ludic reader's absorption may seem as an extreme case of subjectively effortless arousal which owes its *effortlessness* to the automatized nature of the skilled reader's decoding activity" (Nell, *Lost in a Book,* 77–78). Immersion is hampered by difficult materials because "consciousness is a processing bottleneck, and it is the already comprehended messages . . . that fully engage the receiver's conscious attention" (77). The most immersive texts are therefore often the most familiar ones: "Indeed, the richness of the structure the ludic reader creates in his head may be inversely proportional to the literary power and originality of the reading matter" (ibid.).

But for Nell, the association of immersion with ease of reading is no cause for contempt. Anticipating the objections of elitist literary critics, who tend to judge the greatness of literary works by the standards of the Protestant work ethic—"no pain, no gain"—Nell insists on the importance of immersive reading for both high and low culture. Sophisticated readers learn to appreciate a wide variety of liter-

ary experiences, but they never outgrow the simple pleasure of being lost in a book. This pleasure is limiting only if we take it to be the only type of aesthetic gratification. There is no point in denying that the worlds of the stereotyped texts of popular culture are the most favorable to immersion: the reader can bring in more knowledge and sees more expectations fulfilled than in a text that cultivates a sense of estrangement. But immersion can also be the result of a process that involves an element of struggle and discovery. How many of us, after finally turning the last page of a difficult novel, compulsively return to the first page with the exhilarating thought that deciphering is over and the fun can now begin? In literature as in other domains—ballet, music, theater, and sports—it is through hard work that we reach the stage of effortless performance. The most forbidding textual worlds may thus afford the "easy" pleasures of immersion, once the reader has put in the necessary concentration.

To remain pleasurable, the experience of being lost in a book must be temporary and remain distinct from addiction, its harmful relative. Nell describes the difference between immersion and addiction in terms of eating metaphors: addicted readers are "voracious" consumers of books; they devour the text without taking the time to savor it. The story lives entirely in the present, and when the reading is completed, it leaves no residue in memory: "Addictive behavior . . . predicts an underdeveloped capacity for private fantasy" (212). While the addicted reader blocks out reality, the reader capable of pleasurable immersion maintains a split loyalty to the real and the textual world. The ocean is an environment in which we cannot breathe; to survive immersion, we must take oxygen from the surface, stay in touch with reality. The amphibian state of pleasurable entrancement has been compared by J. R. Hilgard to "dreaming when you know you are dreaming" (quoted ibid.). Nell explains:

> [Hilgard] writes that the observing and participating egos coexist, so that the subject is able to maintain "a continued limited awareness . . . that what is perceived as real is in some sense not real." This disjunction, allowing the reader both to be involved and to maintain a safe distance, is neatly captured by her subject Robert, who comments on a movie screen in which a monster

enters a cave, trapping a group of children: "I'm not one of them but I'm trapped with them, and I can feel the fright they feel." (212–13)

On the basis of these observations, we can distinguish four degrees of absorption in the act of reading:

1. *Concentration.* The type of attention devoted to difficult, nonimmersive works. In this mode, the textual world—if the text projects any—offers so much resistance that the reader remains highly vulnerable to the distracting stimuli of external reality.
2. *Imaginative involvement.* The "split subject" attitude of the reader who transports herself into the textual world but remains able to contemplate it with aesthetic or epistemological detachment. In the case of narrative fiction, the split reader is attentive both to the speech act of the narrator in the textual world and to the quality of the performance of the author in the real world. In the case of nonfiction, the reader engages emotionally and imaginatively in the represented situation but retains a critical attitude toward the accuracy of the report and the rhetorical devices through which the author defends his version of the events.
3. *Entrancement.* The nonreflexive reading pleasure of the reader so completely caught up in the textual world that she loses sight of anything external to it, including the aesthetic quality of the author's performance or the truth value of the textual statements. It is in this mode that language truly disappears. As Ockert, one of the subjects interviewed by Nell, describes the experience: "The more interesting it gets, the more you get the feeling you're not reading any more, you're not reading words, you're not reading sentences, it's as if you are completely living inside the situation" (290). Despite the depth of the immersive experience, however, this reader remains aware in the back of his mind that he has nothing to fear, because the textual world is not reality.
4. *Addiction.* This category covers two cases: (a) The attitude of the reader who seeks escape from reality but cannot find a

home in the textual world because she traverses it too fast and too compulsively to enjoy the landscape. (b) The loss of the capacity to distinguish textual worlds, especially those of fiction, from the actual world. (I call this the Don Quixote syndrome.)

POSSIBLE WORLDS

What does it mean, in semantic and logical terms, to be transported into the virtual reality of a textual world? The answers to these questions are tied to an ontological model that acknowledges a plurality of possible worlds. The fictional worlds of literature may not be, technically speaking, the possible worlds of logicians, but drawing an analogy between the two allows a much-needed sharpening of the informal critical concept of textual world.[2] Originally developed by a group of philosophers including David Lewis, Saul Kripke, and Jaakko Hintikka to solve problems in formal semantics, such as the truth value of counterfactuals, the meaning of the modal operators of necessity and possibility, and the distinction between intension and extension (or sense and reference),[3] the concept of possible worlds has been used to describe the logic of fictionality by Lewis himself, and adapted to poetics or narrative semantics by Umberto Eco, Thomas Pavel, Lubomír Doležel, Doreen Maître, Ruth Ronen, Elena Semino, and myself. The applications of possible-world (henceforth, PW) theory to literary criticism have been as diverse as the interpretations given to the concept by philosophers and literary scholars.[4] Since it would be beyond the scope of this section to try to represent the entire movement, I will restrict my presentation of PW theory to an approach that is largely my own, even though it is strongly indebted to the pioneering work of Eco, Pavel, and Doležel.[5]

The basis of PW theory is the set-theoretical idea that reality—the sum total of the imaginable—is a universe composed of a plurality of distinct elements, or worlds, and that it is hierarchically structured by the opposition of one well-designated element, which functions as the center of the system, to all the other members of the set. The central element is commonly interpreted as "the actual world" and the satellites as merely possible worlds. For a world to be possible it must be

linked to the center by a so-called accessibility relation. Impossible worlds cluster at the periphery of the system, conceptually part of it—since the possible is defined by contrast with the impossible—and yet unreachable. The boundary between possible and impossible worlds depends on the particular interpretation given to the notion of accessibility relation. The most common interpretation associates possibility with logical laws; every world that respects the principles of noncontradiction and excluded middle is a possible world. Another criterion of possibility is the validity of the physical laws that obtain in real life. On this account, a world in which people can be turned overnight into giant insects is excluded from the realm of the possible. Yet another conceivable interpretation involves the idea of temporal directionality: the actual world is the realm of historical facts, possible worlds are the branches that history could take in the future, and impossible worlds are the branches that history failed to take in the past.

The distinction of the possible from the impossible is a relatively straightforward matter: all it takes is a particular definition of the criteria of accessibility. A much thornier issue is the distinction of the actual from the nonactual within the realm of the possible. Through its centered architecture, PW theory runs into difficulties with postmodern theory. The idea of a world enjoying special status is easily interpreted as hegemonism, logocentrism, negative valorization of the periphery, and a rigid hierarchical organization based on power relations. Another objection frequently heard against the centered model is that even though we all live in the same physical world and share a large number of opinions about its basic furnishing, there is no absolute consensus as to where to draw the boundary between the realm of actually existing objects and the domain of merely thinkable existence. Some of us believe in angels and not UFOs, some of us in UFOs and not angels, some of us in both, and some of us in neither. Moreover, belief is a matter of degree. I may believe weakly in angels, and the borders of my vision of what exists may be fuzzy. According to this argument, it would take a "naive realism" to postulate a singular actual world; for if reality is incompletely accessible to the mind, or not accessible at all, there will be inevitable discrepancies in its representation. Postmodern ideologues may further object that the idea of a unique center ignores the cultural and historical relativity of perceptions of reality. The current emphasis on the value of diversity seems

better represented by philosophies that postulate a variety of "world versions" without establishing any hierarchical relations between them, such as the model described by Nelson Goodman in *Ways of Worldmaking,* than by the necessarily centered structure proposed by modal logic.

These objections to the concept of actual world can be circumvented by adopting what David Lewis has called an "indexical" definition of actuality. The opposition between the actual and the possible can be conceived in two ways: absolutely, in terms of origin, or relatively, in terms of point of view. In the absolute characterization, the actual world is the only one that exists independently of the human mind; merely possible worlds are products of mental activities such as dreaming, wishing, forming hypotheses, imagining, and writing down the products of the imagination in the form of fictions. In the relative characterization—the one advocated by Lewis—the actual world is the world from which I speak and in which I am immersed, while the nonactual possible worlds are those at which I look from the outside. These worlds are actual from the point of view of their inhabitants.[6] With an indexical definition, the concept of actual world can easily tolerate historical, cultural, and even personal variations. Without sacrificing the idea of an absolutely existing, mind-independent reality, we can relativize the ontological system by placing at its center individual images of reality, rather than reality itself. Most of us conceive the world system as centered because this reflects our intuition that there is a difference between fact and mere possibility—an egalitarian model such as Goodman's cannot account for these all-important semantic concepts—but we all organize our private systems around personal representations of what is actual.

I represent this model as shown in figure 1:

— At the center, a hypothetical real world, existing independently of the mind.
— Superposed upon this world of uncertain boundaries, the representations of it held by various individuals or collectively by various cultures. These spheres are the different personal versions of the "absolute" center. Their boundaries overlap because they reflect the same physical reality, and despite the current emphasis on relativity and differences,

Image Not Available

FIGURE 1 | A recenterable possible-worlds model

there is a vast area of consensus as to what exists and what does not.

— Further away, outlined in thinner lines, the worlds that each of us holds to be possible but nonactual. They stand at various distances from our personal center, depending on how difficult it would be to enact them, or on what type of accessibility relations link them to the center. If we interpret possible worlds as textual worlds, the model predicts that for most readers the world of a realistic novel is closer to reality than the world of a fairy tale, because its actualization does not require a modification of physical laws. It also predicts that a modern American reader will see greater discrepancy between reality and the world of Macbeth than a contemporary of Shakespeare, because belief in witches was more prevalent in Renaissance England than in the twentieth-century United States.

The applicability of the model to literary theory is not exhausted with the assimilation of textual worlds to possible worlds. In fact, a straight assimilation would be doubly reductive. First, it would obscure the fact that the distinction actual/possible reappears within the semantic domain projected by the text. In the case of mimetic texts, an essential aspect of reading comprehension consists of distinguishing a domain of autonomous facts—what I call the textual actual world—from the domains created by the mental activity of characters: dreaming, hoping, believing, planning, and so on. Mimetic texts project not a single world but an entire modal system, or universe, centered around its own actual world. Second, if nonactual textual worlds were apprehended as mere statements of possibility, there would be no phenomenological difference between counterfactual statements or expressions of wishes, which embed propositions under predicates of nonfactuality, and fictional statements, which, as Lewis observes, take the form of straight assertions of truth.

The concept of immersion is crucially dependent on this distinction. When I process "Napoleon could have won the battle of Waterloo if Grouchy had arrived before Blücher," I look at this world from the standpoint of a world in which Napoleon loses; but if I read in a novel "Thanks to Grouchy's ability to move quickly and bring his army to the battlefield before Blücher, Napoleon crushed his enemies at Waterloo," I transport myself into the textual world and process the sentence as a statement of fact. Both counterfactuals and fictional statements direct our attention toward nonactual possible worlds, but they do so in different modes: counterfactuals function as telescopes, while fiction functions as a space-travel vehicle. In the telescope mode, consciousness remains anchored in its native reality, and possible worlds are contemplated from the outside. In the space-travel mode, consciousness relocates itself to another world and, taking advantage of the indexical definition of actuality, reorganizes the entire universe of being around this virtual reality. I call this move recentering, and I regard it as constitutive of the fictional mode of reading. Insofar as fictional worlds are, objectively speaking, nonactual possible worlds, it takes recentering to experience them as actual—an experience that forms the basic condition for immersive reading.

Recentered universes reproduce the structure of the primary system, except that in the primary system we see only the white circle of our personal actual world, while in recentered systems the reader has access to at least some areas of the patterned circle. In a fictional universe, objective reality corresponds to fictional truths, and fictional truths are established by textual authority. This authority means that fictional truths are unassailable, whereas the facts of the actually actual world can always be questioned. In figure 1 the boundaries of the textual actual world are not clearly defined because individual readers will complete the picture differently, and because some texts, especially postmodern ones, leave areas of undecidability or present contradictory versions of facts. (These texts could be represented as having two or more actual worlds, in a blatant violation of the classic modal structure.) The individual representations of reality superposed upon the textual actual world correspond to the personal actual world of characters, while the nonactual possible worlds that surround the center stand for the characters' unfulfilled, or partially fulfilled, private worlds. Here again distance from the center stands for degree of fulfillment.

The idea of recentering explains how readers become immersed in a fictional text, but how does the analysis work for texts of nonfiction? It would seem that in this case no recentering is needed, because nonfiction describes the real world and the reader is already there, automatically immersed in this "native reality" by some kind of birthright. But where exactly is the reader of nonfiction imaginatively situated: in a text, or in a world? If, as I have suggested, the world-image projected by the text is conceptually different from the world referred to by the text, the reader-persona is located in the reference world, not in its textual image. In fiction, the reference world is inseparable from the image, since it is created by the text, and the contemplation of the image automatically transports the reader into the world it represents. But in nonfiction we can distinguish two moments: (1) one in which the reader constructs the text (i.e., becomes engaged imaginatively in the representation); and (2) one in which the reader evaluates the text (i.e., distances himself from the image, takes it apart, and assesses the accuracy of its individual statements with respect to the reference world). In the first phase, the reader

contemplates the textual world from the inside in, and in the second, from the outside in.[7]

The first phase can be more or less elaborate, the reconstructed image more or less vivid and complete, depending on how badly the user needs the textual information for his own practical purposes, but before we can decide what to believe and disbelieve, remember and forget, we must imagine something, and in this act of imagination we are temporarily centered in the textual world. When the textual and the reference world are indistinguishable, as in fiction, the text must be taken as true, since there is no other mode of access to the reference world, and being centered in the textual world implies recentering into the world it represents. When the two worlds are distinct, the image can be true or false, and the reader evaluates it from the point of view of his native reality. The preliminary operation of imaginative centering in this case does not involve ontological recentering. The distinction of a moment of construction from a moment of evaluation avoids two pitfalls frequently encountered in discourse typology: denying any difference in the mode of reading appropriate to fiction and nonfiction, and treating these two modes as incommensurable experiences. It also explains the phenomenon of subjecting one type of text to the mode of reading appropriate for the other. We read fiction as nonfiction when we extract ourselves from its world and, switching reference worlds, assess its viability as a document of real-world events; conversely, we read nonfiction as fiction when we find the image so compelling that we no longer care about its truth, falsity, or ability to serve practical needs.

MAKE-BELIEVE

Once we are transported into a textual world, how do we bring it to life? Kendall Walton locates the key to immersion in a behavior that we learn very early in life—earlier, arguably, than we learn to recognize the rigidity of the ontological boundary that separates story-worlds from physical reality. The comparison of fiction to games of make-believe is not a particularly new one; it is implicit to Coleridge's characterization of the attitude of poetry readers as a "willing suspension of disbelief" (*Biographia Literaria,* 169), and it has been invoked

by other thinkers, including Susanne K. Langer and John Searle (fiction, for Searle, is "pretended speech acts"). But Walton's project is more ambitious than defining fiction: the stated goal of his book *Mimesis as Make-Believe* is to develop a theory of representation and a phenomenology of art appreciation that make the term *representation* interchangeable with *fiction.* The range of the theory includes not only verbal but visual and mixed media:

> In order to understand paintings, plays, films, and novels, we must first look at dolls, hobbyhorses, toy trucks and teddy bears. . . . Indeed, I advocate regarding the activities [that give representational works of art their point] as games of make-believe themselves, and I shall argue that representational works function as props in such games, as dolls and teddy bears serve as props in children's games. (11)

The fictionality of all representations is not demonstrated by the application of the theory to various objects but entailed by the definitions that form the axiomatic basis of the project. Here is my own reconstruction of these definitions:

1. A representation is a prop in a game of make-believe.
2. A prop in a game of make-believe is an object—doll, canvas, text—whose function is to prescribe imaginings by generating fictional truths.
3. A fictional truth is a proposition that is "true in a game of make-believe."

Though Walton proposes no formal definition of "game of make-believe"—apparently taking the concept for granted—a set of rules is easily derived from his analysis:

1. Players select an actual object x_1—the prop—and agree to regard it as a virtual object x_2.
2. Players imagine themselves as members of the virtual world in which x_2 is actual. The actions performed by the players with the prop count as actions performed with x_2.
3. An action is legal when the behavior it entails is appropriate for the class of objects represented by x_2. A legal action generates a fictional truth.

It is easy to see how these rules apply in the case of children's games. In an example proposed by Walton, a group of children decide that stumps are to count as bears. The decision is arbitrary, since any object could be chosen, but once it has been made, the relation between stumps and bears is much stronger than the linguistic relation between the word *bear* and its signified. In the game of make-believe, stumps do not signify absent bears, they are *seen as* present animals. Every time a child sees a stump, she performs an action that counts in make-believe as an encounter with a bear. Players may flee, climb a tree, or shoot the bear, but not pet it, put a saddle on its back, or walk it on a leash. The propositions that describe what the stump stands for and what the players' actions count as are the fictional truths. Participating in the game means stepping into a world in which the real-world proposition "There is a stump" is replaced by the fictional truth "There is a bear." Every time a player performs a legal move, she makes a contribution to the set of fictional truths that describes the game-world: "I am shooting a bear," "I am fleeing from it." In this creative activity resides the pleasure, and the point, of the game.

In visual representation, the stump is the physical image, and the bear is the represented reality. The painting draws the spectator into its world and confers presence to that which it represents. According to Walton, we behave in front of the painting of a windmill as if we were facing the mill. Inspecting the splotches of color on the canvas counts as inspecting a windmill. The generation of fictional truths is the detection of the visual features of the mill. The legitimacy of moves is determined by the visual properties of the prop, by the nature of the represented object, and by the general rule of the game, which restricts participation to acts of visual perception: fondling a painting of a nude does not constitute a legitimate response, no matter how erotic the painting's effect may be.

The question "What does the prop stand for?" is slightly more problematic in verbal representation. Assuming that the prop is simply the text, a naive answer could read, "The prop stands for the world it projects." But as Walton observes (219), we may say "This is a ship" when pointing to the painting *The Shore at Scheveningen* by Willem Van der Velde, but we would never say "This is a ship" when reading *Moby-Dick.* The difference resides in the fact that while paintings depict iconically, words signify conventionally. The only object that a

text can reasonably try to pass as is another text made of the same words but uttered by a different speaker and therefore constituting a different speech act. The basic fictional truth generated by a fictional text is that "it is fictional of the words of a narration that someone [other than the author] speaks or writes them" (356). The prop constituted by the authorial text simply stands for the text of a narrator who tells the story as true fact. The game of make-believe performed by the reader involves three mutually dependent operations: (1) imagining himself as a member of this world; (2) pretending that the propositions asserted by the text are true; (3) fulfilling the text's prescription to the imagination by constructing a mental image of this world. The range of legitimate actions corresponds to the various world images that can be produced by following the textual directions.

This analysis implies a sharp distinction between texts of fiction and texts of nonfiction. As Walton observes, "It is not the function of biographies, textbooks, and newspaper articles, as such, to serve as props in a game of make-believe." These works are "used to claim truth for certain propositions rather than to make certain propositions fictional" (70). Through a strange asymmetry, however, the distinction "offered for belief" versus "offered for make-believe" is not found in the visual domain. According to Walton, all representational pictures function as props in a game of make-believe, and there is no such thing as nonfictional depiction: "Pictures are fiction by definition" (351). Even pictures primarily used to convey information, such as anatomical illustrations or passport photos, pass as something else and invite the observer to pretend that she is facing that which they represent. All pictures are make-believe because they convey a sense of virtual presence. (Here Walton obviously rejects the idea of a nonillusionist mode of representation, such as we find in pre-Renaissance and postimpressionist art.) Some pictures, such as Vermeer's interiors, invite the spectator to a rich game of make-believe, one in which many details can be inspected, while other images, such as schematic line drawings, flowers and seashells in decorative patterns, or the silhouettes of children on traffic signs, reduce this game to the basic recognition of shapes. But as soon as recognition takes place, the spectator is engaging in an act of imagining and therefore of make-believe. The propositions considered in this act can only be fictional truths, because they are inspired by a copy and not a real object.

The asymmetry between texts and pictures with respect to the dichotomy fiction/nonfiction suggests that fictionality is an essentially verbal category. Without an other to limit and define it, the concept of fiction loses its identity. The asymmetry is partially explained by the fact that pictures do not literally make propositions, but Walton's categorization is above all the consequence of the reinterpretation to which the concept of make-believe is subjected as it crosses the boundary from textual to visual media. In visual communication, as I noted in the preceding paragraph, make-believe refers to pretended presence: the spectator apprehends the visual features of the depicted object as if she were standing in front of it. In the case of fictional texts, make-believe refers to pretended truth for propositions. This pretended truth presupposes pretended existence. Since pretended presence does not occur in verbal communication—linguistic signs normally refer to absent objects—the diagnosis of fictionality rests on incommensurable criteria for the two media: it is like comparing apples and oranges.

The distinction between fiction and nonfiction in the textual domain creates another difficulty for Walton's theory. The assimilation of representation to fiction and the definition of the latter as a prop in a game of make-believe make the embarrassing prediction that texts designed to elicit belief, rather than make-believe, are not representations. Yet Walton himself admits that "some histories are written in such a vivid, novelistic style that they almost inevitably induce the reader to imagine what is said, regardless of whether or not he believes it. (Indeed, this may be true of Prescott's *History of the Conquest of Peru.*) If we think of the work as prescribing such a reaction, it serves as a prop in a game of make-believe" (71). In this argument, well-written works of history such as *The History of the Conquest of Peru* are rescued from the limbo of nonrepresentations by reinterpreting make-believe as "picturing vividly in one's mind." In other words, these texts are representations because they can be read as fiction. Walton makes a distinction between imagining and considering a proposition, and regards these attitudes as constitutive of the difference between fiction and nonfiction—that is to say, between "representation" and its other, that which is offered for belief. On the contrary, I would like to argue that mentally producing a more or less vivid image of situations is an integral part of the reading of mimetic

nonfiction, since it is on the basis of this image that we evaluate the truth of the propositions asserted by the text. The difference between fiction and texts we read for information resides not in the occurrence of an act of imagination but in whether or not it forms the point of the game.

Walton's use of make-believe thus subsumes, and often confuses, two distinct phenomena: (1) regarding texts that describe obviously made-up situations as reports of true facts ("willingly suspending disbelief"); and (2) engaging in an act of imagination, by which depicted objects and their surrounding worlds are made present to the mind. If we disentangle these two aspects of make-believe, the concept is applicable to both the problem of distinguishing fiction from nonfiction (through sense 1), and to the phenomenological description of immersion (through sense 2). While the first sense comes close to being binary, the second is a matter of degree: we can produce sketchy pictures, similar to line drawings, or rich images, similar to a Vermeer picture. When the text restricts itself to abstract ideas and general statements, in other words, when it is nonmimetic in Martínez-Bonati's sense of the term, make-believe as mental picturing reaches its zero degree. I am not saying that all mimetic texts necessarily give rise to a truly immersive experience, but rather that only those texts that are dominated by mimetic statements can be experienced in an immersive manner. The depth of immersion—what Walton calls the richness of the game of make-believe—depends on the style of the representation as well as on the disposition of the reader.

MENTAL SIMULATION

In 1997, when Walton revisits the phenomenology of art appreciation in "Spelunking, Simulation, and Slime," he sharpens his analysis of the mechanics of involvement in a textual world by borrowing from psychology the concept of mental simulation. In its psychological use, the term *mental simulation* is associated with a recent debate concerning the strategies of common-sense reasoning, or "folk psychology." An important aspect of this reasoning is the operations that enable us to imagine the thoughts of others with sufficient accuracy to make efficient decisions in interpersonal relations. In contrast to those psy-

chologists who hold that we are able to make judgments about the psychological state of others by activating "a systematically organized body of information about mental states, their origin, interactions and effects" (Heal, "How to Think," 33), a position known as "theory-theory," simulationists argue that all we need to do to recreate people's thoughts is to use our existing reasoning abilities with different input—what we take to be the beliefs and values of the foreign mind. According to Stephen Stich and Shaun Nichols, we "take our own decision-making 'off-line,' supply it with 'pretend' inputs that have the same content as the beliefs and desires of the person whose behavior we are concerned with, and let it make a decision on what to do" ("Second Thoughts," 91). Simulation theory can thus be described as a form of counterfactual reasoning by which the subject places himself in another person's mind: "If I were such and such, and if I held beliefs *p* and *q,* I would do *x* and *y.*"

Through its implicit shift in point of view, the concept of mental simulation dovetails with the ideas of recentering, transportation, and make-believe, but by locating the reader within the center of consciousness of the characters he tries to understand, it goes further than these concepts in explaining the phenomenon of emotional participation. From a human point of view, one of the most beneficial features of the theory of mental simulation is that it enables us to reason from premises that we normally hold to be false, and to gain more tolerance for the thinking processes of people we fundamentally disagree with: "Here the interesting point is that people can think about, and so explore the consequences of and reflect on the interconnections of, states of affairs that they do not believe to obtain" (Heal, "How to Think," 34). Fiction, similarly, has been hailed (and also decried) for its ability to foster understanding and even attachment for people we normally would condemn, despise, ignore, or never meet in the course of our lives. As we project ourselves into these characters, we may be led to envision actions that we would never face or approve of in real life.

This idea is crucial to Walton's appeal to simulation in support of his theory of mimesis as make-believe. He uses the example of imagining himself participating in a spelunking expedition to demonstrate that simulation can become a means of self-discovery. In the theater

of his mind, he crawls for hours in a dark and humid hole until he reaches a shaft so narrow that he must abandon his pack and move forward by wiggling between the hard walls. His headlight goes out, and he lets out a scream of panic as he finds himself in total darkness. Though he does not believe for a moment that he is actually in danger, the simulator undergoes a genuinely upsetting imaginative experience, one that gives him the shivers every time he thinks of it. The act of pretense makes him realize his deep-seated claustrophobia and explains to him his real-life fear of elevators and crowded places. (We cannot, unfortunately, verify this claim, even by replaying the script in our imaginations, because what we would learn in Walton's cave would depend too much on our a priori opinions of his theory.) Through this example—which illustrates not only how we immerse ourselves in the creations of our own minds but also how readers bring textual worlds to life—Walton hopes to answer a criticism that has been frequently raised against his approach to fiction: that if the emotions aroused by fiction are confined to the fictional world and do not engage our real-world selves, reading fiction cannot provide a genuine learning experience. Not so, says Walton: if I can discover my claustrophobia by mentally simulating the cave expedition, I can also discover truths about myself by living in imagination the destiny of fictional characters.

In the spelunking example, mental simulation goes far beyond the attribution of thought to characters; it creates a rich sensory environment, a sense of place, a landscape in the mind. In a reading situation, it executes the incomplete script of the text into an ontologically complete, three-dimensional reality. To the performer of the simulation, the word *cave* does not simply evoke its lexical definition of "natural underground chamber" but awakens all its connotations of darkness, dampness, rough texture, earthy smell, silence occasionally interrupted by the noise of dripping water, and whatever else the simulator may associate with the mental image of the cave. But there is more to simulation than forming a vivid, sensorially diverse representation of a scene or an object; this image must also receive a temporal dimension. Gregory Currie suggests that *mental simulation* is simply another name for an act of imagination ("Imagination,"

161), but if the term is to make a significant contribution to the phenomenology of reading, it should be reserved to a special type of imagining: placing oneself in a concrete imaginary situation, living its evolution moment by moment, trying to anticipate possible developments, experiencing the disappearance of possibilities that comes with the passing of time but remaining steadily focused on the hatching of the future.

It is indeed from this prospective orientation, this relentless assessment of the possibilities that still remain open, that simulation derives its heuristic value. Mental simulation should therefore be kept distinct from retrospective and temporally free-floating acts of imagination, such as storymaking, daydreaming, and reminiscing. When we compose a narrative, especially a narrative based on memory, we usually try to represent "how things came to be what they are," and the end is prefigured in the beginning. But when we read a narrative, even one in which the end is presented before the beginning, we adopt the outlook of the characters who are living the plot as their own destiny. Life is lived prospectively and told retrospectively, but its narrative replay is once again lived prospectively. Simulation is the reader's mode of performance of a narrative script.

The term *simulation* may be new, but the idea is an old one. Long before a label was put on the operation, Aristotle recommended its practice to authors of tragedy as a way to ensure the consistency of the plot:

> When constructing plots and working them out complete with their linguistic expression, one should as far as possible visualize what is happening. By envisaging things very vividly in this way, as if one were actually present at the events themselves, one can find out what is appropriate, and inconsistencies are least likely to be overlooked. (*Poetics* 8.3, 27)

This advice is also valid for writers of narrative fiction. In contrast to narratives of personal experience, novels are often conceived from a prospective stance: the author imagines a situation and tries out many possible developments until a good ending imposes itself. As Currie suggests ("Imagination," 163), the process of world construction is

only imperfectly under the conscious control of the creator. While simulating the behavior of characters, the novelist comes to imagine them as autonomous human beings who write the plot for her by taking control of their own destinies. There cannot be a more eloquent tribute to the heuristic value of mental simulation than the feeling voiced by many authors that their characters live a life of their own.

The Discipline of Immersion

Ignatius of Loyola

If Aristotle recommended simulation as writing strategy, the credit for developing the technique into a reading discipline should go at least in part to St. Ignatius of Loyola.[1] In the *Spiritual Exercises* the founder of the Jesuits produced a meticulous description of the mental operations that lead to immersion in a textual world. The project may not be viable as a model of reader response—if we imagined textual worlds with the wealth of detail advocated by Ignatius we would never finish a book—but it provides a fascinating document of the utopian dream of a total simulation, and a prefiguration of many of the themes brought to the fore by VR technology.

A program for developing and strengthening faith, the *Exercises* are strangely reminiscent of a program for developing and strengthening muscles. (Ignatius, we are told, was an avid practitioner of the military arts of his time, before a religious conversion occasioned by a physical injury turned his energies toward the salvation of the soul.) Under the coaching of a "director of conscience," the exercitant is led through an elaborate protocol that describes in minute detail a sequence of exercises to be completed over a period of four weeks. The instructions specify how many repetitions of each exercise should be performed, what kind of variations should be introduced with every repetition, how to keep the exercitant interested (by maintaining, as Roland Barthes observes [*Sade, Fourier, Loyola,* 43], a narrative suspense about the next routine to be prescribed), and how to balance spiritual training with everyday life and the demands of the body (the exercitant should coordinate the program with meals and sleep, and the exercises should be made compatible with worldly occupations such as career, civic responsibilities, and what we today would call business interests).

The exercises themselves are meditations and contemplations on the biblical narrative, and they are aimed toward a lived participation of the self in the foundational events of the Christian faith. The "self," for Ignatius, is an indivisible "compound of body and soul" (*Exercises,* 136), and both of these components must be involved in the religious experience. But since the body cannot be physically transported to the scenes described in the Gospels, its participation in the sacred events must be mediated by the imagination. The exercitant is enjoined to situate himself or herself spatially with respect to the divinity: "Here [the task] is to see myself as standing before God our Lord, and also before the angels and saints, who are interceding for me" (176). Barthes describes Ignatius's project as a "theater entirely created in order that the exercitant may therein represent himself: his body is what is to occupy it" (*Sade, Fourier, Loyola,* 63). And further: "The body in Ignatius is never conceptual: it is always this body: if I transport myself to a vale of tears, I must imagine, see *this* flesh, *these* members among the bodies of creatures" (62).

But Ignatius is no postmodernist, and if he insists on the importance of the body in religious training, he does not reduce the self to the experience of its embodiment. In accordance with Christian doctrine, Ignatius regards the soul as "imprisoned in this corruptible body" (*Exercises,* 136). The soul remains very much the target of the training program because it is in its power, if it accepts the Redemption, to outlive its prison and receive a new, incorruptible body. The trick here is to put the corporeal part of the self in the service of the soul. Ignatius does not propose an escape from the prison of the body—only death will accomplish that, and the *Exercises* are very much aimed at the living, active members of society—but advocates instead the exploitation of the faculties located in the "smart walls" of the prison.

The originality of the method resides in the idea that the involvement of the senses of the body—sight, hearing, smell, taste, and touch—can be used as stepping stones toward the involvement of the two senses of the soul: the will and the intellect. When he asks the exercitant to contemplate hell, for instance, Ignatius directs his attention from one sense to another, in an order of succession that implies an increasing proximity of the body to the object of contemplation.

This mental picturing of the tortures of hell is not an end in itself but the first step of a three-part exercise that leads from the sensory to the spiritual: (1) realize the gravity of sin and of its consequences; (2) use the intellect to reason against it; and (3) use the will to decide to avoid it (138).

Here is the initial step:

> *The First Point* will be to see with the eyes of the imagination the huge fires and, so to speak, the souls within the bodies full of fire.
>
> *The Second Point.* In my imagination I will hear the wailing, the shrieking, the cries, and the blasphemies against our Lord and all his saints.
>
> *The Third Point.* By my sense of smell I will perceive the smoke, the sulphur, the filth, and the rotting things.
>
> *The Fourth Point.* By my sense of taste I will experience the bitter flavors of hell: tears, sadness, and the worm of conscience.
>
> *The Fifth Point.* By my sense of touch, I will feel how the flames touch the souls and burn them. (141)

In this exercise, the image brought to life by the involvement of the senses is an apocryphal representation of hell, but the same strategy is proposed to immerse the exercitant in the Holy Scriptures. The candidate is asked not only to apply sight, hearing, smell, and touch to the contemplation of the Nativity—taste this time is omitted—but also to "fill in the blanks" in the biblical text with details of his or her own, until the text projects a world sufficiently vivid and autonomous to open its door to the reader:

> The Second Contemplation of the Nativity.
>
> *The First Prelude* is the history. Here it will be to recall how our Lady and Joseph left Nazareth to go to Bethlehem and pay the tribute which Caesar imposed on all those lands. She was pregnant almost nine months and, as we may piously meditate, seated on a burro; and with her were Joseph and a servant girl, leading an ox.
>
> *The Second Prelude.* The composition, by imagining the place. Here it will be to see in imagination the road from Nazareth to

> Bethlehem. Consider its length and breadth, whether it is level or winds through valleys and hills. Similarly, look at the place or cave of the nativity: How big is it, or small? How low or high? And how is it furnished? (150)

In the third prelude readers are asked to project themselves as a corporeal presence into the textual world and to take up an active role in the narrated events:

> *The first point* [of the third prelude; Ignatius is obsessed with subdivisions]. This is to see the persons; that is, to see Our Lady, Joseph, the maidservant, and the Infant Jesus after his birth. I will make myself a poor, little, and unworthy slave, gazing at them, contemplating them, and serving them in their needs, just as if I were there, with all possible respect and reverence. Then I will reflect upon myself to draw some profit. (ibid.)

In the third point of the same unit, the exercitant is brought to understand that all these events happened "just for me." The spiritual profit to be gained from the biblical narrative is realized by stepping into the story and accepting, not just in imagination but in actuality, the actantial role of beneficiary.

In order to participate fully in the drama of the redemption, the exercitant must not only project a body image into the textual world but also simulate and thereby share the human emotions experienced by the characters. During the contemplation of the Passion, in the third week, "I will try to foster an attitude of sorrow, suffering and heartbreak, by calling to mind often the labors, fatigues, and sufferings which Christ our Lord suffered up to whatever mystery of his Passion I am contemplating at this time" (170), while in the fourth week, when reenacting the Resurrection, "upon awakening, I will think of the contemplation I am about to make, and endeavor to feel joyful and happy over the great joy and happiness of Christ our Lord" (176).

As was the case in VR technology, the condition for immersion in the sacred events is a relative transparency of the medium. Barthes has emphasized the "platitude of style" (*Sade, Fourier, Loyola,* 6) of the text of the exercises: "Purified of any contact with the seductions and

illusions of form, Ignatius's text, it is suggested, is barely language; it is the simple, neuter path which assures the transmission of a mental experience" (40). Language, for Ignatius, is not an object of contemplation but a set of freely paraphrasable instructions to the imagination. This philosophy not only shapes his own writing practice but also affects his handling of the biblical text itself. In the fourth and final week of the program, when the exercitant is instructed to retrace and relive the entire narrative of the Passion, Ignatius does not hesitate to substitute his own retelling for the original; the text offered as guide to the imagination is a synthetic summary of the four Gospels. Any story can be retold an infinite number of ways, and as far as the "facts" are concerned, Ignatius's version is as good as any other.

But there is one type of utterance that absolutely resists paraphrase, and that the imagination should not attempt to traverse to get to "the real thing," because these utterances are the real thing itself: the spoken words of God. In his retelling, Ignatius encloses in quotation marks the words directly taken from the four Gospels, and these passages are almost all direct speech acts of Jesus, Mary, the archangel Gabriel, or the disciples witnessing the Resurrection.[2] When the Word is made flesh, it becomes physical presence, and the only traversal of the text needed to experience this presence leads (*pace* Derrida) from the written signs to an original, unique, and yet infinitely reiterable spoken utterance of the very same words: unique because it is inserted into human time and space, but reiterable because it potentially addresses everybody.[3]

During this itinerary through the elaborately designed program of the *Exercises,* the practitioner of Ignatian discipline learns three modes of immersion in the biblical text: imaginative projection of the body into the represented space, participation in the emotions of the characters, and moment-by-moment reenactment of the narrative of the Passion. Each type of experience is associated with one of the basic constituents of narrative grammar: setting, character, and plot. I return in the next two chapters to the poetics and cognitive dynamics of these three dimensions of immersive reading.

FOUR

Presence of the Textual World

Spatial Immersion

> It seems plain that the art that speaks most clearly, explicitly, directly, and passionately from its place of origin will remain the longest understood. It is through places that we put up roots. —EUDORA WELTY

> I remember the sensation of reading (Freudians can note this) as one of returning to a warm and safe environment, one that I had complete control over. When I picked up a book it was as much to get back to something as it was to set off to the new. —SVEN BIRKERTS

In contemporary culture, moving pictures are the most immersive of all media. Until VR is perfected and becomes widely available, no other form of representation will approximate their ability to combine the spatial extension and fullness of detail of still pictures with the temporality, narrative power, referential mobility (jumping across space and time), and general fluidity of language. This explains why immersion in a book has been compared to "cinema in your head" (Fischlin and Taylor, "Cybertheater," 13). As the reader simulates the story, her mind allegedly becomes the theater of a steady flow of pictures.

How important is the formation of mental images to an immersive reading experience? Do readers construct detailed representations of characters, settings, and actions, something equivalent to a Vermeer painting, or are they satisfied with the schematic outlines created by propositions? The readers who served as subjects in Victor Nell's investigation admit to variable degrees of interest in mental picturing: some describe themselves as "visualizers," some are reading for the plot. "Our imaginings are imprecise and misty," writes William Gass, "and characters in fiction are mostly empty canvas. I have known many who passed through their stories without noses or heads to hold them" (quoted in Nell, *Lost in a Book,* 217). My own experience tells me that novels can occasionally imprint in the mind images of quasi-photographic sharpness, but unlike photographs these images consist of selected features that leave many areas unspecified. The degree of

precision and the nature of the immersed reader's mental representation depend in part on his individual disposition, in part on whether the focus of attention is character, plot, or setting. In this chapter and the next one I propose to take a closer look at the textual features and mental operations responsible for three forms of involvement with narratives: spatial immersion, the response to setting; temporal immersion, the response to plot; and emotional immersion, the response to character.

SPATIAL IMMERSION: A SENSE OF PLACE AND A MODEL OF SPACE

From Faulkner's Yoknapatawpha County to Alice's Wonderland and from Joyce's Dublin to C. S. Lewis's Narnia, literature has time and again demonstrated its ability to promote a haunting sense of the presence of a spatial setting and a clear vision of its topography. Whether attractive or repulsive, these mental geographies become home to the reader, and they may for some of us steal the show from the narrative action. A cliché of literary criticism acknowledges this thematic prominence of setting by labeling it "the main character in the novel."[1]

Spatial immersion is often the result of a "madeleine effect" that depends more on the coincidental resonance of the text with the reader's personal memories than on generalizable textual properties. Just as the taste and smell of a piece of madeleine dipped into a cup of tea took Marcel Proust back to the village of his childhood, a single word, a name, or an image is often all the reader needs to be transported into a cherished landscape—or into an initially hated one that grew close to the heart with the passing of time. This phenomenon is documented by the reaction of Gregory Ulmer to this sentence from Michael Joyce's *Twelve Blue:* "Blue isn't anything. Think of lilacs when they are gone." "It so happens," writes Ulmer, "that I never stopped thinking of the lilacs that grew in the backyard of my childhood home, the very scarcity of flowering bushes in Montana making their brief but fragrant appearance all the more impressive. I am hooked" ("Response," para. 2). Such comments are usually judged too impressionistic to be taken seriously by literary theory or literary criticism,

but they reveal a dimension of the phenomenology of reading that cannot be ignored.

In the most complete forms of spatial immersion, the reader's private landscapes blend with the textual geography. In those moments of sheer delight, the reader develops an intimate relation to the setting as well as a sense of being present on the scene of the represented events. Since this latter experience involves transportation to a point defined by both spatial and temporal coordinates, I discuss it below in a subsection labeled spatio-temporal immersion. Neither one of these two experiences is easy to convey in language. Unlike pictures, which teletransport the spectator instantly into their space, language can afford only a gradual approach to the textual world. As a temporal medium it discloses its geography detail by detail, bringing it slowly into the reader's mind. And unlike pictures, language is the medium of absence. It does not normally re-present by creating an illusion of presence to the senses, as do visual media, but rather evokes the thought of temporally or spatially distant objects (deictics being a notable exception). To overcome this distance, language must find ways to pull its referents into the theater of the mind, and to coax the imagination into simulating sensory perception.

The philosopher who pioneered the phenomenological study of the experience of space in literature, Gaston Bachelard, conceives spatial immersion in terms of security and rootedness. The titles of the various chapters of his book *The Poetics of Space* are all symbolic expressions of an intimate relation to a closed, enveloping environment: the house; drawers, coffers, and chests; nests; shells; corners; miniatures; and, in a conceptualization of open spaces as cozy habitat, "intimate immensity" and "the universe as house." Lilian Furst (*All Is True,* 99) observes that Victorian novels, which are second to none in creating a sense of place within a narrative structure, were often tales of socially imposed confinement that focused on the emotional bond between a female heroine and the small world of a house, village, or uniform landscape. The boring province, one of the most haunting spatial themes of literature, was a discovery of the nineteenth century. Contemporary "nature writing," such as James Galvin's *The Meadow,* tries to recapture this sense of belonging in a certain place, but usually without the additional immersivity created by a sustained, temporally

and emotionally riveting narrative. These sedentary dreams stand in stark contrast to the "deterritorialization" and nomadism that have come to pass, under the influence of Gilles Deleuze and Félix Guattari, as the quintessential postmodern experience of space. Whereas Bachelard reflects on a "sense of place," postmodern literature conceptualizes space in terms of perpetual movement, blind navigation, a gallery of mirrors, being lost in a not-always-so-funhouse, a self-transforming labyrinth, parallel and embedded universes, and discontinuous, non-Cartesian expanses, all experiences that preclude an intimate relation to a specific location. We could say that in Bachelard, space is sensorially experienced by a concrete, bounded body, while in postmodern literature its apprehension presupposes a dismembered, ubiquitous, highly abstract body, since real bodies can be in only one place at one time. The difference is one of a lived versus a conceptualized space: we can conceptualize space as a whole, but we can live it only by developing a relation to some of its specific points.

Yet if the nomadic, alienating space of postmodernism prevents an immersive relation, I would not go as far as to say that spatial immersion precludes travel. Textual space involves not only a set of distinct locations but a network of accesses and relations that binds these sites together into a coherent geography. A sense of place is not the same thing as a mental model of space: through the former, readers inhale an atmosphere; through the latter, they orient themselves on the map of the fictional world, and they picture in imagination the changing landscape along the routes followed by the characters. In the most complete form of spatial immersion, sense of place is complemented by a model of space that J. Hillis Miller has eloquently described:

> A novel is a figurative mapping. The story traces out diachronically the movement of the characters from house to house and from time to time, as the crisscross of their relationships gradually creates an imaginary space. . . . The houses, roads, and walls stand not so much for the individual characters as for the dynamic field of relations among them. (*Topographies,* 19–20)

To create a global and lasting geography, the text must turn in its favor the linearity of its medium. Unable to provide a panoramic glance, the text sends its readers on a narrative trail through the

textual world, guiding them from viewpoint to viewpoint and letting them discover one by one the salient features of the landscape. In contrast to virtual realities of the electronic kind, the immersive quality of the representation of space depends not on the pure intensity of the information—which translates in this case as length and detail of the descriptions—but rather on the salience of the highlighted features and on the ability of descriptive passages to project a map of the landscape. A description that merely accumulates details lets its object run through the reader's mind like grains of sand through the fingers, thus creating the sense of being lost in a clutter of data.

In many postmodern texts this effect is deliberately exploited as a way to express the alienation of the subject from the surrounding world. In Alain Robbe-Grillet's *In the Labyrinth,* for instance, setting is painstakingly described through a linear accumulation of details, but space is neither apprehended nor organized by a human consciousness,[2] and details flow by the reader's mind without coalescing into a stable geography. The text does not fail to achieve, it actively *inhibits,* spatial immersion:

> I am alone here now, under cover. Outside it is raining, outside you walk through the rain with your head down, shielding your eyes with one hand while you stare ahead nevertheless, a few yards ahead, at a few yards of wet asphalt; outside it is cold; the wind blows between the bare black branches; the wind blows through the leaves, rocking whole boughs, rocking them, rocking, their shadows swaying across the white roughcast walls. Outside the sun is shining, there is no tree, no bush to cast a shadow, and you walk under the sun shielding your eyes with one hand while you stare ahead, only a few yards in front of you, at a few yards of dusty asphalt where the wind makes patterns of parallel lines, forks, and spirals. (141)

This passage creates a strong sense of atmosphere, but the incantatory tone of the description, its numerous repetitions, and its paratactic accumulation of details have such a dulling effect that some readers may fail to notice the abrupt switch from rain to sun and from winter to summer. If noticed, however, the transformation should lead to an even greater sense of disorientation. In order to support such a dis-

continuity, the textual universe cannot be a homogeneous Cartesian space with stable reference points but must be something more akin to the space of modern physics: a self-transforming expanse riddled with invisible black holes through which we are unknowingly sucked into parallel worlds. This conception of space is more hostile to immersion than the mental fog that conceals contradictions, because the imagination presupposes the container of a Cartesian space for the shapes of objects to be representable at all.

How can a literary work capture the feel of a place in both its atmosphere and its topography without losing the reader in a descriptive thicket? Balzac's novels also open with meticulous evocations of the setting, but the descriptions never jeopardize the reader's sense of orientation because they trace a precise itinerary through the fictional world. When the novel describes a house, such as the boardinghouse of Mme. Vauquer in *Père Goriot* or the decrepit manor in "La Grande Bretèche," the narrator inspects the building in a systematic manner, approaching it from the street, examining the garden and facade, entering through the main door, and walking from room to room, as would a real estate agent or a prospective tenant. The reader ends up with a precise notion of the configuration of the building, all the way down to the floor plan.

To dramatize the description, Balzac often resorts to the device of figuratively pulling the reader into the scene through a second-person address. The four-page depiction of the provincial town of Saumur that opens *Eugénie Grandet* takes readers on a walk up a narrow cobbled street, lets them peek into the backyards, invites them to browse in the stores ("Entrez"), and finally ushers them into the house where the action is to take place. As it weaves its way through the town of Saumur, the descriptive itinerary creates a narrative thread that facilitates the recalling of the images disposed along the way, thus building a "memory palace" comparable in effect to the mnemonic techniques of the sixteenth century:[3]

> When you have followed the windings of this impressive street whose every turn awakens memories of the past, and whose atmosphere plunges you irresistibly into a kind of dream, you notice a gloomy recess in the middle of which you may dimly

> discern the door of Monsieur Grandet's house. Monsieur Grandet's house! You cannot possibly understand what these words convey to the provincial mind unless you have heard the story of Monsieur Grandet's life. (37)

The immersive quality of Balzac's descriptions is measured not by the degree of absorption they arouse in the reader at the time of their reading but by their lingering effect on the rest of the novel. Many people find the beginning of *Eugénie Grandet* exasperating rather than immersive. We may indeed hurry impatiently through the description of Saumur, eager for the real action to begin, but the atmosphere that has been fixed in the first few pages will facilitate the process of mental simulation and enrich our mental representation of all the episodes to come. My personal mapping of the topography of the novel places the house of Grandet at the top and on the left of the steep street, with the back of the house, where Eugénie's room is located, overlooking the countryside. When I simulate the various scenes of the novel, I always look at the house from the perspective of the bottom of the hill, and I see people enter from right to left and leave from left to right. This visualization blends text-given information (the house at the top) with a personal filling in of the blanks (the house on the left), but as I replay the novel in my mind the two types of detail blend into a seamless picture, and I don't remember what comes from me and what comes from the text.[4]

Balzac's habit of establishing the setting all at once, at the beginning of every novel, reflects his deterministic belief in the importance of the environment for the development of the individual. In Emily Brontë's *Wuthering Heights,* by contrast, the setting is constructed throughout the novel, in delicate and brief strokes, and it seems to emanate from the characters rather than the other way around. Long after readers have forgotten the details of the plot of *Wuthering Heights* they retain the landscape in their minds; yet the novel hardly ever pauses to give a detailed description of the environment. The sense of place and the model of space are created dynamically by a narration focalized through the character who is being followed. While the movements of the characters between the two houses of Thrushcross Grange and Wuthering Heights map the geography, their thoughts and perceptions condense the atmosphere:

> [Told as Lockwood, the narrator, enters the court of Heathcliff's house.] Wuthering Heights is the name of Mr. Heathcliff's dwelling. "Wuthering" being a significant provincial adjective, descriptive of the atmospheric tumult to which its station is exposed in stormy weather. Pure, bracing ventilation they must have up here at all times, indeed: one may guess the power of the north wind blowing over the edge, by the excessive slant of the few stunted firs at the end of the house; and by the range of gaunt thorns all stretching their limbs one way, as if craving alms of the sun. (2)

> Yesterday afternoon set in misty and cold. I had half a mind to spend it by my study fire, instead of wading through heath and mud to Wuthering Heights. . . . [Lockwood decides to go anyway.] On that black hilltop the earth was hard with a black frost, and the air made me shiver through every limb. (6)

> One time I passed the old gate out of my way, on a journey to Gimmerton. It was about the period that my narrative has reached: a bright frosty afternoon; the ground bare, and the road hard and dry. (99)

Through the quasi-instantaneous snapshots of these "narrativized descriptions," as Harold Mosher and others call the technique, the problem of segmentation is minimized, and the experience of space blends with the forward movement of time. The sense of the presence of the environment is out of proportion with the diversity of its features: landscape in *Wuthering Heights* is reduced to a few recurring motifs, such as the wind on the moor, the hard frozen ground in the winter, the soft waves of the grasses in the summer. This economy of detail conveys the vast emptiness of the environment, but it also suggests that textual worlds, like dreamscapes, need only a few mooring points to take hold of the mind, especially when they are already inscribed in the imagination as what Gaston Bachelard calls *rêverie des éléments* (elemental imagination). More than the evocation of a specific English province, landscape in *Wuthering Heights* is a dialogue of earth and wind, an archetypal confrontation of cosmic elements.

A particularly efficient way to create a sense of place without resorting to lengthy descriptions is the use of proper names. From a

semantic point of view, proper names contrast with common nouns through their intrinsic lack of sense and the uniqueness of their reference: in a perfect nomenclature, every object in the world would have a different label. The function of names is not to designate the properties of a certain object but to call its existence to the attention of the hearer, to impose it as discourse topic—in short, to conjure a presence to the mind. Through the instantaneous character of the act of reference, the use of a place name teletransports the reader to the corresponding location. For Richard Gerrig, as I noted in chapter 3, the mere mention of the name Texas in a novel lands the reader in Texas, or rather, lands Texas in the mind of the reader. Names may be technically void of sense, but they make up for this emptiness through the richness of their connotations. The name Texas transports the reader not into a barren expanse but into a territory richly landscaped by cultural associations, literary evocations, personal memories, and encyclopedic knowledge. Through this ability to tap into reservoirs of ready-made pictures, place names offer compressed images and descriptive shortcuts that emulate the instantaneous character of immersion in the space of visual media.

From an imaginative and ontological point of view, the place names of fictional worlds fall into several categories. The popularity of regional literature and the predilection of many readers for stories taking place in familiar locations suggest that the most immersive toponyms are the names of real places, either well known or obscure, that we happen to have personally visited, because it is always easier to build mental representations from materials provided by personal experience than by putting together culturally transmitted images—photographs, paintings, movie shots—or by following the instructions of purely textual descriptions. Direct personal memories enable readers to construct a precise map of the textual world and to visualize the changing environments as the characters move from location to location, much in the way the players of the so-called first-person-perspective computer games see the image of the game-world evolve as a result of their movements.

Next on the scale of immersivity are the names of famous real places we have heard of and dreamed about but never visited. (Readers whose imaginations are more oriented toward culture and history

than toward space and landscape will probably invert my rankings.) Western culture elevates locations such as Paris, Venice, Vienna, Provence, New York, or California to mythical status, and these names function for most people as catalysts of desire. Proust has eloquently described the magic of such names:

> I need only, to make [these dreams of the Atlantic and of Italy] reappear, pronounce the names Balbec,[5] Venice, Florence, within whose syllables had gradually accumulated the longing inspired in me by the places for which they stood. . . . But if these names permanently absorbed the image I had formed of these towns, it was only by transforming that image, by subordinating its reappearance in me of their own special laws; and in consequence of this they made it more beautiful, but at the same time more different from anything that the towns of Normandy or Tuscany could in reality be, and, by increasing the arbitrary delights of my imagination, aggravated the disenchantment that was in store for me when I set out upon my travels. (*Remembrance,* 420)

These quasi-mythical sites are often surrounded in fictional worlds by obscure real place names that stand for an entire category of nondescript provincial towns. The Paris of Balzac and Flaubert is irreplaceable, but it wouldn't matter much to most French readers if the Saumur of *Eugénie Grandet* were named Troyes or the Rouen of *Madame Bovary* became Nantes or Bayeux. The place name, in this case, represents a stereotype, and readers construct the setting by activating the cognitive frame with which the text associates the name: "provincial town," "fishing village," "slum," "industrial zone," "vacation resort," and so on. If we can use our idea of French provincial towns to imagine the fictional counterpart of the real Saumur, we can similarly activate our conception of American suburbs to visualize an invented Springfield or Glendale, or, to remain in a purely literary domain, we can draw from a standardized "generic landscape," enriched by personal fantasies of idyllic settings, to picture the Arcadia and the *loci amoeni* of pastoral romance. Well-chosen imaginary place names that conform to the toponymy of a certain region are just as efficient at conveying *couleur locale* as the names of actual locations. Proust's invented Combray, Méséglise, and Martinville or the river

Vivonne exude for me the same French *saveur de terroir* (earthy flavor) as Gerard de Nerval's Ermenonville, Châalis, or Loisy—all real names of the province of Valois mentioned in his novella *Sylvie.*

Another space-constructing device that shortcuts the linearity of language is what Tom Wolfe calls the detailing of status life and Roland Barthes ascribes to *l'effet de réel* (the reality effect): the mention of concrete details whose sole purpose is to fix an atmosphere and to jog the reader's memory. For the trivial to exercise its signifying function, it must appear randomly chosen and be deprived of symbolic or plot-functional importance. Intrigued by the mention in Flaubert's tale "Un Coeur simple" of the barometer and pyramid of boxes and cartons in Mme. Aubain's room, Barthes asks the question "Is everything in the narrative meaningful, significant? And if not, if there exist insignificant stretches, what is, so to speak, the ultimate significance of this insignificance?" ("Reality Effect," 12). The ultimate function of such details, according to Barthes, is to tell the reader, "This is the real world." But the device is not merely a convention of realistic fiction. If we read in a fairy tale, "The princess walked into the dragon's lair. Luminescent green scales speckled with ruby-colored dots were scattered on the floor," the mention of the scales fulfills the same reality effect as the barometer and cartons in Mme. Aubain's room: the seemingly random detail conveys a sense of the presence of the setting and facilitates spatial immersion. The reader's sense of being there is independent of the verisimilitude of the textual world.

SPATIO-TEMPORAL IMMERSION: HOW TO TRANSPORT THE READER ONTO THE SCENE

From a logical point of view, the narrator and narratorial audience of a story told as true fact are located in the textual reference world, but this (re)location does not necessarily land them *on the scene* and *at the time* of the narrative window—to the heart of what some narratologists call the story-world. One of the most variable parameters of narrative art is the imaginative distance between the position of narrator and addressee and the time and place of the narrated events. Spatio-temporal immersion takes place when this distance is reduced to near zero.

The following four examples illustrate different degrees of reader proximity to the narrative scene, and different strategies to reduce the distance:

> I say that in the city of Pistoia, there was once a very beautiful widow, of whom, as chance would have it, two of our fellow-Florentines, who were living in Pistoia after being banished from Florence, became deeply enamoured. (Boccaccio, *Decameron,* ninth day, first story, 682)

This passage conforms to what Mary Louise Pratt describes as the standard "natural" (i.e., real-world) storytelling situation: a narrator informs an audience of events that took place at a temporal and spatial distance from the present location, the narrator knows the facts, and he displays their report for the entertainment and/or information of the audience.[6] These parameters are confirmed by the framing tale of the *Decameron:* ten young people locked up in a church during an outbreak of the plague, telling each other stories to entertain themselves during their confinement. While the narrator and his audience are located in the same discursive space—in this case, the storytelling event in the church—neither of them is part of the spatial and temporal window occupied by the narrated events, and neither perceives these events through the senses of the body. This particular passage verifies Seymour Chatman's description of the epistemological foundations of narration: "The narrator can only report events: he does not literally 'see' them at the moment of speaking them. The heterodiegetic narrator never saw the events because he/she/it never occupied the story world" (*Coming to Terms,* 144–45).

Chatman proposes this statement as a general model of narration, but the limits of this account are demonstrated by this passage from *Madame Bovary:*

> The bedroom, as [Homais and Dr. Canivet] entered, was mournful and solemn. On the sewing table, now covered with a white napkin, were five or six small wads of cotton in a silver dish, and nearby a large crucifix between two lighted candelabra. Emma lay with her chin sunk in her breast, her eyelids unnaturally wide apart; and her poor hands picked at the sheets in the ghastly and

> poignant way of the dying, who seem impatient to cover themselves with their shrouds. Pale as a statue, his eyes red as coals, but no longer weeping, Charles stood facing her at the foot of the bed; the priest, on one knee, mumbled under his breath. (367–68)

This episode combines several acts of consciousness: the view offered to the visitors who enter the room; the sensory perception of an invisible observer located on the scene; and the general reflections of an authorial figure about the habits of the dying. These various perspectives blend so smoothly that it almost seems that the events inscribe themselves as they occur in a recording mind. The backgrounding of the act of telling annihilates the imaginative distance between discursive space and story-world, and fuses the consciousness of reader and narrator into the same act of perception. The virtual body whose perspective determines what is perceived belongs at the same time to the narrator and the reader—or to be more precise, to the reader's counterpart in the fictional world—just as, in classical paintings, the eye that contemplates the scene belongs to both painter and spectator.

In this passage from James Joyce's short story "Eveline," immersion is made even more complete by the fusion of the virtual body of narrator and reader with the fictionally real body of a member of the textual world:

> She sat at the window watching the evening invade the avenue. Her head was leaned against the window curtains and in her nostrils was the odour of dusty cretonne. She was tired.
>
> Few people passed. The man out of the last house passed on his way home; she heard his footsteps clacking along the concrete pavement and afterwards crunching on the cinder path before the new red houses. (36)

The reader does not watch a narrator watching Eveline watch the street through the window, but, by virtue of the transitivity of the representation of mental processes, she directly perceives Eveline's perception. Through identification with the body of Eveline, the reader gains a solid foothold on the scene, as well as a sensory inter-

face to the textual world. The narrative scene becomes as close to her as the smell of dusty cretonne to her nostrils or the texture of the fabric to her cheeks.

The next example presents an equally vivid representation of perceptual phenomena, but these perceptions seem to float around without corporeal support:

> The land was so distant that no shining roof or glittering window could be any longer seen. The tremendous weight of the shadowed earth had engulfed such frail fetters, such snail-shell encumbrances. Now there was only the liquid shadow of the cloud, the buffeting of the rain, a single darting spear of sunshine, or the sudden bruise of the rainstorm. Solitary trees marked distant hills like obelisks. (Virginia Woolf, *The Waves,* 54)[7]

As Monika Fludernik has argued, this description is not attributable to the consciousness of a specific character, and it is too spontaneous, too vivid and live, to represent knowledge kept in memory by a narrator and verbalized after the experience. The floating consciousness must therefore belong to a virtual counterpart of the reader:

> Just as, in figural [i.e., Eveline-type] narrative, the reader is invited to see the fictional world through the eyes of a reflector character, in such a text the reader also reads through a text-internal consciousness, but since no character is available to whom one could attribute such a consciousness, the reader directly identifies with a story-internal position. (*Fictions of Language,* 391)

Fludernik compares this situation with Jonathan Culler's account of the epistemological status of lyric poetry: "The paradigm thus established treats the modern lyric not as patterning of words or as expression of truths (even particular modern truths) but as a *dramatization of consciousness attempting to engage the world*" (quoted in ibid., 394).

The imaginative transportation of the reader's virtual body onto the scene of the events is facilitated by a variety of narrative strategies that often contrast with another device: scene versus summary; internal and variable focalization (representing characters as subjects) ver-

sus external focalization (looking at characters as objects); dialogue and free indirect discourse bearing the marks of the characters' idiosyncrasies versus stylistically neutral indirect reports of speech; prospective first-person narration representing the textual world from the point of view of the narrator-then (as hero of the tale) versus retrospective representation informed by the knowledge of the narrator-now (as historian of his own life); totally effaced or aggressively visible "hectoring" narrators versus what Tom Wolfe calls "pale-beige narrators" ("New Journalism," 16); and mimesis ("showing") versus diegesis ("telling"). The most fundamental of these techniques are those that invite the reader to relocate to the inner circle of the narrative action by dissociating the reference of the deictic elements of language, such as adverbs, tense, and pronouns, from the speech situation (i.e., the narrator's spatio-temporal location) and reassigning it from the perspective of a participant in the narrated scene. Let us consider three ways to redirect reference toward the narrative window: adverbial deictic shift, present tense, and second-person narration.

Adverbial Deictic Shift

Literary semantics has described three ways of reporting the speech or thought of characters: direct discourse (DD) ("Eveline thought: 'How can I ever leave my family?' "), indirect discourse (ID) ("Eveline thought that she would never be able to leave her family"), and the predominantly fictional free indirect discourse (FID) ("How could she ever leave her family, thought Eveline"). One of the syntactic trademarks of FID is the combination of a past-tense third-person narration with the adverbials *here, now, today, tomorrow,* rather than the expected *there, then, this day, the next day.* While the reference of the spatial and temporal shifters forces on the reader the perspective of the characters, verb tense and pronouns remain assigned from the point of view of the narrative act: "Even *now,* though she *was* over nineteen, she sometimes felt herself in danger of her father's violence" ("Eveline," 38). Or: "If she *went, to-morrow* she would be on the sea with Frank, steaming towards Buenos Ayres" (40). David Zubin and Lynne Hewitt describe the effect as follows: "The teller seems to fade into the background, and the story world, containing its own deictic center, comes to the fore. This is accomplished by decoupling the

linguistic marking of deixis from the speech situation, and reorienting it to the major characters, the locations, and a fictive present time of the story world itself" ("Deictic Center," 131).

The contrast between DD, ID, and FID has been analyzed almost to the point of saturation, but nobody to my knowledge has addressed the issue of their comparative immersive power. The least immersive is clearly ID, not only because it ascribes the reference of all deictics from the point of view of the narrator, but also because of its lack of mimetic properties. While ID paraphrases the quoted discourse in the narrator's vernacular, FID mimics the voice of the quoted character, and DD offers a perfect replica. DD would seem to be the most immersive of the three modes of reporting, but I would like to make a point in favor of FID. In DD, all deictics refer to a center of consciousness located on the scene, but the attributing expression ("Eveline thought") restores the perspective of the narrator and creates a movement of in-and-out between the narrative window and the larger textual world. In FID, by contrast, the reported discourse blends smoothly with the attributing phrase as well as with the rest of the narration because it maintains referential continuity on the level of the most visible and frequent deictic elements, those of tense and person. I leave it to the reader to decide what is more immersive: the form of expression that gives us a complete but temporary relocation to the narrative scene and jogs us in and out of this focal point, or the one that maintains a constant position halfway between the narrator's and the character's spatio-temporal location.

Present Tense

The verbal inflections known grammatically as tense encode many ideas, not all of which are related to time. The present tense, in English, is used for timeless statements ("Two plus two equals four"), for habitual, iterative events ("I run twenty miles per week"), for future events ("Next time I go shopping I will get you some snacks"), for past ones ("There were these teenagers in the park, and I walked past them, and this girl starts screaming at me"), and occasionally to express the (near) coincidence of an event with the time of its verbal description ("I am tired" or "The Babe hits the ball; she is going going gone; home run!"). In conversational storytelling and medieval epics, the

so-called historical present is used in alternation with the past to channel the attention of the audience toward certain events and create a profile of mounting and declining tension (Fleischman, *Tense,* 77). The peaks and valleys of this profile correspond to various degrees of imaginative presence of the events, those reported in the present usually forming the peaks. The effect could work the other way around if the present were the standard narrative tense and the past the marked one, but there are good semantic and pragmatic reasons why narratives are usually told in the past: you can only make a story when the events are in the book. Moreover, as the tense of presence, the present is inherently more immersive than the past.

The effect of the contrast is skillfully exploited in these two passages from Marguerite Duras's *L'Amant (The Lover):*

> Little brother died in December 1942, under Japanese occupation. I had left Saigon after my second baccalaureate, in 1931. He wrote me only once in ten years. . . .
>
> When he dies it is a gloomy day. I believe it is spring, it is April. Somebody calls me on the phone. Nothing, they don't say anything else, he was found dead, on the floor in his room. (71 and 99; my translation)

Both of these passages—separated by nearly thirty pages—narrate the same event. In the first, the reader is merely informed of the death of the brother; in the second, he shares the narrator's experience of the atmosphere of the day, the breaking of the news, the tragically banal circumstances of the death. Though the narrative use of the present does not literally imply simultaneity between the occurrence of the events and the speech act of their report, as it does in "real-time narration" (such as sports broadcasts and conversations between pilots and control towers), it owes much of its expressive power to the lingering association of the tense with the idea of co-occurrence. We do not naturalize the speech situation of *The Lover* as one in which the narrator tells about her brother's death at the same time she learns about it, but as a prenarrative state of consciousness. The present sends us to a moment when the narrator knows nothing more than what she hears on the phone, a moment in which she is unable to

rationalize the event, or even perhaps to realize the finality of its occurrence. As it creates the simulacrum of a real-time "life" (rather than speech) situation, the shift from past to present pulls the reader from the *now* of the storytelling act to the *now* of the story-world and completes the deictic shift toward the narrative window.

Many contemporary texts exploit this pseudo-immediacy of the first-person present-tense report to convey the experience of being swept by the flux of life, overwhelmed by unpredictable waves of events and sensations. Through its insistent use of the narrative present, contemporary narrative casts a resounding vote of nonconfidence in the authenticity of the rational activity of retrospectively emplotting one's destiny;[8] truth, it tries to tell us, lies in the immediacy of experience, not in the artificial form imposed on one's life by narrative activity. Yet if the present enjoys an immersive edge over the past, this edge becomes considerably duller when the present invades the whole text and becomes the standard narrative tense. Continuous presence becomes habit, habit leads to invisibility, and invisibility is as good as absence. For immersion to retain its intensity, it needs a contrast of narrative modes, a constantly renegotiated distance from the narrative scene, a profile made of peaks and valleys.

Second-Person Narration

Until the second half of the twentieth century, narrative came in two forms: first- and third-person, with occasional second-person addresses to the reader (cf. the Brontë and Balzac examples). Now that literature has become a systematic exploration of the expressive potential of language—or is it a systematic exemplification of all the categories of verbal paradigms?—narrative also comes in "you," "we," and "they" form as well as in the past, present, future, and conditional.[9] The reference of the second-person pronoun in a fictional context can be interpreted in many ways, and it can shift in the course of reading. Depending on the text, "you" can be used as a boundary-crossing address from the narrator in the textual world to the reader in the real world (first chapter of Italo Calvino, *If on a Winter's Night a Traveler*); as an intra-textual-world address from the narrator to an anonymous narratee (addresses to the reader by the "engaging narrators" of nineteenth-century novels); as an address from the narrator

to a specific individual (= character) in the textual world (Michel Butor, *La Modification*); as a self-address by the narrator (you-form autobiography); and even as an address from an authorial figure to a real-world reader interrupting the textual-world speech act of the narrator (postmodern metafiction).[10]

Despite their different reference, all of these uses play on our instinctive reaction to think *me* when we hear *you,* and to feel personally concerned by the textual utterance. Reading a second-person novel is a little bit like going to the psychoanalyst and wondering what he is going to tell you about yourself that you do not already know. Even when it refers to a well-individuated character in the textual world, the pronoun *you* retains the power to hook the attention of the reader and to force at least a temporary identification with the implied referent. Through this identification, the reader is figuratively pulled into the textual world and embodied on the narrative scene (unless, of course, the I-you communication is of the metafictional type, in which case the effect is a decentering).

The immersive power of the second person is often a short-lived effect. When the shock of the initial identification wears off, second-person fiction tends to be read like a third-person narrative: the reader gradually detaches herself from the pronominal referent, and *you* becomes the identifying label, almost the proper name, of a regular character. I certainly did not experience a closer identification with the second-person protagonist of Butor's *La Modification* than with the first-person narrator of the author's previous novel, *L'Emploi du temps.* As an immersive device, second-person address is the most efficient in small doses, such as Balzac's sudden pulling of the reader into the description of Saumur in an otherwise third-person narration. When it becomes a sustained mode of narration, the second person is often more an allegory of immersion and a programmatic statement than an intrinsically immersive device. This programmatic intent is obvious in the following passage, an advertisement for the Time-Life series of books *The Native Americans.* Through the *you* implicit in the verb form, the narrator makes a conditional promise of immersivity whose fulfillment depends not just on the narrative art of another text but, more importantly, on the purchase of a commodity:

> Follow the trail of broken treaties that led to Wounded Knee. Witness raids and battles of terrible intensity—Rosebud and Big Hole, Washita and Battle Butte. Then stand with Crazy Horse and his charging wall of Sioux Warriors at Little Big Horn. . . . Feel the rush of the buffalo hunt, a dawn raid on an enemy camp or the fireside retelling of a rout of bluecoats as you watch two worlds collide—through Indian eyes. . . . Join Chief Joseph on the 1,700-mile trek that ended 30 heartbreaking miles from freedom, when he declared, "I will fight no more forever."

The variability of the distance between the reader's implicit position and the narrated events suggests that narrative phenomenology involves not just one but two acts of recentering, one logical and the other imaginative.[11] The first—described in the previous chapter as the constitutive gesture of fictionality—sends the reader from the real world to the nonactual possible world created by the text; the second, an option available in principle to both fiction and nonfiction, though vastly more developed in the former, relocates the reader from the periphery to the heart of the story-world and from the time of narration to the time of the narrated. This experience of being transported onto the narrative scene is so intense and demanding on the imagination that it cannot be sustained for a very long time; an important aspect of narrative art consists, therefore, of varying the distance, just as a sophisticated movie will vary the focal length of the camera lens.

Conclusion

Literature in the Media Landscape

Throughout this book I have treated virtual reality as a metaphor for total art. Over the centuries the dream of the ultimate artwork has taken many forms and nourished many myths: Pygmalion's statue transformed into a live woman, the words of language becoming their own referent in a poetic transubstantiation, and the text as a field of energies that produce perpetual becoming and regeneration (this one a favorite of hypertext theorists). All these conceptualizations involve the transmutation of art into some kind of life not far removed, as N. Katherine Hayles suggests, from the artificial life, or *alife,* generated by computers ("Artificial Life," 205). This idea of art as a form of life implies in turn its negation as a mere reproduction of something external to itself. In their common focus, the myths of total art express the same desire as the fascination of modern culture with ever more transparent, lifelike, and sensorially diversified media: the desire "to get past the limits of representation and to achieve the real" (Bolter and Grusin, *Remediation,* 53). Through the VR metaphor, however, the emphasis on life as the ultimate purpose of art (and artifice) is shifted from the artwork as live object, capable of growth and autonomous behavior, to the artwork as life-giving and life-sustaining environment. The total artwork is no longer something to watch evolve forever but a world in which we will be able to spend an entire lifetime, and to spend it creatively.

What enables VR to serve as a metaphor for a complete habitat for the mind and the body is its reconciliation of two properties once described by Marshall McLuhan as polar opposites. In its pursuit of immersive interactivity, VR wants to be at the same time a hot and a cold medium. For McLuhan, a hot medium

> is one that extends one single sense in "high definition."[1] High definition is the state of being well filled with data. A photograph is, visually, "high definition." A cartoon is "low definition," simply because very little visual information is provided.

> Telephone is a cool medium, or one of low definition, because the ear is given a meager amount of information. And speech is a cool medium of low definition, because so little is given and so much has to be filled in by the listener. On the other hand, hot media do not leave so much to be filled in or completed by the audience. Hot media are, therefore, low in participation and cool media are high in participation or completion by the audience. (*Essential McLuhan,* 162)

Though the term *participation* may suggest immersion, the type of involvement that McLuhan associates with cool media is much closer to the interactive than to the immersive dimension of VR. A hot medium facilitates immersion through the richness of its sensory offerings, while a cold medium opens its world only after the user has made a significant intellectual and imaginative investment. The media that offer data to the senses are naturally hotter than language-based media because in language all sensations must be actively simulated by the imagination.

To expand the expressive power of media, we need to cool down those that are naturally hot and heat up the cold ones. Pictures have reached an unprecedented level of immersivity because of mathematical discoveries (perspective, fractal geometry) and technological advances (photography, cinema) that have added depth, photorealism, and temporality to their built-in spatiality. But electronic technology can prevent this heat from frying up the brain by making the visual image more interactive. VR, multimedia CD ROM art, navigable VRML pictures, animated screens sensitive to the movements of the cursor, click-and-open windowed displays on the Internet, and walk-through electronic art installations are all attempts to intensify the experience that McLuhan calls participation by making the spectator "work" for the next image rather than passively witness a steady flow of pictures, as in film and TV.

For a long time literature has been dominated by the opposite philosophy: remediate the coldness of its medium and turn it into a vivid experience. In contrast to visual representation, language requires a great deal of imaginative activity and extensive logical inferences to produce any kind of picture in the mind of the reader.

Anticipating the vocabulary of hypertext theorists, McLuhan observes that "in reading a detective story the reader participates as co-author simply because so much has been left out of the narrative" (166). Reading places far too many demands on the imagination to let passive readers produce a mental picture rich enough to grant pleasure. It is vastly more challenging to heat up the literary text into an immersive experience than to cool it down through a self-conscious display of signs.

But when a challenge has been met, there is no thrill and less merit in repeating the feat. Nineteenth-century and early-twentieth-century novelists were so successful at developing immersive techniques that later generations fell under intense pressure to search for other types of intellectual satisfaction. Who could outdo Emily Brontë's *Wuthering Heights* or Gustave Flaubert's *Madame Bovary* in binding the reader to the fictional world through all three forms of immersion: spatial, emotional, and temporal? In contrast to classicism, modernism and postmodernism operate under an ideal of perpetual revolution that makes successful forms instantly obsolete. As the postmodern novelist John Barth wrote in 1967, "Beethoven's Sixth Symphony or the Chartres Cathedral, if executed today, might be simply embarrassing" ("Literature of Exhaustion," 66). The fear of creating mere copies—by cultural opinion inferior to innovative art—explains why a major branch of postmodern literature has turned its back on immersion and redirected the reader's activity from the construction of the fictional world to the contemplation of the process of construction itself. No longer interested in transmuting the signs of language into cinema for the mind, many of today's avant-garde authors believe that the reader's activity will be intensified if it develops into a reflexive stance that underscores the coldness of the medium. For these authors, to parody Tolstoy, "all immersive texts are immersive in the same way, but self-referential and interactive texts display these qualities in their own separate ways."

Fortunately for those readers who care about retaining a choice of experiences, this school of thought is not the only force in contemporary literature. Another school remains confident that immersion presents as much diversifying potential as self-reflexivity, because literature can take its readers to ever-different worlds in the universe of

the imaginatively possible: worlds of the fantastic, of anticipation, of magical realism, or simply of newly developing or exotic social realities. What makes it so important to maintain alternatives to self-reflexivity is that left entirely by itself, the device cannot carry the literary text. This point is forcefully made by the following spoof:

> This is the first sentence of this story. This is the second sentence. This is the title of this story, which is also found several times in the story itself. . . . This sentence is introducing you to the protagonist of the story, a young boy named Billy. This sentence is telling that Billy is blond and blue-eyed and strangling his mother. . . . This sentence, in a last-ditch attempt to infuse some iota of story line into this paralyzed prose piece, quickly alludes to Billy's frantic cover-up attempts, followed by a lyrical, touching, and beautifully written passage wherein Billy is reconciled with his father (thus resolving the subliminal Freudian conflict to any astute reader) and a final exciting police chase scene during which Billy is accidentally shot and killed by a panicky rookie policeman who is coincidentally named Billy. (Text by David Moser; quoted in Hofstadter, *Metamagical Themas,* 37–40)

Why is this piece of prose so paralyzed? Because it never lets the reader forget the mediation of language, because it stubbornly discourages make-believe, because it never allows recentering into the fictional world. The most obvious purpose of self-reflexivity is to provide a set of internal guidelines, a kind of on-line help file that tells us how to read the text. It would be pointless for these guidelines to instruct readers to keep their gaze aimed at the signs, without giving them a chance to develop interest in what the signs reveal when they function as signs. Pursued for its own sake, self-reflexivity can be no more than the type of statement illustrated by the famous paradox "This statement is false": a purely semiotic and logical curiosity.

Is the moment of appreciation of the form and substance of the text (its texture) necessarily delayed with respect to the moment of immersion, or can they blend together? Jay Bolter and Richard Grusin argue that the more lifelike the medium, the more it attracts attention to itself. In this paradoxical logic, every technological breakthrough

that increases the transparency of signs also increases their visibility. Cinema, for instance, is a fuller representation of the real than still pictures, but the spectators who flocked to the early films of the brothers Lumière were undoubtedly more fascinated with the new medium than with what it represented: the arrival of a train in a station, or workers leaving a factory. When the increased transparency results from a technological innovation, audiences quickly become jaded, and after a while they no longer notice the medium. But when the sense of presence is the effect of artistry in the use of the medium—we may call this a stylistic effect—wonderment is more lasting, because it is a response to an individual achievement rather than to a resource available to many. Nowadays we take the lifelikeness of the cinematic image largely for granted, but when we contemplate a photorealistic artwork, such as a painting by Andrew Wyeth, the sharpness of the image is as present to the mind as the depicted scene.

If this view also holds for the literary experience, we can at the same time, or without radical change in perspective, enjoy the imaginative presence of a fictional world and admire the virtuosity of the stylistic performance that produces the sense of its presence. As Bob Witmer and Michael Singer have argued in their study of presence in virtual environments ("Measuring Presence," 226), the mind is fully able to focus on several objects at the same time if the focus on at least some of these objects remains diffuse or backgrounded. We may, for instance, be caught up in a novel but still remain aware that it will soon be time to drive the kids to soccer practice. Similarly, the substance of language may be spectrally present to the mind of the immersed reader like an enveloping atmosphere.

This medium-aware immersion is less contradictory than it appears at first sight if one keeps in mind the fundamental duplicity of the artistic and media experience. Though the term *illusion* is widely used to describe the response to realistic representation, it is really a misnomer. Except for some pathological cases mainly documented through imaginary characters—the usual suspects, Emma Bovary and Don Quixote—media users remain fully conscious of contemplating a representation, even when this representation seems more real than life. In *The Perfect Crime,* Jean Baudrillard comes to suspect that illusion does not exist, because the appreciator is either caught in the

forgery and does not notice it, or is aware that the representation is a fake and avoids illusion. What this really means is that illusion, like error, is a condition that can be diagnosed only in others, because its recognition requires an external perspective on a personal belief system. In an art experience, illusion is thus a judgment passed by a real-world self on the mental state of a fictional alter ego—the appreciator's recentered counterpart in the textual world. The same duplicity that diagnoses illusion allows one self to be immersed and the other to appreciate the vehicle of the experience.

A subtle form of awareness of the medium, then, does not seem radically incompatible with immersion. It can grow almost spontaneously out of the text, rather than being forced on the reader by emphatic devices such as metafictional comments or embedded mirror images (what narratologists call strategies of *mise-en-abyme*). But the self-reflexivity that derives from the electronic and purely selective brand of interactivity is anything but subtle. In VR, interactivity is part of a total package, and the user's awareness of the medium does not separate this feature from the immersive dimension. In literature, it is a supplemental feature tacked on to an art form that did very well without it and that still hasn't quite figured out what to do with this strange new resource. The novelty of interactivity, and the self-reflexivity that comes with it, will pass—it may in fact already have passed, now that surfing the World Wide Web has become a normal part of life—but interactivity in a literary text, especially in a narrative one, will retain an intense visibility long after the device becomes widespread in informational contexts, because every time the reader is called on to make a decision, the projector that runs the "cinema for the mind" comes to a halt. As Italo Calvino's continually interrupted novel *If on a Winter's Night a Traveler* demonstrates, it takes a while to get the projector running again. Immersion wants fluidity, wholeness, and a space-time continuum that unfolds smoothly as the imaginary body moves around the fictional world. But in purely textual environments, interactivity presupposes a broken-up and "windowed" structure, since every link teletransports the reader to a new island within the textual archipelago. Bolter and Grusin call this broken-up structure "hypermediacy": a "style of visual [or textual] representation whose goal is to remind the viewer of the medium" (*Remediation,*

273). Through its aggressive focus on the surface, hypermediacy prevents sinking into the depths.

By suggesting that interactivity has a definite function in VR, while its role and contribution remain to be defined for literature because of its conflict with immersion, I do not mean to promote VR—or, rather, what we dream into it—as a superior art form. Nor do I wish to equate immersivity with artistic quality. Immersion is a proven means of aesthetic satisfaction, but it is not the only one. Many readers are willing to sacrifice at least some degree of immersivity to formal experiments, especially to those that bring the intellectual delight of playing a game of in and out between a world-internal and a world-external, medium-conscious stance. Moreover, what Arthur Kroker calls "the hypertextual imagination"[2]—fascination with the discontinuous, the analogical jump, the chance encounter of heterogeneous elements, and the poetic sparkles caused by their collision—is a major force in contemporary culture. Though purely textual mosaics do not need the computer to be implemented, as surrealist and cyberpunk art has shown, the selective interactivity of hypertext takes the possibility of fragmenting and juxtaposing to a higher level. It remains to be seen whether the processing capabilities of the human mind are up to this level of complexity, or whether the point-and-click interactivity of hypertext merely allegorizes the aesthetic productivity of a certain form of imagination, without taking genuine advantage of the unlimited combinatorial resources of the electronic medium. It also remains to be seen to what extent a literary text can emancipate itself from make-believe and replace the appeal of a relatively stable and comprehensive mental image easily committed to memory with combinatorics, kaleidoscopic effects, a constant state of flux, and self-reflexivity. Postmodern literature has conducted a daring and dangerous exploration of the limit between world aesthetics and game aesthetics, for there is everything to lose—in terms of readership—if the limit is transgressed. But even if interactivity and immersion cannot be experienced *at the same time* in a literary text, as they are in VR and in dreams of total art, the conflict between the two principles should not be regarded as an aesthetic disadvantage. VR is an art of expanding resources—some would say an orgy of information—but literature, bound as it is to a single medium, is mostly an art of

TABLE 3 | Immersion, Interactivity, Design, and Pleasure:
A Typology of Human Experiences and Activities

overcoming constraints, an idea that Oulipo made its aesthetic program. The profound difference of spirit between VR and literature is one of "more is more" versus "less is more." This is why VR is a neo-Baroque project.

No matter how extravagant or sober its resources, however, art encounters conflicting demands. In VR and in the participatory forms of textuality discussed in chapter 10, the conflict involves the relation of interactivity to design—immersion being given by the medium or the setting. In literature, the conflict is two-pronged: it pits immersion against interactivity and interactivity against design. (See table 3 for an assessment of various activities in terms of immersivity, interactivity, and strength of design.) The challenges may be more complex than in VR, but the possibilities for compromise or combination are more varied. Immersion, as we have seen, is the mode of reading of an embodied mind; interactivity/self-reflexivity is the experience

of a pure mind that floats above all concrete worlds in the ethereal universe of semantic possibility. Literature thus offers a choice between the cerebral and the corporeal. Contemporary theory frowns on any idea of mind/body split, but as long as it is a temporary game and not a permanent condition, the mind's exile in the nowhere of incessant travel from sign to sign may lead to a deeper appreciation of what it means to have a body and to belong to a world. Self-reflexive and interactive reading can be used to enhance the reader's awareness of her desire for immersion by temporarily holding her virtual body out of the textual world.

The best model for purely language-based literature to try to emulate in its quest for a workable combination of immersion and interactivity may not be VR after all but an artwork that proposes an alternation rather than a fusion of the two types of experience. This artwork, *Rooftop Urban Park Project/Two-Way Mirror Cylinder Inside Cube,* by Dan Graham (1991; located on the roof of the Dia Art Foundation in New York City), is a glass pavilion that appears either opaque or transparent depending on the light's intensity and the location of the viewer. At times the structure arrests the eye at the surface of its materials, reflecting the background and the spectator's image, while at others it lets the visitor's glance reach into the world that lies beyond its walls.