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for Bliss, and also for Arlo, Asta, Belly,
Bertie, Phineas, and Timby

Contents

Preface

This is a series of connected essays on mind, literary form, ecology, and the disciplines that study them. Each may be read on its own, but the whole has a loose and organized unity. The materials range from seventeenth- and eighteenth-century poetry and fiction to contemporary philosophy, cognitive science, and literary criticism. My focus throughout is on how the discipline of literary studies can contribute to a broad-based understanding of perceptual consciousness, natural and built environments, and skilled engagement with the world. In this way, the book is also a brief for literature and the humanities at a moment when the authority of each has been challenged on several fronts, from advocates for the STEM disciplines to the managers of the corporate university. Against these grains, *Paper Minds* looks at how disciplinary life can be an epistemic and ethical ideal, and how literary and historical analysis can play on terrain usually conceived otherwise.

We sometimes believe that taking on the objects or methods of another discipline gets us closer to a more comprehensive picture of things, either because there is something wrong with our field of study or just because other approaches fill in the gaps that would come from any narrow preoccupation. I have often thought this way myself. But the longer I've stuck with topics that engage more than one mode of thought, the more it has seemed that we're also served by the separate procedures of the individual disciplines, their unique ways of seeing and presenting the world. There is I think a reason for this that goes pretty deep. Every discipline has a special and always-evolving perspective on the part of the world it endeavors to explain, just as what counts as a discipline of study and relations among them change over time. The world opens up to us not at once, in other words, but in a manner peculiar to the inquiries and methods we pursue. To recognize this is not

to limit our claims; rather, it is to get a grip on them. It is to stand behind a necessarily partial approach to a world itself knowable in parts. For someone working in the literary humanities, the discipline-specific approach to topics that matter means of course attention to how they show up in literary texts of various kinds. So in what follows I am interested in, for example, the topos of landscape in eighteenth-century poetry and the explicit curiosity poets demonstrate in how one perceives natural scenery. But more than this, it means a peculiar way of posing questions and treating phenomena. So I am also interested in how our writing about lines and sentences nudges up against debates about consciousness in the physical world. The way we look at objects, in other words, matters as much for this book as the objects we look at, at least for our carving a distinctive space in the interdisciplinary landscape. I try to set some of that out abstractly in the opening chapters before moving to concrete matters of poetry and fiction. The idea throughout is that literary criticism—not this critic in particular—should be credited with having something to say about questions that many people care about: from the ground and shape of conscious experience to interactions with designed and everyday environments. I emphasize the particular way criticism examines its objects, finally, not out of any sense of retrenchment or a desire to return to some older sense of the way things ought to be done. One exciting feature of professing literature in the twenty-first century, indeed, has been the renewal, proliferation, and vibrant discussion of our methods of reading and presenting texts. I have no argument in favor of one over the other. In making a claim on behalf of literary studies in conversation with other disciplines, rather, I mean to call upon the ordinary practice and everyday competence of literary scholars everywhere, across the institutional landscape, in published works or the classroom.

Paper Minds, an Introduction

When Robinson Crusoe finishes the work on his island home, he arranges the furniture just so: some shelves hewn from trees; a table and chair from the ship's planks; a pot for freshwater and barrels for dry storage; paper, pen, and a Bible to read. "I had every thing so ready at my hand," he reflects, "that it was a great pleasure to me to see all my goods in such order, and especially to find my stock of necessaries so great."[1] The pleasure Crusoe finds in beholding the design of his house rests both in the layout of the furnishings and the finding of what he requires within reach of his fingers. This is a pleasure we might say of dwelling: the craftwork of cutting a tree, smoothing a board, and making shelves; the taking relish in what is close by.[2] The effect on Crusoe is dramatic. "I began to keep a journal of every day's employment," he tells his reader, "for indeed at first I was in too much hurry, and not only hurry as to labour, but in too much discomposure of mind, and my journal would ha' been full of many dull things" (56). Now that he has a desk and a chair, he can sit with support for his paper and a pen in his grip, and now that he is in a place that is safe and comfortable, he can be at ease to write. The journal would have been "dull," therefore, not because it had no incidents to relate—the wreck and the setting up of his home are, after all, eventful in precisely the way he has already retailed. It would have been dull because Crusoe would not have had the composure to present what happened in its proper form.

He would not have been in the proper place with the proper layout to craft the events in a way that was exciting to read. Instead, the journal would have been a staccato mishmash: "I must have said thus: Sept. the 30th. After I got to shore and escap'd drowning, instead of being thankful to God for my deliverance, having first vomited with the great quantity of salt water which was gotten into my stomach, and recovering my self a little, I ran about the shore,

wringing my hands, and beating my head and face, exclaiming at my misery and crying out, I was undone, undone, till ty'red and faint I was forc'd to lye down on the ground to repose, but durst not sleep for fear of being devoured" (56). Crusoe writes this hypothetical journal entry so that its first sentence might just go on forever: this happened, then this, and then that. And yet it doesn't. Having presented his once-addled mind in corresponding prose, Crusoe stops, turns, and recounts his arrival in an altered form. "Some days after this, and after I had been on board the ship, and got all that I could out of her, yet I could not forbear getting up to the top of a little mountain, and looking out to sea in hopes of seeing a ship, then fancy at a vast distance I spy'd a sail, please my self with the hopes of it, and then after looking steadily till I was almost blind, lose it quite, and sit down and weep like a child, and thus increase my misery by folly" (56). The "this" that it is some days after when Crusoe climbs atop the little mountain would seem to be the events of the thirtieth of September that he has recounted to depict how a journal caught up in the immediacy of things might read. Yet even as it remains within the chronology of the mocked-up journal entry, the vignette of a few days later shifts back to the blend of past and historical-present tense in which Crusoe has been writing, safe in his well-appointed English home. It is this wobbling of style and perspective that sets up the vivid scene taking: the ocean horizon, this bipedal castaway, these eyes straining for a speck on the water, this despair.

Defoe uses more than one tense of narration and finally more than one version of a journal to perform a kind of everyday synesthesia. Mere words on the page describe the perceptual or emotional experience of crawling up out of the ocean and vomiting water, the view from the top of a small mountain just after a shipwreck, the feeling as one squints to see more. The prose is attuned, in other words, to the way the world appears to a body in motion and to the way thought or feeling guides that world into being. This is a paper mind: the formal construal of a world as it shows up for an agent engaged or coping with built or natural environments; the setting down or eliciting of perceptual or emotional or cognitive experience on the page. *Paper Minds* examines the use of literary form to create a sense of mind or experience during the long moment of literary and intellectual history that brought such minds into existence and during our contemporary period, which has paid them so much attention. It looks not only at what poems and novels have to say about minds and ecologies but at what the literary disciplines and their methods and styles of argument have to say to other modes of inquiry that take such topics as their quarry. It is at once an effort at and a critique of interdisciplinarity.

Sticking with Defoe for just a little longer might help to illustrate these points further. After the ocean prospect, Crusoe describes once again the layout of his house and the beginning of the journal: "But having gotten over these things in some measure, and having settled my household-stuff and habitation, made me a table and a chair, and all as handsome about me as I could, I began to keep my journal" (56). The getting over of such things amounts to a turn from long-distance views with their melodramatic effects to things closer at hand and more subdued in their register. So much for despair: once my house was built, I was able to sit down and write. And I was able to sit down to write because "all" my stuff—the desk, the chair, pen, ink, and everything else—was "handsome about me." Yet what does it mean in this context to say that everything was *handsome*? Early eighteenth-century usage includes both the present-day sense of the word to mean attractive ("what a handsome vest you have on, Mr. Crusoe") and a now-antiquated sense of the word to mean close to one's hands ("please bring that pen and this sheaf over here where they are more handsome").[3] A reader in 1719 could legitimately take the sentence to mean that Crusoe placed everything in his dwelling so that it was attractive or so that it was conveniently at hand. A literary critic three hundred years later, in turn, could legitimately endeavor to emphasize one or the other meaning of the word "handsome" or state that for historical reasons the meaning cannot be pinned down. But we needn't think of this as a simple choice between two alternatives. Crusoe takes pleasure in how everything in his habitation falls into place because everything is close at hand. The design is handsome in both senses of the word at once. There is an aesthetic at work here in other words; it just is not one premised on visual perception, or at least not on visual perception detached from tactile engagement. Everything was handsome because it was handsome, attractive because ready to hand, and this was a kind of pleasure and a kind of beauty.

I'm going to be concerned from time to time in this book with the minor-key aesthetic intimated in this passage—one associated with craftwork, with dwelling, and with kinetic or haptic experience—and I will follow this minor-key aesthetic in several literary and philosophical registers: from georgic poetry and debates within empiricism and the theory of art in the eighteenth century to some strains of our contemporary literature and science of mind (strains I would call for my present purposes ecophenomenological). But underpinning the entirety of this concern is a sense that such things as teasing out the meaning of words in their very particular contexts of use or pausing over the mode of experience in specific literary forms matter and that the kind of practice that lingers with these meanings and these modes also matters.

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Paper Minds contends that such a thing as *Robinson Crusoe* and the depiction of such a thing as craftwork matter for how we think about thinking, about experiential consciousness, skilled engagement, and natural and built environments. The first part of the book pursues these topics in the abstract, as questions of theory or method. The second and third parts move from theory to practice and between them from poetry to the novel. The topics that cut across the book include varying relations between mind and ecology, the literary forms that explore such relations, and the disciplines that explain them.

Mind

I chose "consciousness" for the subtitle of this book with some deliberation. The word has a compelling variety of meanings from its modern inception in the seventeenth century to the present-day interest in the brain and has been the subject of controversy for the entire time. For John Locke writing in 1689 consciousness amounted to "the perception of what passes in a man's own mind" and served as the grounds for self and personal identity alike.[4] Locke wanted to know how consciousness—scandalously, rather than the soul—made persons who could be held responsible for their actions. For Thomas Nagel and David Chalmers three centuries later, consciousness amounts to "what it is like" to have one experience or another and serves as the prompt for a hard problem: how could the matter of our bodies (our brains especially) have or create experience in the first place? This hardening of the problem of consciousness happened concurrently with the ascendancy of neuroscience, amounting to *the* as-yet-unexplained desideratum of contemporary science: now that we know so much about the brain, how does that mass of matter give rise to conscious experience, and what is experience anyway?

Paper Minds puts literature and literary study in the thick of these discussions and focuses on one particular strain of the argument worth emphasizing at the outset. The so-called problem of consciousness sounds in its outlines to be something that would not vary by time or place, and in most versions it is. For some, however, this abstraction or lack of grounding is itself a problem. On this view, the idea that there is a single problem of consciousness is misguided because it isolates the brain from the rest of the body and the rest of the body from the lived environment. It maintains, as Evan Thompson has put it, "that sentience is a strictly internal and phenomenal occurrence, whereas behavior is entirely a matter of external structure and function."[5] For writers like Thompson, conscious experience should be understood as a kind

of transaction between a whole body and an inhabited world. This perspective draws at once from ecological theories of perception (especially James J. Gibson's account of how vision grasps onto the affordances of an environment) and from phenomenological accounts of mind (especially methods of attending to the immediate features of sensory experience).[6] Both underscore the relation between consciousness and action. According to Gibson, to see is to interact with the "ambient optic array" presented by the surroundings, a surface that appears when the head turns just so or that covers another when approached at an angle, while, according to Maurice Merleau-Ponty, it is "our bodily experience of movement" that "provides us with a way of access to the world."[7] The idea in either case is that physical action brings objects into view through attention and movement and so smears or spreads the locus of experience from interior states of the brain to entire bodies located in specific ecologies. "We are caught up in the world," Merleau-Ponty says, "and we do not succeed in extricating ourselves from it in order to achieve consciousness of the world."[8]

Philosophers and scientists impressed by this kind of argument in the current period often make note of how even the most apparently docile acts of perception involve adept motion of one or another kind, from the rapid movements of the eye—saccades—that fill in gaps left by the uneven spread of photoreceptors on the retina to the habitual skill with which agents manipulate and extract information from their surroundings.[9] The vision scientist J. Kevin O'Regan, for example, has likened the work of sight to the "grabbiness" of touch. Seeing "is like exploring the outside world with a giant hand, the retina"; it is a means of "actively manipulating, probing, and testing the way my visual inputs react to motions of my eyes, body, and external objects."[10] This claim will have an intriguing familiarity to anyone acquainted with eighteenth-century theories of vision. George Berkeley and Joseph Addison, for example, make similar points, as I discuss in "Presence of Mind" (chap. 3). And so (again) does Merleau-Ponty, who also aligns vision with an exploratory grasp and for whom the active nature of perception meant that "'sensible qualities' are . . . [not] reducible to a certain indescribable state" but rather "present themselves with a motor physiognomy, and are enveloped in a living significance."[11] Across the long arc from the eighteenth century to the present, therefore, stretches an attempt to ground phenomenal experience—what it is like or the raw feel of something—in bodily movement and lived ecology. We should, O'Regan concludes, "abandon the idea that feels are the kind of things that are generated [in the brain], and instead take the view that they are constituted by skilled modes of interaction with the environment."[12] While the goal is still to explain first-person experience, the vehicle of such experience expands from the brain to,

in Alva Noë's words, the "larger nonbrain body and the environment in which we find ourselves." "Consciousness is not something that happens inside of us," Noë says; it is "something we do or make," "an achievement of the whole animal in its environmental context."[13]

One relevance of this kind of argument for my purposes is that it moves the consciousness problem away from that of accessing purely internal or neural states to the coupling of these states with external objects and environments, including those of language and culture. We might pay special attention in this respect to the recurrence of the modifier "sensorimotor" to describe the characteristic feel or structure of any one experience.[14] Creatures with bodies of a certain kind perceive and explore the world in a particular way, with every action bringing sensory information that then initiates new actions in a kind of loop. We don't so much perceive the world in a single snapshot, on this view, as occupy and explore its contents. So the form of one's experience simply *is* the form of one's skillful actions.[15] The point is not that the look of an ocean from the top of a hill is the same as the angle of one's head or the number of one's photoreceptors, just that the look is brought about by unfolding behavior that includes the physical environment as well as the organism in its midst. The ocean comes into view because we possess the relevant skills to explore its surrounds and see it the way we do. There is, I think, an important implication to this line of thinking. The emphasis on motion, skill, and environment broadens the discussion from the ostensibly unchanging nature of the brain to the historically variable conditions of circumstance, those conceived moreover not merely as stimuli but as active components or vehicles of experience. Perception on this view involves creating an available world through skillful and habitual activity, not just the bringing into view of things outside the head but the having of these things as cocreators of phenomenal consciousness.[16] This sort of argument will be especially relevant to the pages that follow because it provides an important place for the kind of artifacts we're used to looking at closely: not only as models or descriptions of experience but as themselves part of the encountered world.[17]

The terms and terrain of consciousness talk in any case appear across this book. In the first essay, my argument in favor of a disciplinary approach to interdisciplinarity draws upon the problem of reduction in the science and philosophy of consciousness as a core example. In "Form and Explanation" (chap. 2), my coauthor Anahid Nersessian and I argue that the use of technical terms like "consciousness" or "species" in scientific explanation might provide an occasion for literary scholars to reflect on their own terms of disciplinary art, foremost among them "form" itself. One role that literary form plays in this context, I argue, is to stage and explore some of the limits of the consciousness debate,

especially versions of it committed to the privacy of experience. In "Presence of Mind" and "On Beauty and Being at Home" (chaps. 3 and 4), therefore, I examine how eighteenth-century georgic and locodescriptive poetry spread experience into the world (as it were) by conceiving of it as something one does rather than something to which one is subject. I attempt here to bring such formal matters as trope, meter, and line to bear on the relation between experience and handiwork in modest or minor genres concerned with the perception of the environment. In "Around 2005; or, Two Novels and the Problem of Consciousness" and "Two Kinds of Panpsychism" (chaps. 6 and 7), I attempt to put the idea that we already use form in the process of explanation together with the idea that literary studies might have its own account of consciousness to place alongside others. The idea in both essays is to put the argument about form and explanation into practice by demonstrating how some writers shape their prose to contribute to ongoing debates about experience and physical matter. I stick to novels designed to participate in this precise debate: in "Two Novels," Ian McEwan's *Saturday* (2005) and Tom McCarthy's *Remainder* (2005); in "Two Kinds," Margaret Cavendish's *The Blazing World* (1666) and Marilynne Robinson's *Housekeeping* (1980) and *Lila* (2014). These are works written with attention to the science and philosophy happening around them, but with a mind to contribute via the unique properties of their medium.

Problems of consciousness are inevitably problems of experience, of how something appears to the senses or occurs in thought. As N. Katherine Hayles and Blakey Vermeule have recently reminded us, however, much of the science of mind brackets these topics in order to consider, as Vermeule puts it, the "wide array of automatic processes and activities of which we are not and cannot become consciously aware" because they happen too fast or at too massive a scale or in too complex a pattern.[18] The so-called cognitive revolution, now sixty-some years in the making, has consisted to no small degree in opening such unconscious dimensions of the mind to empirical inquiry, whether at the physical level of the brain or at the algorithmic level of computation. Hayles and Vermeule (and, of course, others) are interested in what the humanities can take from or even add to this project, whether its understanding of the rapidly moving heuristics and biases that prompt overt behavior (Vermeule) or of "the entanglements and interpenetrations of human and technical cognitive systems" that shape current ways of living (Hayles).[19] In "Empiricism, Cognitive Science, and the Novel" (chap. 5), I look at one particular piece of this puzzle: the way concepts refer to or represent elements of the world, especially those elements that dwell inside other people's minds. Much of the research on such representation has fallen under the rubric of what cognitive science calls "theory of mind" because it asks how one mind

forms a theory of another.[20] And much of the past decade's interdisciplinary work between cognitive science and literary studies—work by Alan Richardson, Ellen Spolsky, Blakey Vermeule, and Lisa Zunshine, for example—has brought theory of mind research to consideration of the novel, with its elaborate formal repertoire for the representation of mental states.[21] My own contribution to this discussion—the oldest part of this book—is to focus on what this research raises for the literary history of the novel and the intellectual history of science. My argument is that the eighteenth-century theory of ideas and the twentieth-century theory of concepts both understand cognition to work on symbols and symbols to stand in for, or be about, external objects or events. This similarity, I further argue, both extends into and breaks down in the details. The consideration of how one mind accounts for the mental states of another is, for example, a mainstay of empiricist investigations of cognition, especially the social cognition of interest to writers like David Hume and Adam Smith. At the same time, the model of how cognition actually works—how concepts take shape in the mind and form thoughts about things—differs considerably between the two slices of time. The eighteenth century tends to view ideas as pictures and the relations among them as associations, whereas classical cognitive science tends to view concepts as parts of a formal language and the relations among them as syntactic.

As one would expect, literary and intellectual history reveals both congruencies and departures, each with significance for how we approach past and present ways of viewing the mind. In the chapter on theory of mind and the early novel, I'm interested in particular in the way that early fiction stages a representational structure that is integral to empiricism from Thomas Hobbes forward. On this account, one comes to know the world through internal ideas of outward entities or objects. An idea names a proxy space between the mind-dependent features of belief and desire and the mind-independent structure of the physical world, so that in perceiving and acting one is directly aware of a mental representation and indirectly aware of the world for which that representation is a substitute. Elsewhere, I examine alternatives to such representational theory and aesthetics, with their soft-dualist sorting of the world into inner states of the mind and outer states of the environment.[22] The first section of the book in particular features models of direct perception, in which perceiving puts one in actual contact with relevant features of an environment. I look at how this antirepresentational model develops in the poetry of, among others, Jonathan Swift, James Thomson, and William Cowper alongside the philosophy of Thomas Reid and the aesthetics of Jonathan Richardson, William Hogarth, and Henry Home, Lord Kames. Variously elaborated or set forth, the idea is that to perceive is to reach out to what the

world actually is or affords, to use once more the terms of James J. Gibson, the twentieth century's leading theorist of direct perception.[23] Accordingly, the perceptual act is not of or about anything but rather a striving to be or, perhaps more accurately, to be *with* the literal thing itself.

Ecology

The direct view is important for its resistance to skepticism—its turn from worrying about representations to grasping what these representations are supposed to be of—and also for its ecological sensitivity, its attention to perceptually guided and skilled action, to craft, to embodied know-how, and to the general sense that we live in the world rather than out of it, that (again) perception involves contact rather than conceptualization. There has been a lot of attention lately to the early modern and Enlightenment era precursors to our current ecological thinking, and the stock of Spinoza and Lucretius and other avatars of vitalism has shot through the roof. I'd like to think that there are equally or even more interesting resources to be found in the more wide-ranging eighteenth-century account of direct, tactile engagement with the world, in the perceptual economy of certain, dissident strains of empiricism, and in the aesthetic and ethical preoccupations of certain kinds of poetry. I'm especially drawn in this last respect to what David Fairer has called the eighteenth century's "eco-georgic," with its "commitment to the minuter readjustments and qualifications that allow life to continue," its "interest in mixture, alteration, contingency and various kinds of trial-and-error," and "its shifts of emphasis from leisured consumption in favour of practical production."[24] And within that genre I'm further interested in what I argue is the eighteenth century's reinvention of apostrophe, a use of the trope so that it is not, in the famous formulation of Jonathan Culler, a "sign of a fiction which knows its own fictive nature," is not, in other words, a trope that flaunts what Culler calls an "embarrassing" distance from the real, but is rather a more subdued, conversational turn to plants or people or animals in the immediate surround or middle distance.[25]

My discussion of low-affect or situated apostrophe stretches across two essays, the first on antirepresentational versions of perceptual experience, the second on haptic or kinetic models of beauty: "Presence of Mind" and "On Beauty and Being at Home." Both feature locodescriptive or georgic poetry, placed alongside works of aesthetics, philosophy, and fiction that the poetry anticipates or explains. If I've been at all clear in setting up my concerns, a poem like Cowper's *The Task* (1785) should seem entirely germane. Two of its six books of "rural beauty" and "Domestic happiness" are about forest walks ("The Winter

Morning Walk" and "The Winter Walk at Noon"). A third is on gardening, especially growing cucumbers, and two are on creating a place or home suitable for dwelling, including dwelling with other animals. My use of the broad term "ecology" refers not only to this kind of subject matter, however, but also to the mode of its presentation in lines of verse: the particular way, for example, that an almost-imperceptible turn from one addressee to another registers the presence and sound of the speaker's pet hare seated nearby or the manner in which an unexpected lift in the meter brings out the pail of milk below the wings of a fly. This sort of presentation is ecological because of its implicit account that perception involves an entire body engaging with its surroundings rather than one stable point taking a picture of another, as in Locke's famous model of the camera obscura. I argue in both essays that this ecology of perception is implicit in some minor notes in poetry and fiction that understand moving bodies to grasp or live in a world of midsized objects or in environments viewed as nearby. The explicit conceptual background takes shape in works of aesthetic theory that imagine vision as a kind of touch and creating as a kind of craft or in works of natural philosophy that imagine perception as direct and perceiving as active. In this last respect, I trace a line that extends from George Berkeley and Thomas Reid in the eighteenth century to James J. Gibson and Alva Noë in the twentieth and twenty-first. The point of this interdisciplinary ensemble is to show how such things as landscape and still life description did such work as imagining how we are able to see in three dimensions or negotiate a world that is in reach.

When Gibson named his approach to perception "ecological," he meant that it put emphasis on an entire creature that moves about its location rather than on a fixed eye that transmits a stimulus to a brain. "We are told that vision depends on the eye, which is connected to the brain," he wrote; "I shall suggest that natural vision depends on the eyes in the head on a body supported by the ground, the brain being only the central organ of a complete visual system." For Gibson, paradigmatic acts of visual perception are therefore whole-body actions: "We look around, walk up to something interesting and move around it so as to see it from all sides, and go from one vista to another."[26] The importance of such ambulatory perception for Gibson was not only that it relied on the entire organism, however, but also that it locked on to a world revealed as one moves across its surface.[27] Gibson coined his influential neologism "affordance" to describe how that locking and revealing work.[28] Perceptual experience reveals not the value-neutral world of physics but rather a set of potentials for action. To perceive something—anything really—is to reach out to what some part of the world affords for a creature of a certain shape and with a certain motility. So, on this view, what shows

up in perceptual experience is neither purely in our heads nor just out there in the world. Rather, "an affordance cuts across the dichotomy of subjective-objective and helps us to understand its inadequacy. It is equally a fact of the environment and a fact of behavior. It is both physical and psychical, yet neither."[29] A hole in a tree may store nuts for a squirrel or support the foot of an ape, and yet it has the same diameter and depth for each. Or, to return to my example, when Cowper begins his poem with the famous line "I sing the Sofa," he names both a Newtonian object in space, made of thread and wood, and something that may be sat on, rested on, climbed on, or fallen off of, provided that you have bendable legs and are of a particular size.[30] I'd like to think that Gibson had the opening section of *The Task* in mind when he selected the same precise affordance for his first case in point: "The human species in some cultures has the habit of sitting as distinguished from kneeling or squatting. If a surface of support . . . is also knee-high above the ground, it affords sitting on. We call it a seat in general, or a stool, bench, chair, and so on."[31] Despite his familiarity with Berkeley and Locke and Reid, however, I doubt that is so (although, of course, who knows?). And yet the point is not that Cowper influenced Gibson; it is rather that a comparable perceptual economy exists between them. For a certain style of interdisciplinary literary criticism, the further point might be that we should use contemporary insights to frame the older work. My inclinations run in the opposite direction, not so much to use Cowper to read Gibson but to ask what we can learn about perception and ecology by putting the two together, what eighteenth-century poetry, with its fascination with the environments of seeing and doing, might do to illuminate talk about the ecology of perception today.

Form

An affordance is both an external phenomenon covered by the laws of nature and a potential for action held from a point of view. The revisionary argument concerning affordances is that what shows up for an animal in sensory experience shows up directly, without a representational interface, and that acts of perceiving involve a moving body, not a fixed point. I explore this idea in Reid's insistence that perception puts us in contact with the world, not ideas or mental representations of that world, in Hogarth's claim that to view an object is to weave the lines from which it is composed, in Parson Yorick's departure from the ersatz camera obscura of his Parisian hotel room to wander the streets of the city, in Cowper's turn from his last sofa to a "rural walk through lanes / Of grassy swarth close cropt by nibbling sheep" (1.109–110), and finally in McCarthy's effort to make the deadpan sentences of *Remainder* somehow

akin to the building its narrator would like to inhabit. The idea is that perception is skilled coping, coping a way of living, and living a way of dwelling.[32] The further idea is that poems and novels fill out or give form to each.

The importance of form appears in every chapter of the book and provides the core of its argument for the place of the literary humanities among the disciplines that study such things as mind or ecologies. In the opening essay on interdisciplinarity, I argue that efforts to reduce literary study to the procedures and norms of the sciences fail to make their case in part because they fail to provide a satisfactory account of form—or, rather, fail to provide a satisfactory account of anything (literature, mind, reading, what have you) because they cannot draw on form to do so.[33] Behind that argument is the assumption that any particular explanation that literary studies can provide of any phenomena of interest must rely in some sense on form and that we ought to be generous and flexible in what we understand the meaning of "form" to be. The role played by form in the sort of explanation literary critics ordinarily do is the subject of the next essay, "Form and Explanation." There Nersessian and I argue that "form" plays a role in literary explanation similar (again) to the role played by explanatory terms like "consciousness" or "species" in the natural sciences. Our point is not to settle on a precise meaning of "form." In fact, we argue that recent efforts to define in order to revive "form" mostly run aground on the robust plurality of usage across the methods, topics, and history of the discipline. But we further argue that it is this context-specific pluralism of use that establishes the analogy to terms used in the practice of science.[34] The meaning of "form" depends on local questions asked by critics and the local practices of interpretation that accompany them, whatever they may be (and they may be anything). The same is often true for technical terms used in scientific explanation. In each case, the meaning of the term emerges from its special application to questions asked and answered according to the rules of a field of study. This parallel has implications, we further argue, for the foundations of interdisciplinary inquiry and for what the literary disciplines can learn from the sciences: namely, to have confidence in their terms and their expertise as they are applied to some problem at hand.

The questions I ask in the essays that follow all proceed from these background assumptions. I'm interested in the form of recursion as it appears in a set of novels and nonfictional works preoccupied with how one mind can have access to or nest within itself another. I'm also interested in how the strange grammar of free indirect discourse—the third-person construal of first-person experience—does and does not square the circle of the ostensibly hard problem of consciousness, or how the shape implied by an insistently prepositional depiction of experience might intimate that the problem is, as it were, beside the

point or misconceived. Form in these instances means some version of point of view, and its analysis amounts to literature's response to (or critique of) the hard problem.[35] Elsewhere, "form" means the shape or cadence of a line as it presents a world nearby or just around the corner. Or it means a figure of speech designed to elicit the kind of engagement that makes such presence possible. In all these cases, form refers to properties of a text relevant to questions about mind that interest me, as well as those developed and asked by others before me, including those in disciplines different from English. The kind of formalism at stake here is not particularly revisionary; in fact, the argument that Nersessian and I make is in part a defense of the everyday formalism practiced all the time by literary scholars as an expression of ordinary (though highly skilled) competence. What I hope is revisionary and original is the direction toward which I point that formalism: the interrelated concerns about mind and ecology and aesthetics.

The Disciplines

Paper Minds draws on terms from the cognitive sciences, perceptual psychology, and the philosophies of mind and science, as well as, of course, those from my home discipline of English. In these respects, this book is an interdisciplinary venture. At the same time, it is also a critique of some of the ways in which interdisciplinarity has been conceived and a plea for the autonomy of literary studies, without which there would be no interdisciplinarity worth having. As I've written these essays, I've been led to wonder two things: How might we learn from others regarding matters of shared concern? And what is it that we do, and that others don't do, that is worth holding on to for a discussion across fields of study or just for its own sake? These questions come to the fore in the opening essays on theory and method. Both explore the grounds on which any discipline makes or supports a claim about the world, and both argue that each discipline should be understood to have its own validity, methods, and terms of explanatory art. The assumption is that a pluralistic institution of higher education links up with and expresses a pluralistic ontology: some for quarks, some for labor markets, some for sonnets. Every discipline has its own expertise and its own way of explaining whatever part of the world fits with its particular interests. Interdisciplinarity happens when two or more expertises join together on some project or in some conversation, one sometimes transforming or sometimes just adding to what the other does. The rest of the book puts these more abstract premises and arguments into practice by bringing together insights from different fields with the procedures of literary analysis on (again) variously defined questions of consciousness, ecology,

and aesthetics. In this context, to ask what it is that we do that others don't do is also to ask what happens when we refuse to reduce away from form to something else.

One answer is a certain slowing down on matters that otherwise might be passed over or assimilated; another is a tolerance for letting some difficulties stand once they are articulated. As an illustration of this, let me return to an example that I've already touched on. The eighteenth-century and contemporary materials that appear in my case studies participate from time to time in a debate between what I've called representational and antirepresentational theories of mind, those that emphasize the mind's priority over the world and those that do something like the opposite. It is of significant interest, I think, that both perspectives appear in early form in eighteenth-century writing—in poetry no less than philosophy, fiction no less than aesthetic theory. And it is of further interest that the question remains undecided throughout the period and into ours, sometimes even within individual works. The point is therefore not to reduce the form in which any one of these works appears to a more fundamental level that it expresses or with respect to which it is right or wrong. The point, rather, is to make sense of the form itself, as a meaningful and significant phenomenon in its own right. So, for example, in my discussion of McEwan's *Saturday*, I tend to emphasize the relationship between sentences composed in the free indirect style, with their play between a character's and a narrator's point of view, and the project to make artful the task of representing phenomenal consciousness. There is, one might say, a certain representational aesthetics that joins the account of mind to the practice of the writing. But of separate interest, and in some tension with this aesthetics, the novel also pays close attention to the sensorimotor attunement of its surgeon protagonist as he operates: the acts of cutting and suturing that are not so much thought out as done with the effortlessness of thoroughly inhabited skill. "He's something of a master in the art" of "fast and accurate" surgery, which, as it is described at a clip, is a kind of antirepresentational handiwork; "he slipped a gloved forefinger back into her mouth to feel the route, then, with barely a glance at the image intensifier, slid a long needle through the outside of her cheek." "These minor operations can still give him pleasure," a variety of kinesthesis different from the more abstract and figurative aesthetics to which the novel is elsewhere and at great length committed.[36] There is no reason to decide on one or the other, and in fact to do so would seem a bit strange. But there's good reason, I think, to slow down and observe the existence of each: their points of contact and divergence, their existence in formal expression, their touching on questions that matter.

PART ONE

On Method and the Disciplines

1

Are We Being Interdisciplinary Yet?

The desire to overcome boundaries between disciplines of knowledge and to integrate fields of study is nothing new. Specialization has always had its discontents, and programs for interdisciplinary cooperation or the creation of new disciplines out of the synthesis of old ones are a perennial feature of academic life. In recent years, however, the idea of bringing together fields of study has made a turn to an argument against the very existence of disciplines and departments in the first place. Faced with the task of reforming academic institutions and the work that goes on inside them, many advocates for interdisciplinary approaches have come to maintain that a carved-up institution gets in the way of understanding and fails to serve students. I will argue here that this strong version of interdisciplinarity rests on a mistake: namely, that the separate disciplines have a common object to which they can be reduced or oriented. I will further argue that this mistake extends even to the weaker forms of interdisciplinarity with which we have been long familiar and which have independently compelling virtues. Clarifying this mistake would begin with the recognition that a pluralistic array of disciplines matches up with a pluralistic vision of the world: endocrine cells for the biologists, tectonic plates for the geologists, librettos for the musicologists, and so on. Fixing it would begin with the recognition that the best way to be interdisciplinary is to inhabit one's discipline fully.

The present-day quarrel with disciplines has several varieties: from ostensibly scientific reductionism, to the management theory popular in some corporations, to a historicism that overlaps with both. In what follows, I'll describe these movements one at a time, point to their overlapping premises, and provide some account of what I believe to be their origins and goals. What I have to say would apply, in principle, to the full range of study from art history to

zoology. And yet no accounting for such things occurs in the abstract. There is a reason literary scholars so often feel that calls for them to be interdisciplinary are attacks on what they do. Arguments that undercut the rationale for separate disciplines of study apply unevenly to those with depleted capital.[1] Departments of English are far more often called to explain the reason for their existence and far more often encouraged to coordinate their work with what's going on elsewhere in the academy or the world than departments of electrical engineering. That this is so is hardly surprising but is worth some thought.

Let me begin with some propositions.[2]

1. A discipline is an academic unit. It is neither a natural kind nor an arbitrary relic of the history of higher learning. Rather, any given discipline is a body of skills, methods, and norms able to sustain internal discussions and do explanatory work in a manner subject to its own consensus acts of judgment.
2. The world does not have a single order that is reducible to biology or physics. Some things are known only at their own level of explanation. These things are equally real. I will call this a principle of ontological pluralism.
3. Following from the first and second propositions, disciplines explain the part of the world to which they are directed and with respect to which they are organized. I will call this a principle of explanatory pluralism.
4. Following from the third proposition, no one discipline should be reducible to another, because such reduction would eliminate the method and norms adequate to any particular level of explanation.

These propositions add up to an apology for the disciplines and to a way of modeling relations among them. Such modeling would be interactive, not reductive, even when relations go very deep. It would take as its premise that each discipline has something to contribute to matters of shared concern in virtue of its own methods and objects. For reasons that will become clear, we might consider this model to propose a horizontal relation among the disciplines. In subsequent essays, my example of such horizontal cross traffic will be the manifold problems of consciousness, ecology, and skilled engagement with built and natural environments. For now it is perhaps enough to say that arguments against disciplines tell us not only about intellectual history and the political economy of the university but also about the nature and organization of what we do.

Reduction and the Unity of Knowledge

A common argument against disciplines opens with the premise that some are closer than others to the fundamental nature of the world. On the more

radical end of this view, only the natural sciences get at truths about the world, and other disciplines of study should exist only insofar as they are coordinated with these truths.[3] Interdisciplinarity in this case means reducing the methods, arguments, and norms of one discipline to the supposedly more grounded picture of another. On its own, the reductionist program is not new. The logical positivists notoriously attempted to unify science by defining its practice as the making of clear statements about observable phenomena so that the terms and theories of one science might reduce to those of another.[4] Although the positivists were after a unity of *science* established on logical and public forms of expression, they were more interested in confirming the work done in each science than in eroding the differences between them, and in the main they had little to say about the humanities.[5] In contrast, present-day reductionism assumes a unity of *knowledge* across the entire academy and asserts the priority of basic science as the foundation of everything else. There is only the world of nature, on this view, and so every explanation of that world must eventually converge with its fundamental units of life if not its fundamental units of matter. "To say that nature forms a unitary order of causal forces, hierarchically organized," according to a recent expounding of this view, "is to say that all complex phenomena can be reduced to relations among simpler elements."[6] The point of any academic discipline is therefore to perform a reduction that would in some fashion express this underlying unity and order. This new model found its early and decisive articulation in the famed entomologist E. O. Wilson's call for "consilience" among the disciplines of study, a term he retrieved from the nineteenth century to describe a "dream of unified learning . . . 'jumping together' " the fields of knowledge "by the linking of facts and fact-based theory across disciplines to create a common groundwork of explanation."[7] The idea is that there is ultimately just one object and one method of study: the world of living creatures and the science by which it is explained. We only need some time to get the structure of learning in place so that "sound judgment will flow easily from one discipline to another" and the distance between them will gradually disintegrate (10). Considered in this fashion, the history of the disciplines tells a story of their lamentably fragmented knowledge and, at the same time, their steady convergence into a unity, as the insights of the more foundational fields travel upward, limit, and reshape the explanatory frameworks of the fields they support: to wit, biology transforms psychology and psychology the humanities.

As befits this sort of story, the vision can be at times messianic. "We are approaching a new age of synthesis, when the testing of consilience is the greatest of all intellectual challenges" (12). But the ultimate upshot beyond Wilson was to provide a picture of interdisciplinary inquiry that would amount to

taking the claims of the humanistic disciplines to task by testing them against the ostensibly more grounded claims of the sciences, a kind of unity by reprimand. So, for example, in a study that defines consilience as the "vertical integration" of the various disciplines of knowledge, Edward Slingerland argues that "humanists need to start taking seriously discoveries about human cognition being provided by neuroscientists and psychologists" and then adds, "which have a constraining function to play in the formulation of humanistic theories."[8] In what does this constraining relation consist? The answer will be familiar to anyone acquainted with the usual obloquy: "Bringing the humanities and natural sciences together into a single, integrated chain seems to me the only way to clear up the current miasma of endlessly contingent discourses and representations of representations that currently hampers humanistic inquiry."[9] Time to fix the mistakes literature professors or anthropologists or historians make by reminding them of what science already knows. This swipe at the humanities is less interesting for its by now hoary content, however, than for the imaginary relation among disciplines from which it is derived. On the model of vertical integration, the natural sciences would lie beneath and limit the disciplines built on top of them because they are closer to every discipline's common point of reference. Human behavior explained by sociologists, for example, would refer to and be limited by the explanation of the same behavior studied by biologists. Nearer to home, written or performed phenomena studied in literature departments would refer to and be limited by the cognitive or neural explanation of the same, and so on. The more fundamental the part of the world, the more fundamental its discipline of study.[10]

The mistake is to conceive of the disciplines and the relations among them against a common point of reference: the physical or biological world, explained by basic science. Let me be clear about what I consider this mistake to be. Not a word of the present argument would dispute (or have much interest in probing) the idea that the fundamental constituents of the universe are physical and its units of life biological. But each part of the argument presumes that not every part of the world can have a physical or biological explanation.[11] That is why we have disciplines in the first place, as will be the recurring moral of the story. The behavior depicted in novels, say, cannot be explained in the same way as behavior explained by biology because its actors are not biological creatures. The world made present by poetry cannot be explained by physics or botany because it is not exactly physical, or not in the same way. Reading is not the same as seeing, nor writing the same as thinking. All of that sounds obvious, but the intuitive response that it *is* obvious is itself worth pondering. It tells us something about the foundational norms of our discipline. The reduction of any one of these things to an explanation

at some more fundamental level would require it to be separated from its presentation in form (in the case of behavior or worldliness) or its encounter with form (in the case of reading and writing).[12] The literary disciplines exist in part to refute that separation and to insist that such things matter. Much the same kind of argument could be run, one imagines, for any other discipline. The difference would be only in the procedures and norms that are violated.

The vision I will now sketch as an alternative takes as its contrary premise that the world studied by academic disciplines is irreducibly plural: minds and behavior, literature and literary history, cells and organisms, mark out separate kinds of things with different constituents in play and varied techniques for their explanation. This account is just as committed as the reductionist one to a picture of the world and is no less principled in elaborating its stakes. These begin with what the philosopher of biology John Dupré has called "the disunity of the sciences," namely, "the denial that science constitutes, or could ever come to constitute, a unified project" because "the extreme diversity of the contents of the world" calls upon an extreme diversity of aims and methods for its accounting.[13] Within just the purview of biology there are features of nature that cannot be reduced in explanation to lower-level phenomena, such as the behavior of cells vis-à-vis the structure of molecules.[14] This sort of divergence only magnifies once we step out from any particular science to ponder relations among them. Especially germane to my present concerns would be the long resistance in cognitive science to the reduction of experimental psychology to neuroscience. "Suppose the functional correspondence of the nervous system crosscuts its neurological organization (so that quite different neurological structures can subserve identical psychological functions across times or across organisms)," Jerry Fodor asked in his landmark demarcation of the natural and social sciences.[15] "Then," he answered, "the existence of psychology depends not on the fact that neurons are so sadly small, but rather on the fact that neurology does not posit the natural kinds that psychology requires."[16] Psychology should proceed without expecting to be reduced to neuroscience in the long run because it explains something other than the brain. And indeed it has. Statements in the language of the first have not been consistently deduced from statements in the language of the second, although of course links between the two have been far-reaching and significant.[17] The work in cognitive science and philosophy of mind I have found most relevant to literary analysis in the essays that follow, for example, takes as its basic premise that consciousness and perception cannot be reduced to events in the brain. This is so for scholars who take up the famously hard problem of consciousness, but it also lies behind efforts to

explain experience with reference to whole bodies and their respective environments. The failure of reduction in these cases is the spur to knowledge, not its disappointment.

The leap from discontinuities within a science or between relatively proximate sciences to those between any one science and the humanities should not be difficult to imagine. If the world described by the sciences fails to exhibit a unity, there is little reason to believe that the world traditionally considered beyond the interests of science wouldn't as well. One important feature of the disunity argument, however, is important to bear in mind before turning to its implications for method. The disunity of science is not a skeptical thesis about how hard it is to know some parts of the world, nor does it make any claims about what humanists sometimes consider to be the social construction of knowledge or facts. The thesis is an ontological, not an epistemological, one, although it will have epistemological entailments, as we will see. The argument from disunity supposes that there are disciplines because of the way that the world is structured. It supposes that one discipline fails to reduce to another because the world explained by the disciplines is plural in kind, containing many varieties of things, from millipedes to minuets. What makes these kinds and not simply chimeras is (again) that their accounting cannot be expressed in simpler terms.[18] They don't dissolve into something else on closer inspection. As Anjan Chakravartty has put it, the "different domains of inquiry ask different questions regarding different entities and processes, and there is no evidence to suggest that facts at 'higher' levels of description are generally and in principle capable of being expressed in terms of facts about entities and processes at 'lower' levels."[19] On this picture, the world studied is ontologically populous as well as plural: "literature" or "literariness" picks out the wide variety of texts or artifacts that combine to make up the domain of literary study, just as "music" and "chemistry" and so on do for theirs. "There are," in Chakravartty's words, "many ways one might carve nature at its innumerable joints."[20]

My intention in drawing all this out is not to criticize the way any discipline performs its work or to change anyone's mind about what disciplines ought to be doing. It is merely to account for some presuppositions upon which academic institutions rest. I am in this respect attempting just to describe the fine structure of what otherwise goes without saying. To this description, I would now add that the tacit pluralism of the disciplines has an important set of consequences for method and rationale. I've called these consequences explanatory pluralism, the idea being that any given discipline has an evolving set of terms, skills, and norms established over time and in relation to its evolving domain of study. For literary studies, these would be

the broad and heterogeneous practices of disciplinary reading along with their associated lexicon of form, style, or genre and their associated norms of attention, rigor, historical grounding, and so on.[21] On the understanding of interdisciplinarity I have affirmed here and elsewhere, the goal would be to bring these methods and norms into some relation to those associated with other domains of study, experimental norms of the sciences, for example, or archival and evidentiary norms in the closer field of history. But that goal is possible only with the background recognition that a pluralism of explanation entails a pluralism of methods and norms: each adequate to its subject and none intrinsically better than the other.

The Managerial University

At its most ambitious, the project of consilience is to narrow and eventually erase the gap between the explanations provided by the natural sciences and those provided by the humanities, and it thinks it can do so by holding the second accountable to the first. The objects of humanistic knowledge remain, on this view, but their explanations become subfields of other, more foundational disciplines.[22] This sort of vision takes place against a certain backdrop. In a widely cited essay outlining the program of consilience, for example, Steven Pinker laments that the humanities have "failed to define a progressive agenda" and are resistant to "innovation" because they have rejected any influence from the sciences.[23] "Art, culture, and society are products of human brains," after all, so what's stopping humanists from putting them all together? Whereas this plea for reform remains consistent with the sort of vertical integration imagined elsewhere, the language in which Pinker frames the reform sets itself apart by squarely addressing the political economy of higher education. Consider this ominous anecdote: "Several university presidents and provosts have lamented to me that when a scientist comes into their office, it's to announce some exciting new research opportunity and demand the resources to pursue it. When a humanities scholar drops by, it's to plead for respect for the way things have always been done."[24] One might naturally respond that the juxtaposition of excitingly new and more of the same is glib and moralizing. But equally germane to my present concerns is that Pinker assumes without argument that value ought to fall on excitement and novelty in the first place, that an institution whose distinctive rationale has been the continuity of research ought to prefer what he calls innovation.

We can get a clue both to why this preference is assumed and to what some of its underlying conditions of possibility are by looking closely at Pinker's terminology. The valuing of "innovation" is, of course, a familiar move in the

logic and idiom of the tech industry, often with a tie to some kind of disruptive rearrangement of traditional practice.[25] On its own, that little keyword would arguably be just a bit of today's jargon making its way into another plea for bringing the humanities up to speed with science's view of their shared world. But consider it alongside another term showcased in the final two sentences of Pinker's essay: "If anything is naïve and simplistic, it is the conviction that the legacy silos of academia should be fortified and that we should be forever content with current ways of making sense of the world. Surely our conceptions of politics, culture, and morality have much to learn from our best understanding of the physical universe and of our makeup as a species."[26] While the last sentence repeats the program of consilience in relatively bland language, the penultimate one does something quite different. The calling out of academic departments as *silos* in particular uses a noteworthy bit of contemporary management theory to account for the institution of the university. And that is the point. Pinker piggybacks a manner of envisioning corporate workplace structure onto an argument about the consilience of knowledge. According to management theory, a silo is any "system, process, department etc. that operates in isolation from others" and thus prevents the efficient flow of information from one unit of an organization to another.[27] The term of art originated in the effort to define optimal conditions for a company to respond to customer needs and technological change. (The earliest use of "silo" that I've found in management-theoretic discourse is from 1991, after which point the term gets increasingly attached to walled-off units of finance, research, or sales and increasingly associated with a resistance to disruption, to "customer-focused solutions," and the like.)[28] Silos inhibit flexibility with respect to markets, and they inhibit innovation with respect to products and outcomes. A successful corporation therefore should strive to *break down* its silos and "connect the dots" between previously isolated bits of data or practices of expertise. Workplace teams should be routinely shuffled, and even well-functioning products remade.[29]

The idea of consilience and the idea of corporate silo busting have some affinities, as Pinker notices and makes use of. Both are opposed to the supposed fragmentation of knowledge; both find a positive dividend in the destruction of (at least some) systems of expertise. There are, however, important differences to observe. On the view of consilience, the fragmentation of knowledge results not from one discipline being "siloed" from another but rather from some being siloed from basic science. The vision is fundamentally hierarchical. The sciences sit at the bottom and provide the limit for what other disciplines may say or do. On the view of management theory, no discipline or kind of knowledge provides the ultimate ground of any other,

and indeed the idea of a discipline itself seems a kind of relic. The vision is fundamentally flat. Every workplace team traffics in the common currency of information and exists in light of some finite project or task or topic drawn from that currency. The gathering of these divergent agendas under the notion that disciplines should be broken down *and* priority should be given to the so-called STEM fields thus papers over some variations with the declaration of mere innovation, of being the kind of program with which the getting amounts to keeping up with the times.

The analogy of a silo as it appears in management theory and a discipline as it exists in the academy would seem difficult to sustain for very long. Just as the rationale of a corporation is different from that of a university, so is its internal structure. The breaking up of routine and redundancy that might be suited to the creation of social media platforms or the design of medicine to control blood pressure is likely a poor fit for an institution organized to explain the highly differentiated constitution of the world. And yet the language and logic of management theory have recently made considerable inroads into academic life, for reasons that are as simple to explain as they are easy to lament: the corporatization of higher education itself.[30] Here the framework of silo busting has been expressed in (at least) two related manners: first, a translation of the "customer-focused solutions" model to, as it were, a "student-focused solutions" model and, second, a remaking of established disciplines as open-ended clusters matched to demands that need filling and problems that need solving. Compare a recent article from the *Harvard Business Review* entitled "Silo Busting: How to Execute on the Promise of Customer Focus" to a recent, much-lauded multiauthor study, *The Undergraduate Experience: Focusing Institutions on What Matters Most*. Here is the business school publication:

> To deliver customer-focused solutions, companies need mechanisms that allow customer-related information sharing, division of labor, and decision making to occur easily across company boundaries. Sometimes this involves completely obliterating established silos and replacing them with silos organized around the customer, but more often it entails using structures and processes to transcend existing boundaries.[31]

Here is the book on educational reform:

> Strong institutions align their resources, policies, and practices with their educational purposes and student characteristics, just as well designed courses align goals and assessments. While this may sound self-evident, it can be vexing because higher education institutions often operate as collections of strong but separate programs. Thriving institutions transform silos into systems by

> supporting cross-unit coordination and by paying more attention to the student experience than to how the organizational chart divides up the campus.[32]

Critics of the corporate university often speak of the pernicious influence of actual companies and bottom-line thinking on the governance and ethos of universities. The idiomatic drift one sees in these two gobbets partakes of the larger phenomenon, to be sure, but it does so particularly around the question of organizational structure. The silo busting designed to match "strategic packages of products and services" to consumers glides over to one designed to match "resources, policies, and practices" to "student experience." Facilitating this move are several other related keywords in the management-theoretic lexicon: "coordination" is one of the "The Four Cs of Customer-Focused Solutions," for example, and "systems thinking" is *the* term of art for understanding the entire corporation as "a learning organization."[33] The busting up of academic disciplines thus involves a transposition at once of a dialect and a plan—a dialect that is a plan—to remake the fine composition of the university itself.

A university without disciplines would still fall into parts, but these would be flexible, open-ended gatherings defined in relation to an evolving market: students and the problem-having, challenge-posing world in which they live.[34] The interdisciplinary ideal is of a *cluster* that might take shape around a given problem or challenge while sharing temporary space on a hiring plan.[35] Whereas silos stake their claim on inherited expertise, clusters draw from topics external to the disciplines that fall under them and eventually disappear. Instances of this thinking and these initiatives are many. When, for example, Ohio State University announced in 2013 a $400 million plan to hire five hundred professors over ten years, they specified that the new faculty would be attached to supradepartmental "discovery themes": health and wellness, food production and safety, and energy and the environment in the first go-around; data analytics and materials for a sustainable world in the second; and so on.[36] By hiring under these themes, Ohio State would "develop transformational approaches to issues of world-wide significance" and bring together "interdisciplinary teams of experts . . . to cooperate in developing solutions to the long-term issues that touch human beings everywhere."[37] This is a form of reductionism, we might say, but of a somewhat-different order than what is on offer from consilience. In both cases, existing forms of expertise are broken down so the university better fits a world that the disciplines fail to understand or address. Yet the unity promised by a cluster derives not from what the world *is* so much as from what the world demands or the challenges it poses. The difference is roughly between an epistemological and an instrumental reason

for busting up the disciplines. And with this difference a separate set of norms is breached or tossed aside. These norms will vary, once again, by discipline. With respect to the humanities, the first that one might observe is a norm of deliberativeness much heralded in recent attempts to value the "slow" nature of what we do or to define the literary disciplines in particular around an ideal of attention.[38] At ostensible odds with corporate values of efficiency, speed, and responsiveness, the humanities on this view value a contrary pause over what might otherwise get passed over or assimilated, what might require linguistic or historical or formal training of one or another kind. I would draw attention also to a related norm that is perhaps less easy to see and less prone to (pardonable) sanctimony. This is the norm of the open question, a tolerance for letting some difficulties stand once they are articulated. One reason to bust up a silo, as we've seen, is that it doesn't pick up on the "issues" plaguing us or cannot offer a *solution* to problems, from climate change to disease and beyond. The intuitive reflex against this sort of language reveals an important, if tacit, norm embodied in the fine grain of literary critical writing: the hard-to-shake draw to the intractable, the sense that the goal is to state and explore problems rather than provide solutions to them.[39] Not all challenges are new, nor is every problem solvable. But more to the current point, the intuitive resistance to utility derives from the pluralism of disciplines themselves. Ontological pluralism requires that what the literary disciplines study is real and meaningful. Explanatory pluralism requires that disciplines encounter what they study on its own terms. Together they resist any reduction to problem solving or challenge addressing, if only because considering artworks as significant in their own right often means spelling out the open-ended or unresolved. From the standpoint of pluralism, that's not because uncertainty has a value of its own but rather because this sort of practice is what it means to do the work of the discipline.

The norm of the open question risks its own version of sanctimony when considered apart from the relatively ordinary procedures of disciplinary life from which it arises. In the debates within the philosophy and science of mind I track, for example, it is often important for scholars to argue for a position that solves a problem with which others in their field are concerned. Literary works pick up on matters in the penumbra of these arguments, as I will attempt to show, but usually without the need to resolve them. A novel like *Saturday* entertains at the level of content the reduction of conscious experience to events in the brain but then steps back from that reduction in the manner of its description. A novel like *Sentimental Journey* wonders how color experience happens in the mind only to make it seem like an achievement of the moving body. A poem like "Grongar Hill" notices its period's

trouble with depth perception by making it appear as if you could touch ivy that is far away. No matter how hard we were to bear down on these texts, we would probably be unable to solve problems or close questions in their respective areas of concern. Proceeding as if things were otherwise would likely seem rather strange, an attempt to read forms not designed for demonstrative purposes as if they were and so to cloud rather than clarify our account of them and their respective cultures. This clarity, however, is itself worth some reflection. If keeping questions open is a distinctive feature of critical method, that is perhaps because it is built into the material such method targets. The epistemic desire of the one grasps onto the epistemic demurral of the other. So we get a better picture of the manner in which texts address matters of concern to other disciplines by looking closely at them, but we don't necessarily get a solution to the problems raised within each of these disciplines. That should not diminish the importance of either humanistic disciplines or their objects of study. Talk among scholars about how and why this is so with respect to the fine structure of individual topics, however, is arguably an important dimension of nonreductive interdisciplinarity. In any case, one can maintain that literary criticism ought to be credited with having explanatory rigor like other disciplines without maintaining it has either the methods or desires of these disciplines.

The Appeal to History

The several versions of antidisciplinary thinking I've discussed so far carry with them an implied, if thumbnail, history, typically of the splitting of knowledge into arbitrarily partitioned domains in some past and the dawning of their reunion in some present. The historical argument in these cases is not the basis of the critique. Rather, it simply comes along for the ride of what is otherwise an epistemological or instrumental argument: Some older configuration of the disciplines had a mistaken or inefficient picture of the world. Some new configuration should fix it to be more rigorous or nimble. There is, however, another argument against disciplines that makes the historical argument first and derives the epistemological or instrumental conclusion second. This is the argument that disciplines lack a grounding rationale precisely because they are historical, as if to reveal the origins of something were to demonstrate that such a thing had no credibility. Whereas the first two versions of antidisciplinary thinking tend to come from outside the disciplines that will be reduced or clustered, this argument comes from within their very precincts, from literary study especially. There the effort to reveal the historical nature of the disciplines—their

beginning in some period and their evolution over time—serves as a kind of unmasking.

My examples here are two accounts of how the creation of disciplines in the late eighteenth century shapes their status today. The first is Mary Poovey's study of the intertwined histories of economics and English, according to which a shared interest in the representation of value gave way by the end of the eighteenth century to separate methods for accounting for money, on the one hand, and literature, on the other.[40] Financial instruments and imaginative writing once shared a project "to help people understand the new credit economy and the market model of value that it promoted" (1–2). After the differentiation of the economy into a domain of fact and literature into a practice of fiction, however, new disciplines grew up around both, at once leaving behind a shared origin and moving toward a bifurcated future. Historical analysis thus exposes a suppressed commonality between the disciplines and pulls the rug out from under each: "Naturalization has erased the *historical relationship* between these two sets of genres; it has effaced the common function that once linked them and the historical process by which they were differentiated and ranked" (4, emphasis in original). This process is "the version of naturalization that produced the modern disciplines of economics and Literary studies," as each discipline drew attention to "the generic differences between them by differentiating between the modes of knowledge they claimed to produce" (8–9).[41] Economics laid claim to such abstractions as price and value understood in the language of mathematics; literary studies arrogated to itself works of the imagination understood through methods of interpretation.

For my current purposes it is less important whether Poovey's history of economics and literary studies is accurate as a history than whether the verdict it delivers is warranted as a critique. Should the history of a discipline be relevant to understanding its purpose? It's hard to imagine that it wouldn't be, since historical analysis should provide some account of where the practices governing any given discipline come from and why institutions arose around such practices. Yet the claim that origins further matter for the validity of a discipline runs the risk of a genetic fallacy: in this case, the deriving of an epistemic conclusion from a historical premise.[42] This risk becomes clear when, for Poovey and of course many others, historicism provides a kind of debunking. "I continue to worry about the implication of many developments within Literary studies," she writes on the first page of the book, "especially as the discipline is now practiced in U.S. graduate programs" (1). Poovey's worry is that the formalism allegedly bequeathed to the study of literature has cut the

discipline off from other areas of study and left it increasingly irrelevant to the world and its challenges:

> If Literary writers had not cloaked their participation in the market economy with an ideology that emphasized originality and textual autonomy, if they had not embraced a version of formalism at the end of the nineteenth century that denies virtually every relation except critique between imaginative writing and the market, and if twentieth-century Literary critics had not incorporated aesthetic formalism into the rarified practice promoted in today's graduate programs, then imaginative writing of all kinds might now seem to have something to contribute to the discussions about value we need so desperately to restart. (418)

This summation of history's meaning for the discipline of literary studies is remarkable in several respects. For one, the past subjunctive mood casts the existing practice of the discipline as an unwelcome mistake. History is a melancholy set of bad turns: away from the market, toward rarefied language, into a cocoon at once pristine and otiose. At the same time, every conditional sentence also establishes a wished-for alternative or counterfactual shadow to the existing state of affairs: instead of "aesthetic formalism" and the rejection of commerce, let us have "historical description" and discussions of value.[43]

The appeal to history carries in its train an unhappy assessment of the disciplines in their current state. The norms and methods captured by the term "formalism," for example, have no explanatory rationale or fit with the world. They are, rather, artifacts of a history that might always have taken another direction. Disciplines have the features they do because of the accidents of their formation; these features ought to be discarded to get at something that is more accurate or useful. The trick lies in the derivation of the second point from the first. Once that is done, the usual language of interdisciplinarity can come in easily. "As a discipline devoted to self-culture and the elaboration of ambiguities, Literary studies seems irrelevant" because it "promotes a model of value that ignores the market" or "because it fails to produce information that one might use" (418). So we are left with two alternatives. Either we grind on in "the academic division of knowledge" or we "find ways to reach beyond the constraints of our highly disciplined vocabularies to create new genres that invite more readers of different kinds, instead of limiting who can read what we write by the language and the forms we use" (419). The regrettable mistake of the disciplines was that they became isolated from each other, and the fallout of that isolation is a lack of relevance. To reach beyond the constraints of one's discipline is therefore to reach out to another—to find, if you

are a literary critic, that you share some project with an economist—and at the same time to reach out to the world beyond the academy itself.

Why is the isolation of one discipline from another also the irrelevance of all disciplines from the world? The answer lies in the larger historical argument. Because disciplines may be understood only in the terms of their emergence, not with respect to an independent or intrinsic rationale, they have no fit to a plurality of explanation. And since they have no fit to a plurality of explanation, their separate existence merely occludes a vocation restored by the project of interdisciplinarity itself. At the end of the day, economics and literary studies really have a common object distorted only by the methods and norms of each. Like other forms of antidisciplinary thinking, therefore, reductive historicism turns at the end to an attack on the internal procedures of the disciplines it examines: in this case, all that would have to be tossed aside were the disciplines actually to speak to each other "in a language comprehensible to all sides" or to "readers of different kinds" altogether (418).

To learn of the origins of one's discipline is to lose confidence in that discipline. Remnants from some unworkable past, the methods of any given field just get in the way of collaborative exchange and relevance to the world. Clifford Siskin's recent history of "system" thinking and organization, my second example, also makes the claim that the modern separation of disciplines has become in our period both the irrelevance of disciplines and the condition for their transcendence.[44] Where Poovey looks just at economics and literary studies, however, Siskin sets his sights on nothing less than the entirety of "modern knowledge" itself. Over the same rough chronology that stretches from Bacon to the present, "system" first scales up to organize the whole world into a composite framework and then down to create "the narrow but deep disciplines of modernity" (56). These disciplines become "the narrow but deep fields we inhabit today," whose viability on Siskin's account is in terminal crisis (61). So the historical point is to trace how "system" gives rise to academic disciplines over three hundred years of institutional time, and the epistemological point is to draw from the history a picture of how the disciplines are now inadequate to understanding and interacting with the world. The late eighteenth and early nineteenth centuries saw the "narrowing of knowledge into disciplines," as, among other developments, "the first courses in English Literature were taught, the first departments of English were formed, the essay and the review—as well as the periodicals that contained them—assumed their modern forms, and our current disciplinary distinction between the humanistic and the scientific was first instituted" (66, 62). By the time we get to the early twenty-first century, these disciplines have become centripetal

venues for professionalism and self-regard (130). The time is ripe then for a "reshaping of the basic unit of knowledge" (228).

The reasons for this reshaping and the design for its completion are equally significant. Siskin takes a page from the book of management theory at the outset, announcing that his study participates in the larger effort to find "alternative arrangements" to the "configuration of narrow but deep disciplines" by "taking a form of inquiry out of its current disciplinary silo so that it can track system's role in the shaping of those silos" (5). This migration of the corporate idiom into Siskin's book might explain then the notable repetition of the phrase "narrow but deep," which appears no fewer than nine times as a compound modifier of the noun "discipline."[45] The insistence of the reiteration underscores the lesson of the history: system first shaped the silos it wants to bust open now that disciplines have become a kind of upright hindrance to a flat organization. It wants to bust them open as part of our present moment's supposed reorganization of knowledge around a type of "information" that reaches from observer to object. Siskin stands this point on a joining of the digital humanities to certain claims of (popularized) computational physics.[46] Reduction connects an institution repurposed to analyze information to a world composed at its foundation by that information. History just reveals an academy changing shape to match this picture of things.

Once again, the lesson of history takes aim at method, since the procedures and norms suited to a "narrow but deep" organization of knowledge are a poor fit to the smooth surfaces of present-day managerial culture. In principle, any well-formed skill from any discipline should fall under this complaint, so it is telling that for Siskin as well as Poovey the most prominent negative example turns out to be close reading, the skill that establishes the baseline of competence for work in literary studies.[47] For Poovey, the closeness of close reading means that one's attention falls short of historically responsible inquiry while remaining captivated in what she thinks is a limited preoccupation with a text's form. For Siskin, close reading just doesn't work to explain the plenum of texts now served up by new information systems like the minable database; we should therefore replace it, he thinks, with the computational methods suited to analyze the aggregate of writing now organized into a new system. For both scholars, the ultimate payoff of getting rid of close reading isn't to do our work better, however; it is to stop doing work that would ground a discipline at all. The fusion of computational methods with information analyses performed elsewhere in the academy just provides an image and basis of a university without departments. In the face of this bright horizon, the giving up of close reading is something like a ritual sac-

rifice, a surrendering of one's own method to bring a future that can't come soon enough.

Some Tensions of Method

The use of history in these arguments against disciplines is curious and revealing. To write the story of how any field of study came to be does not itself compel one to disavow its methods. On the contrary, a positive case could be made that institutions respond over time to the different requirements that various objects of study demand of them. I have argued that the disciplines are similar in that they have an explanatory purpose. I will turn in closing to one feature of this purpose that draws them apart, or at least poses a challenge for relations between them, and one that draws them together.

I began with the notion that literary studies, like other fields of study, has an epistemic rationale, that it tells important truths about some parts of the world. I've spent time developing what I think is the tacit grounding of this rationale in a pluralistic vision of things. I believe it is important in this context that we recognize the tensions pluralism sometimes leaves among norms and truth claims. Like any other discipline, literary criticism is a research program with varied parameters for scholarship and debate. To recognize the independent validity of the discipline therefore is also to come to grips with its procedures being in some ways distinct from others. The best work in interdisciplinary literary studies confronts these tensions head on, usually in the modestly pragmatic domain in which actual disciplines meet. I'll look at just two examples close to the concerns of this book, where the collaborative venture of critics working with those from the sciences illuminates the method peculiar to each. Here is one. When G. Gabrielle Starr wants to examine "the neural activation associated with motor imagery" alongside the "motor imagery associated with [poetic] meter," she needs to move from studies that sift and render in composite form multiple scans of various brains taken in controlled situations to the "rapidly moving beats, redistributed in changing form and changing feet from line to line," within a single poem studied over time by a variety of critics. The probity of the neural explanation rests in part on clarifying a simple and sustainable set of conclusions from a properly arranged body of data. The probity of the literary explanation rests on drawing out from a single example and placing it next to others on a scale of increasing complication. Starr's neuroscience moves from the compound to the simple, while her literary criticism moves from the singular to the compound. Doing the work of each discipline by turns thus puts one's overall method into

an intriguing cross pattern. Here is another. Consider what happens when the literary critic Angus Fletcher and his coauthor the cognitive scientist John Monterosso examine how other scholars have tied together the literary device of free indirect discourse with the psychology of empathy. Many of the studies, they say, treat the device as a third-person "pivot" to first-person experience and so as a way to understand and empathize with a character's thoughts as they are expressed in her own private language. Fletcher and Monterosso's own analysis of the fine structure of sentences in free indirect discourse reveals, in contrast and as most critics would agree, that the form often holds several centers of consciousness in tensile balance, including, in their example from Jane Austen, the "gently ironic" perspective of the narrator along with the character's own self-mockery.[48] The difference between the two analyses seems to emerge from where the specialist attention falls: on experimental design suited to multiple subjects or on discrete sentences placed in reticulated contexts. For Fletcher and Monterosso, the toggle of simultaneous expertise allows them to move from an understanding of what free indirect discourse often entails to an experiment designed to measure its effects. And so again the admirable difficulty of shifting between the protocols of different disciplines seems to be that it entails a balance of distinct premises concerning elegance as well as evidence, persuasiveness as well as what counts as truth.

One tension in method is worth particular attention. The sort of *f*MRI procedure that would, for example, interpret response to works of art needs to minimize variables and filter out noise.[49] As elsewhere in experimental design, a premium falls on simplicity in order to arrive at a truth claim. In contrast, the sort of attention paid to meter or to free indirect discourse—elemental dimensions of literary works as they are—typically needs to add complicating variables in order to arrive at its truth claim. In their discussion of the Austen example, Fletcher and Monterosso first expand the citation from two sentences concerning Mrs. Bennet's response to learning that Bingly will attend the next assembly to the entire paragraph from which the sentences are taken and then from that larger selection move outward to dimensions of plot, marriage, gender, and power that anchor their interpretation of the form. Their claim to a persuasive truth depends on an explanatory rigor nested within literary critical method. One distinctive feature of this method is that it scales up the level of complication while remaining internally coherent, coordinating features of syntax and tone with dimensions of historical and narrative situation. The word for this kind of scaling and this kind of explanation is of course reading.

From this tension several differences in temperament and rationale follow, including attitudes toward progress.[50] On a highly idealized picture, disciplines that minimize variables find it easier to agree on truth claims and thus, on their

view, to build knowledge over time than disciplines that scale upward in the effort to be persuasive. The sheer variety of factors that can go into or be left out of an influential reading means that the literary disciplines are prone to what might seem from the outside to be a circular eclecticism and heterogeneity, periodically redefining their interpretations or even their core concepts with little convergence or accumulation. In what follows next, Anahid Nersessian and I argue that such eclecticism should not detract from the discipline's case for having an epistemic rationale; in fact, we maintain, it should be seen to manifest that rationale. To set that discussion up, I will draw the current discussion to a close by pointing to a shared feature of the disciplinary enterprise that motivates our case.

The pluralistic view presumes not only that disciplines aim to tell some sort of truth about the world but also that the norms and practices of the disciplines are organized with respect to the quiddity of their objects. If the rationale for any explanation no matter how modest is that it "makes the world more intelligible," as Michael Friedman put it in a classic discussion, this is because the explanation takes up what some part of the world is, both the nature of its composition and the demands for its understanding.[51] One nonnegotiable demand, again, is that whatever a discipline endeavors to understand not be reduced to something unrecognizable in its language, as in, for example, some of the more regrettable attempts to apply evolutionary psychology to literary interpretation.[52] Criticism recoils from reduction of this sort because it strips away the history and mode of presentation of its objects. Thus we see one reason for the importance of the category of form for the discipline of literary studies: the term refers to what we endeavor to explain or how we do our explanations, but not to something that can be explained away. Reading of the sort that scales up to critical interpretation in the manner I have just examined typically needs to maintain some attentive relation to a form that remains either present or ready to be summoned. In contrast, reduction to simpler terms requires something extricated from its form—a message, a stance, a theme—that is then lined up with something even more basic, such as the life history of the species. Intuitively, this violates the protocols of the discipline. Very recent critical history has had much to say about the importance and meaning of form. Nersessian and I attempt to give an account of that discussion and situate it against the background of the long tradition of making explanations by means of form. Our case depends on a flexible and relatively open-ended understanding of the category, one consistent with the way explanatory terms are often used in the sciences. As elsewhere, the motivation is less to change the way colleagues work than account for work as it is done, to provide again the fine structure of what goes without saying. And also as elsewhere, the motivation is to come up with an account

of interdisciplinarity that respects the robust character of disciplines at a moment when that character has been called into question.

Silos and Utopia

Arguments against disciplines invariably appeal to some reason to feel better about a university that wouldn't have them, whose units, such as they are, would engage in innovative work, tell important truths, and be relevant to the rapidly changing times. The contrasting picture of the disciplines is typically bleak: slow-moving fortresses resistant to change and speaking only to themselves, books read only by the like-minded, articles read by no one at all. I'll close then by stepping back from the epistemic picture in order to drill down to the reason to value disciplinary thinking as an ethos, a way of life, and an orientation to the world.

One might begin with whatever highly developed skill grounds the discipline of one's choice. This skill likely serves knowledge or use claims of various kinds, but just as likely it serves a manner of living or finding a way in the world. To remain with our recent example, the practices of reading sacrificed by the appeal to history and of little probity or use to reductive analysis or managerial form are for many an expressive kinesis joined up with part of the world. From this kinesis comes a certain pleasure of dwelling, to be sure, of doing one's work well, but also a recognition of the work of others. If critics of the disciplines find themselves telling colleagues to stop what they're doing, advocates for the disciplines tell their colleagues to keep it up despite the difficult times. The implication of all this I think is a several-fold ethics: a way of seeing the world as plural rather than as one thing; a way of valuing the work of others; and a reason to see why that work matters.

2

Form and Explanation

(WITH ANAHID NERSESSIAN)

What does form explain? More often than not, when it comes to literary criticism, form explains everything. Where form refers "to elements of a verbal composition," including "rhythm, meter, structure, diction, imagery," it distinguishes ordinary from figurative utterance and thereby defines the literary per se.[1] Where form refers to the disposition of those elements such that the work of which they are a part mimes a "symbolic resolution to a concrete historical situation," it distinguishes real from virtual phenomena and thereby defines the task of criticism as their ongoing adjudication.[2] Both forensic and exculpatory in their promise, form's explanations have been applied to circumstances widely disparate in scale, character, and significance. This is nothing new, but a recent flurry of debates identifying new varieties of form has thrown the unruliness of its application into relief. Taken together, they suggest that to give an account of form is to contribute to the work of making sense of linguistic meaning, aesthetic production, class struggle, objecthood, crises in the humanities and of the planet, how we read, why we read, and what's wrong with these queries of how and why. In this context, form explains what we cannot: what's the point of us at all?

Contemporary partisans of form maintain that their high opinion of its exegetical power is at once something new in the field and the field's own core—a kind of going back to basics, as if form ever enjoyed the authority of an uncontested term. For some critics, the very elasticity of the concept suits it for a range of phenomena understood to have bounded patterns, from sonnet sequences to factory timetables; this expansive view effects a certain traveling outward of an aesthetic conception of form to domains usually covered by other areas of study. At the same time, and in an effort at once to bridle the number of form's names and to bolster its explanatory purchase, other critics

have turned to the sciences in search of a compelling isomorphism between what form can mean in *that* context and what it already does mean to literary study. Thus, evolutionary perspectives on the development of the novel, along with genetic maps of generic codes, inquiries into the cognitive habits of live readers and fictional characters, and computationally derived, topic models of clustered words, aspire to ground the speculative flights of the humanities with some empirical gravity. In other words, the appeal of these modes of reading lies in their bid to substantiate the largely intuitive claims of humanistic method. The name usually given to this ambition is interdisciplinarity.

We propose to take something different from the sciences—namely, the conviction that explanations are *inquiry relative*—in order to argue two points. The first is that there is no reason to maintain or to desire a consistent use of the term "form" across the disciplines or even, perhaps, within a single discipline. Indeed, we will argue that the effort to define form as something over and above the explanation through which it comes into view and whose ends it serves has led to some confusion. The second is that such a generous view of form may be secured only by a more careful and constrained understanding of what form is for any particular discipline or, more specifically, of what kinds of explanation it can provide for that discipline or others. To borrow Zenon Pylyshyn's description of cognitive psychology, literary criticism "is fundamentally tied to a certain class of terms which in part define the phenomena it seeks to explain," and these terms also "in part dictate the sorts of accounts that qualify as putative explanations." Since "a consequence of explanation is that it frequently redefines its explananda," this relationship between modes and objects of inquiry is flexible, but it is not open-ended.[3] Seen this way, the history of literary study would be, among other things, the ongoing story of what counts as formal explanation and the ongoing elaboration of terms particular to the discipline and its subject matter. That history includes the frequent and indelible use of what critics have variously identified as form, in a manner that is usually inseparable from the explanatory work of reading or argument or interpretation. Form is just particularly rich with respect to its yield because it is caught up in and founds so much of the competence required by the discipline itself.

The point itself should not be particularly controversial or surprising, but its implication for the place of the literary humanities in the contemporary division of knowledge may well be. To use form to explain something—anything—requires a working vocabulary proper to the literary before form can be welcomed into analogy with other things. The requirement would be, and is understood to be, the same within any scientific domain. A truly interdisciplinary practice will accept that notions of form vary meaningfully across disciplines, that the differences among them are sometimes irreduc-

ible, and that no single discipline or field-specific concept need obtain absolute explanatory priority over others. Since interdisciplinarity need not be our endgame, we would add that bringing the protocol of inquiry relativity to bear on literary interpretation has the potential to clarify criticism's authority and its rationale and to help it avoid unnecessary polemicism. In either case, our point will be to establish the simple premise that form and explanation work together, and to do so in the service of literary disciplinarity without apology or compromise.

Some Versions of Form

The millennial reboot of formalism has several variants, each dissatisfied with the explanatory norms of literary criticism. One cluster of arguments has been concerned with a subgroup of those norms called critique and with what Eve Kosofsky Sedgwick first diagnosed as its paranoid structure.[4] In the now-familiar terms of Bruno Latour, "we in the academy" explain social facts by appealing to "elevated causes—society, discourse, knowledge-slash-power, fields of forces, empires, capitalism—while [conspiracy theorists] like to portray a miserable bunch of greedy people with dark intents," but there is "something troublingly similar in the structure of the explanation, in the first movement of disbelief and, then, in the wheeling of causal explanations coming out of the deep dark below."[5] Such "explanations [have] outlived their usefulness and deteriorated to the point of now feeding the most gullible sort" of critical endeavor, the sort that, according to one unfavorable assessment, believes it alone is "sufficient to effect change."[6] Though "heroic" in its aspirations, critique (on this view) not only mimes the authoritarianism it claims to oppose but also fails to account for the singularity of aesthetic experience, which has cognitive and emotional effects that paranoid conspiracist reasoning, for all its sweep, neither explains nor explains away (*SR*, 5).

The quarrel with critique attracts revisionists, who want the study of literature and culture to be done very differently than it has been for the last several decades. In place of critique, revisionists endorse novel approaches to literary artifacts by swapping "causal explanations" for what they sometimes consider to be formal ones. Yet in the modes of revisionism that have had the most traction, form is primarily a relational trope whose significance lies in the bearing or notice it solicits. In their much-discussed essay on "surface reading," for example, Stephen Best and Sharon Marcus applaud a gentle, even naïve scrutiny of both the "intricate verbal structure of literary language" and "patterns that exist within and across texts," even as they dispense with "the notion that freedom lies in aesthetic objects and aesthetic play" (*SR*, 10, 11, 13).

Here, form is identified with surface and surface with things like "structure" or "pattern," a chain of association enabled by borrowing Fredric Jameson's own notion of form as a "surface category" that eclipses the content of history. It is resolutely disidentified with "the artwork's disinterested purposelessness," for the value of surface lies neither in the history it conceals nor in the politics it might stimulate but in the variously affective, ethical, or erotic relationship it enables between a text and its reader (*SR*, 14).

In this respect, revisionist formalism is essentially dispositional. Its byword is "attention": the practice of attending to a text or artwork or else the quality of attentiveness in a critic (*SR*, 16 and passim).[7] For Best and Marcus, the object of such "immersive" attention is (of course) surface defined, in a canny burlesque of Jameson's model of surface and depth, as "what is evident, perceptible, apprehensible in texts; what is neither hidden, nor hiding" (*SR*, 9). A formalism of surface therefore understands that form is not something to be interpreted but something to "describe . . . accurately" (*SR*, 16). This shift from extravagant flights of critical fancy to a more sedate norm of accuracy means to signal an end to both the paranoia and the epistemological relativism marring the kind of critique that, in Latour's memorable phrase, has run out of steam. Form is merely one thing that might fix the attention of a critic and that ought to be accounted for correctly. But if this relatively new appreciation for the empirical—for what is not only modest but also verifiable—shares in the wider postcritical reconciliation with the natural and social sciences, it also provides a hedge against any worry that, on its own, attention might supply merely a record of one's impressions. The partner term to "attention" for that reason is "description," an activity meant to express in objective, written form the otherwise subjective and idiosyncratic experience of reading. The "practices of close attention . . . rely on description," Heather Love writes, because they must have some way of organizing and transmitting the material to which they attend to interested others, via a method that is, as she says, "close but not deep." To describe something is to surrender "the ethical charisma of the critic" and to take on in its place "the minimalist and painstaking" writing down of what one observes in a way that performs a yet more ethical fidelity to the object of observation.[8]

As an expression of the revisionary impulse, the turning of form to a matter of attention brings to mind Francis Bacon's definition of a formalist as someone "who explains a matter from its superficial rather than its substantial qualities," locating the ontology of a thing not in the narrative or fact of its existence but in the way it seems to some perceiving agent.[9] What we'll call reductionist formalism, by contrast, is committed to making form substan-

tial, to furnishing it with an explicit definition that can also be used to explain aspects of the world, in the same way that a definition of gravity can be used to explain why things fall down. In other words, while the revisionist wants to change the methods of literary criticism, the reductionist wants to borrow its concepts so they take on supradisciplinary meaning. Although earlier versions of twenty-first-century formalism tend to embrace an ecumenical view of their object—an essay by Susan Wolfson, for example, baptizes form as style, language, text, shape, structure, reading, rhyme, force, critique, repetition, formation, transformation, information, performance, formality, conformity, uniformity, and (from Samuel Johnson's *Dictionary*) "the seat or bed of a hare"—reductionist or, if you like, fundamentalist formalism yokes form to a distinct referent that serves as the predicate to a complex narrative of causation.[10] In practice, this approach usually begins with the reductionist asking, What *is* form anyway? before proceeding under the assumption that a single answer can and should serve a range of examples. Thus, under reductionism, form can be anything from a *primum movens* to a force responsible for the existence of "the many different shapes and patterns that constitute political, cultural, and social experience."[11]

Reductionism describes the particular goal of a certain kind of explanation. "An object (or concept) is said to be *reducible* to one or more other objects," writes Rudolf Carnap, "if all statements about it can be transformed into statements about these other objects."[12] In the more expansive yet still clear-cut terms of the *Stanford Encyclopedia of Philosophy*, reduction "expresses the idea that if an entity *x* reduces to an entity *y* then *y* is in a sense prior to *x*, is more basic than *x*, is such that *x* fully depends upon it or is constituted by it." Thus, "if one asserts that the mental reduces to the physical, that heat reduces to kinetic molecular energy, or that one theory reduces to another theory," one implies that "the reduced theory can be brought back to the reducing theory, the mental can be brought back to the physical, or heat can be brought back to molecular kinetic energy."[13] An especially cogent example of reduction in this vein may be found in "A Little Formalism," Sandra Macpherson's contribution to the English Institute's 2013 meeting on the topic of form. Macpherson's essay sets out to sharpen our definition of form by fixing it as "nothing more—and nothing less—than the shape matter (whether a poem or a tree) takes." The claim is prompted by Macpherson's own frustration with the way those claiming "a genuinely formalist critical practice" remain "quite confused about form"—which is to say, unable to explain what precisely the word means or at least what they mean by the word when they deploy it.[14] Moreover, finding a referent for "form" that would stabilize its use across literary and extraliterary

contexts holds out a provocative promise; going several steps further than Best and Marcus, Macpherson asks us to imagine a formalism that will "turn away from history without shame," refusing to "hold form, and formalism, accountable to history" as either "ransom" or "redemption" (*LF*, 385, 388). The trick is to show that form is distinct from the usual moorings assigned to it by literary critics—among them genre, social identity, political power, artworks, or (broadly) intended artifacts—and, more important, that it is prior to and more fundamental than any contingency. Macpherson's form is at the bottom of things, at the base of an order of being from which everything else—poems, trees, people—scales up. It is also thinkable only *with* matter, the substance that form shapes and that makes form apprehensible as, in a word, form.

This move to fundamentality is important. To say that form is fundamental is to say that it is the ground upon which individual examples and instances depend and to which they reduce.[15] And to say *that* is to believe one ought to be able to analyze form without making reference to its various predicates: this genre, that historical example, and so on. Being a formalist therefore means attending to what is fundamental about whatever one wishes to explain, while also "turn[ing] away" from history in pursuit of a project that is strictly "ontological" (*LF*, 389). With the emphasis on ontology, Macpherson echoes nothing so much as the New Criticism, which also characterized its task as an ontological one but with a conspicuous difference.[16] The New Critics were after an ontology of the literary *text*: they asked questions like what is a poem, what is the mode of its existence, what are its properties? Macpherson asks these questions, too, but she subsumes them into an ontology of form: for her, the question is What is form such that we may say a poem is one instance of it and a rock another? The answer turns out to lie in a version of Aristotelian hylomorphism: form inheres in matter, as matter's shape (*LF*, 388).[17] Much follows from this positing of a unity between form and matter at the base of the natural order. Once it has secured a definition of form as "the shape a kind of matter takes," Macpherson's ontology levels out at the bottom, with such matter as "marble, paint, bridges, letters, cells, wood" having such shapes as sculpture, painting, poems, and trees (*LF*, 389). Understood as shape, form then explains the existence of midsized composites whose examples might include the Farnese Hercules, Lake Michigan, "In a Station of the Metro," the Triborough Bridge, or a hepatocyte. This inclusion of form among the basic furniture of the universe means not only that its analysis does not have to be "accountable to history" but also that its examples don't have to be aesthetic or intended.[18] The idea is to make form as inclusive and general as possible, so there is finally no difference in kind between manufactured forms like haiku and color-field paintings and natural objects like glaciers and crystals, and so

there is no need for an agent to create or behold any form for the word to have meaning. For Macpherson, this inclusiveness performs a consolation of sorts: when the human race goes extinct, and poems are no longer written or read, "other forms of matter will remain" (*LF*, 402).

Macpherson sets form as the limit of a landscape that is evacuated of human agents and the artifacts they produce but still teeming with shapely substances. Caroline Levine also commits to the fundamentality of form, but her recent book *Forms* nonetheless finds form's destiny not in the threat of extinction but in the promise of "radical politics"—by humans, for humans, figured and occasionally effected by human social activity, which is itself nothing but a perpetual iteration of form (*F*, 17). Macpherson would say that to attend to form is to get to the bottom of things, while to attend to history and to politics is not. For Levine, in contrast, a critic would be wrong "to keep her formalism and her historicism analytically separate," because, she argues, the conventional targets of both methods each have form (*F*, 1). There is a reason for this apparent difference. Like Macpherson, Levine says that form is fundamental, but whereas Macpherson's ontology is scaled, Levine's is flat, locating form equally and without priority in a very wide range of things, from more or less self-explanatory entities such as trees and poems to conceptual composites with names like politics and the political. No one of these things has any grounding relation to any other; rather, politics and the political are both necessary to and coextensive with anything in the world that has what Levine calls order and therefore also has what Levine calls form. As she puts it, "there is no politics without form," for "it is the work of form to make order [and] this means that forms are the stuff of politics" because politics, too, is "order" and "organization," at once nothing more and at the same time much more than "a matter of distributions and arrangements" (*F*, 3).

For Levine, "the stakes" of this triple-jointed characterization—according to which politics is formal because it makes order, form is political because it makes order, and order is both formal and political because it defines the operations of both form and politics—"are high" (*F*, 3). They are high because they offer a rapprochement between formalist and historicist methods, which would apply not only to literary or aesthetic objects but to any object subject to a principle of arrangement or ordering. After all, if mostly everything *has* form without being *grounded* by form, the analysis of form is inseparable from the analysis of mostly anything else. Thus, "ballot boxes, biological clocks, and lyrical poems," which "all take organizing forms," universally accommodate, even command, formal analysis (*F*, 11). One can be a formalist and study narrative or metrical patterns, but one can also be a formalist and study the matter of history—say, the "rhythms of labor, economic, racial, and sexual

hierarchies, and sprawling, connective networks of capital" (*F*, xiii). The political import of such objects is conjoined to their existence as organizing forms, so even if we wanted to, we could not concentrate on their politics or on their form but are instead compelled by the power of their mutual constitution to think always about both at once.

Despite their apparent differences, it takes only a minor adjustment to get from Macpherson's scaled ontology of midsized material objects to Levine's flat ontology of ubiquitous form. The move from asking what is it about lineation that shapes a poem or glaciation that shapes a gorge to what is it about clock time that shapes a workweek or census taking that shapes a social body is a move from conceiving of form as shaped matter to conceiving of form as anything that exists. Levine's version of reduction, then, consists in observing how anything that exists has an arrangement of elements, and this (finally) is where the historicism meets the formalism: to ask whether a social relation or a literary artifact exists or has existed is, in fact, to pose a historical question. As soon as Levine has answered yes to such a question, she has, by her lights, recognized the presence of a form simply by saying that there is or was, at some time, a social relation or a literary artifact. She has done so because the existence of something like a nation entails the further existence of something like "the bounded shape of a nation," and so a historical inquiry into the first is also a formal analysis of the second (*F*, 122).

And yet, if the difference between scaled and flat ontologies is subtle, the difference in their respective temperaments is significant and pronounced. Macpherson has the pleasure of tweaking the discipline's sensibilities (and its self-regard) by arguing that new formalism "isn't reactionary enough" because it doesn't stick to the material forms that are prior to "ethics and politics" (*LF*, 397). Levine has the pleasure of hewing to just these sensibilities when she insists that formal and political analyses are identical. Since being a formalist and promoting social change appear, for Levine, to be the same thing, one need only add a personal approval or disapproval to the recognition of a form in order to arrive at a political conclusion. "Any redistribution of the world's wealth, which I strongly favor, must follow some kind of organizing principle" (*F*, 18), she writes in one moment; and, in another, "I strongly endorse the critical tradition that warns against the power of unities to imprison and expel. It is true that bounded containers have been among the most disturbing of all political forms, organizing the violence of fascism, apartheid, and the abjection of the queer, as well as the serious environmental and ethical consequences of limiting our understanding of political community to human subjects" (*F*, 26–27). The interlarding of such personal opinions as "I strongly favor" and "I strongly endorse" with the act of recognizing such forms as "organizing

principle[s]" and "bounded containers" seems, at first blush, strange, but it follows from the premise that merely to exist is to have the kind of form subject to formalism. Sometimes forms lead to the redistribution of the world's wealth. Sometimes they organize atrocity and oppression. One approves of the first, and one doesn't approve of the second, and it is the act of the approving or disapproving that recognizes the existence of not only a form but also the politics it represents and the politics it demands.

It is the definition of form as "all shapes and configurations, all ordering principles, all patterns of repetition and difference," and the definition of politics as "imposing and enforcing boundaries, temporal patterns, and hierarchies of experience" that allow the critic to recognize both at work in a poem or a police officer, as the case may be (*F*, 3). Revisionist formalism tends less toward this primary act of defining and (again) more toward setting the disposition of the critic as someone who doesn't so much account for a form as describe what she reads. This act of description makes no claim to stand apart from attention in order to define what is being attended to, at a close range without going in too deep. In contrast, the exemplary versions of reduction we summarize here want to supply an answer to a question about form that description doesn't bother to ask: what is it? In both cases, however, form stands in a fixed explanatory relation to the world. When they claim that form is responsible for things that exist—by being either fundamental or identical to them—or when they borrow form's name for an opposition movement within literary criticism, reductionist and revisionist discourses of form require the notion of form itself to remain consistent. Such a demand for consistency makes it impossible for these versions of formalism to coexist or, rather, for more than one of them to be right. If form is as labile as Wolfson suggests, it cannot always lie at the bottom of things as Macpherson says it must; if form announces a retreat from politics into description, as Best, Marcus, and Love would seem to hope, the announcement is absurd if we believe, with *Forms*, that form is always political. This state of affairs is curious insofar as it might lead us to discredit compelling work in the field, and it is unnecessary insofar as varieties of form turn out to thrive in the history of critical explanation. Our next section addresses these concerns.

Some Versions of Explanation

Is there such a thing as form so that a tree is one instance of it, a poem another, and an election cycle yet another? In an influential essay from 2007, Marjorie Levinson observes that for all the recent revisiting of form, there were as yet "no efforts to retheorize" the category itself, nothing that "puts redefinition

front and center."[19] It is sensible to imagine that most everyone in literary studies might avow some commitment to something called form, but "what," she asked, "is a shared commitment minus articulated agreement about the object to which one commits?" (*WNF*, 562). For Levinson, the absence of such an agreement is a problem because it ducks "the divisiveness encouraged by the kinds of cognitive, ethical, and juridical comments—as it were, content commitments"—that mark what she characterizes as the historicist method (*WNF*, 562). On this view, one might be divisive about, say, whether inwardness began in the Renaissance or whether the logic of naturalism sprung from worries about the gold standard, while still being on the same page about what subjectivity or a novel is and sharing the conviction that each is important. In fact, Levinson argues, spirited debates among critics about such matters can *only* take off against the backdrop of this often-tacit consensus. Form, meanwhile, cannot be a proper object of commitment unless it signifies a content-bearing referent coextensive with something in the world, as the ethical commitment of vegetarianism entails not eating real animals. If form points to nothing in the world, we will be forced, on Levinson's account, to suspect that formalism is merely performative of "the aesthetic," an undirected show of engagement that needs only the myth of an object, and maybe not even that, toward which to steer itself (*WNF*, 562).

Levinson's question—"what is a shared commitment" to form "minus articulated agreement" about what form is?—is an important one. We mean to answer it by suggesting that it should remain open for as long as possible. Contradictory accounts of form by self-described formalists do not undermine form's conceptual credibility. They clarify something about literary studies: namely, that its methodological character depends on its tolerance for and facility with concepts whose meaning is keyed to their use in a specific context. Such concepts might be called partially demonstrative or else ostensive, insofar as their meaning cannot be associated with a single description.[20] Here we follow Elizabeth Anscombe, who asks, "how does someone show that he has the concept cause?" only to answer, with arresting simplicity, "by having such a word in his vocabulary." In that case,

> the manifest possession of the concept presupposes the mastery of much else in language. I mean: the word "cause" can be *added* to a language in which are already represented causal concepts. A small selection: *scrape*, *push*, *wet*, *carry*, *eat*, *burn*, *knock over*, *keep off*, *squash*, *make* (e.g. noises, paper boats), *hurt*. But if we care to imagine languages in which no special causal concepts are represented, then no description of the use of a word in such languages will be able to present it as meaning cause.[21]

We might thus say that a literary critic who uses the word "form" is already in possession of formal concepts and therefore of a working concept of form itself. The fact that form appears sometimes as shape, sometimes as pattern, sometimes as habit, line structure, model, design, trope, and so on suggests not that formalism is incoherent but that "form," like "cause"—perhaps like any useful and compelling term—is not a word without content but a notion bound pragmatically to its instances.

Our point is not that "shape," "pattern," or the rest should be taken as synonyms for "form," any more than "carry" should be taken as a synonym for "cause," "vertical" as a synonym for "orientation," or "wide" as a synonym for "space." It is that they should be taken as versions of form, as they have been—with very little hand-wringing—throughout the history of the discipline up to the present day. Here are some examples: When, in his 1951 "Credo," Cleanth Brooks listed as a fifth "article of faith" that "Form is Meaning," he meant to limit the interpretation of texts to what was intrinsic to them—that is, their structure and their parts—as opposed to antecedent events in history or the life of the author and subsequent effects in the minds of readers. Form, in that case, meant "unity," the "kind of whole which a literary work forms or fails to form, and the relation of the various parts in building up this whole."[22] In less programmatic fashion, John Hollander chose *Two Senses of Poetic Form* as the subtitle for *Vision and Resonance* because he was interested in how poets used intonation and inscription to evoke sounds and pictures.[23] To take some more recent cases, Hortense Spillers's essay on Gwendolyn Brooks's *Maud Martha* describes the title character as "thriv[ing] because she wills it through diverse acts of form," cast here as a doubling-up of characterological and authorial acts of organizing narrative space.[24] In D. A. Miller's *Jane Austen, or The Secret of Style*, the eminently formal device of free indirect style becomes also the "paradoxical form of an impersonal intimacy," at once a *kind* of a perspective and the *way* it is instantiated within the text.[25] Mark B. N. Hansen asks why digital media, which all come down to "numerical coordinates," still beg to be described as or with reference to "visually perceivable form."[26] Monique Allwaert finds that "Full fathom five thy father lies" challenges "the flatly numeric measure" of "the money form" by positing something "physical, rhythmic, and fundamentally relational" in its place.[27] Eleanor Johnson's study of the medieval *prosimetrum* identifies its target as "mixed form" and form itself as both "the overall structure of a work" and "local elements of style," while Michael Cohen's *The Social Lives of Poems in Nineteenth-Century America* describes "the circulation of minstrel songs" during the antebellum and Civil War periods as part of a cultural "effort to idealize an abstract form of racial authenticity."[28]

This brief history of disciplinary use would appear to boost Angela Leighton's claim that, while form "seems self-sufficient and self-defining," it is rather "restless, tendentious, a noun lying in wait of its object."[29] And yet it would also boost the claim that different critical texts may use "form" in sometimes dramatically different ways without producing a crisis in meaning or comprehension; surely, we wouldn't want to say that Brooks has no account of form but Hollander a perfect one or that if we learn something valuable from Johnson on *prosimetrum* or Cohen on race, we learn nothing from Allwaert on money or Hansen on zeroes and ones. Lest this proposal about form and its vagaries be taken to make a virtue out of mere ambiguity, we can compare it to claims made about disputed terms in other disciplines. Take, for example, recent work in the science of consciousness. "Consciousness," like "form," might seem self-sufficient and self-defining, but it too evades decisive characterization. This is because "the concept of consciousness," as Ned Block puts it, "is a hybrid or better, a mongrel concept," and "the word 'consciousness' connotes a number of different concepts and denotes a number of different phenomena," ranging from the reported states of belief or desire to the felt character of lived experience.[30] Or consider the status of "species" in the overlapping disciplines of evolutionary biology, paleontology, and ecology, where the term might refer to a set of creatures able to create fertile offspring *or* that share morphological characteristics not found among others *or* that occupy a discrete location on an evolutionary tree, or finally where the term might not refer to anything in nature at all.[31] In either case, the meaning of the term varies according to the research program it enters into and the part of the world to which it is directed; "consciousness" means "experience" for the scientist interested in how the brain gives rise to subjective feeling but not to one working on theory of mind; "species" means "unique reproductive capacity" for those working on live specimens but not to those looking at fossils. This sort of variance is what Carl Hempel described in his classic work on the language of science when he claimed that technical terms "have a distinct meaning and function only in the context of a corresponding theory" and therefore that the "operational criteria of application available for a term often amount to less than a full definition."[32] We apply "consciousness" to one cluster of questions and "species" to another, and we are misled only when we collapse instances of "consciousness" into consciousness writ large or mistake one use of "species" for another. "There are reasons to doubt the possibility of providing *full* operational definitions for all theoretical terms in science," as Hempel puts it, but this only means that we should be careful to discriminate the meaning of terms as they appear in an explanatory setting or situation.[33]

We might answer Levinson's critique of formalism therefore by arguing that formalism need not, indeed cannot, provide a single definition of "form" because form is an entity known by occasion, through encounters with its subsidiary phenomena. This is evidence neither of defects in formalism nor of defects in literary studies. On the contrary, as Block notes, the "many parallels in the history of science" suggest that varied use, suited to questions or methods or objects, is how disciplines usually work and rarely in such a way as to compromise integrity or prestige (*CFC*, 375). Aristotle used "velocity" to mean average velocity as well as instantaneous velocity, while "the Florentine experimenters of the seventeenth century used a single word . . . for temperature and for heat"; yet we do not believe that Aristotle said nothing about velocity or that the members of the Academy of Florence said nothing about temperature or heat (*CFC*, 375). Such undifferentiated concepts flourish in the sciences insofar as they understand themselves as *contexts*—as epistemic domains operating under a set of local and shifting, but still reliable, constraints. Applications of the term "form" are therefore unsatisfactory only when they make arguments "using some premises that apply to some phenomena falling under [form's] category and other premises that apply to other phenomena" also falling under form's category but with a different meaning (*CFC*, 375). In such cases, form is being mixed up with *forms* in the same way that Block finds consciousness too often mixed up with *consciousnesses*, or that John Dupré and Philip Kitcher have found the term "species" used to reflect one way of sorting organisms into sets when it covers multiple "approaches to the demarcation of species taxa."[34]

Again, that such confusion happens does not mean there is no such thing as form or species or consciousness; it means that these terms become intelligible in particular and independently interesting contexts. If, as Bacon says, a formalist is someone who "explains a matter" in a certain way, then perhaps we should distinguish form as a "matter" or topic from form as a kind of explanation, thus sifting and separating out context-specific instances of a thing from an ambiguous representation of the thing itself as a unitary entity. When it comes to this version of form—the form that belongs to the formalist—we might even suggest that there is no form without formalism, no object without the method that names it. To put it slightly differently, we might say that the varieties of form arise only in the shifting context of formalism, only in the practice of critical explanation.

"There is an old opinion," writes I. A. Richards, that with respect to works of art "explanation is itself derogatory," as if to come up with an account of these works were to diminish our experience of them.[35] Now that the moment

of high standing for literary texts has turned to the low standing of their disciplines of study, however, the reluctance to consider the workaday interpretive habits of humanist scholars as explanations in their own right is due for some reconsideration. Consider how arguably the most successful recourse to explanation in literary study has endeavored to redefine criticism away from its ordinary, interpretive practice. The penultimate paragraph of Franco Moretti's landmark *Graphs, Maps, Trees* makes this careful distinction: "the models I have presented . . . share a clear preference for explanation over interpretation; or perhaps, better, for the explanation of general structures over the interpretation of individual texts."[36] In what did these explanations consist? The achievement of *Graphs, Maps, Trees* was to produce such a thing as an account of how the detective novel evolved in a way that was like but also importantly different from the evolution of an actual biological organism subject to natural selection. It was like a biological organism because parts of the form changed as it competed for the scarce attention of readers; it was unlike such an organism because the path of its evolution could converge with different species as well as branch out on its own.[37] This kind of analysis explained the development of a form (the detective novel) in a way that understood its phenomenon (the explanandum) to be the entire "tree" of its development and not the individual novels that filled out its branches.

The act of following a form along locations on a map or branches of a tree can view form only as something larger than any one instance of it. And so it can view the procedure of explanation only as an abstraction away from, and a revision of, the ordinary practice of critical reading—or, one might say, an abstraction away from and revision of the *ordinary science* of literary study.[38] On Moretti's own account, that is, this explanatory relation holds only for "general structures" and not for "individual texts," whose analyses turn out to be mere "interpretation," a word that evidently suffers in the comparison to the "explanation" of the whole. Moretti's point is mistaken to the degree to which it fails to see interpretation—considered in the broad sense as everything that literary scholars do—as itself a variety of explanation. It is mistaken, in other words, when it cedes the ground of explanation entirely to the procedures, method, and assumptions of another discipline (to computer science, for example) and refuses to grant that critics are doing explanation whenever they set out to work. Roman Jakobson wrote that "the object of literary science is not literature but literariness," a quality that will always be to some degree subjective and intuitive, in excess of any impartial metric.[39] By this he meant that literature occupied a particular place in the world and thus required a mode of explanation suited to its peculiarities. We would add to this point that some scientific debates might clarify what these peculiarities are along with the dis-

ciplinary rationale for their study. And behind *this* claim lies another, stronger one, namely, that literature stands in the same relation to literary method as we have described form standing in relation to formalism, experiential consciousness in relation to neuroscience, or species in relation to biology: we know it, not when we see it, but when we know how we see it. Being a scientist about literature in this sense does not mean applying science to literature. Nor does it mean changing critical method so that it seems more like what chemists or economists do. Rather, it means thinking about "literariness" as the special quarry of criticism, and it also means being in possession of a language that upholds criticism as a singular and substantial mode of explanation.

Explanations, as Hempel, Ernest Nagel, and Bas van Fraasen have argued, are answers to questions, specifically why-questions. Thus, the theory of gravity is a good explanation to give in answer to the question Why do objects fall toward the earth? And the theory of evolution is a good explanation to give in answer to the question Why do undesirable phenotypic traits gradually disappear or become rare in species that survive and reproduce? Note that we have not said that *gravity* or *evolution* explains these phenomena but rather that a set of ideas concerning falling and the life of a species does the explaining. Because they are relevant only insofar as they respond to a question in a way that actually answers what is being asked, explanations are also essentially relative, changing in nature and value with respect to their capacity to provide the kind of information being sought. As van Fraasen puts it, "scientific explanation is not (pure) science but an application of science. It is a use of science to satisfy certain of our desires; and these desires are quite specific in a specific context, but they are always desires for descriptive information."[40] This has certain implications for our understanding of literary criticism and literary formalism, the ostensible eclecticism of which we may now understand as its own kind of rigor: the application of a proprietary set of terms and practices to an important corner of the world.

This is the sort of rigor that Kitcher, in his expansion of the species concept, associates with a method he calls pluralistic realism. We prefer Dupré's "promiscuous realism," which perhaps better captures the spirit of the disciplinary law of desire that underwrites it.[41] We desire information about the subject matter that concerns us, and we judge ourselves to be using the right language to describe that subject matter whenever it gives us access to the information we desire in such a way that the information is recognized by the consensus judgment of the discipline. In *Jane Austen, or The Secret of Style*, Miller wants to know both why and how Austen's free indirect style—which Frances Ferguson calls "the novel's one and only formal contribution to literature"—projects a certain model of personhood, one that struggles to appear beyond gender

and thus throws a wrench into the conventional assumption that Austen is her novels' narrator.[42] Like Ferguson, he is interested in free indirect style as a feature of the novel on par with the chapter, the dénouement, or the epigraph and thus part of its formal construction, but he is also interested in understanding the rapport between narrator, character, and reader as a social relation like any other, capable of intimacy, detachment, judgment, compassion, and so on. This relation is also a form; in this case, it holds two or more centers of consciousness, represented or real, in a play of closeness and distance, understanding and opacity. That anyone who has read enough Austen, and read her carefully, is capable of recognizing and even reproducing free indirect style suggests that the form holds its shape across contexts, a capacity that in turn supports its designation as form. In other words, what we find in *Jane Austen, or The Secret of Style* is a formalism that speaks to other formalisms engaged in thinking through similar problems—problems such as the partial confluence of literary and social representation—as well as an independently vital development of formalism as a method. If there is a rule of thumb to be derived here and from our brief survey of formally engaged scholarship above, it is that questions drive the work that we do, and explanatory terms follow in their train. Promiscuity is the mark of a discipline in good enough shape to adapt its distinctive idiom to changing and specific contexts.

Against Polemic

We consider the diversity of approaches to form over the long haul of the discipline to express the discipline's good standing, not its crisis. The collection and taxonomy of terms that fall under the analysis of form vary according to the research program and accompanying desires of the critics who use them; this is what it means for literary study to be a discipline of knowledge located in an academic department. We therefore have no interest in pitting one version of form against another or in establishing our own (we are formalists and yet we don't have one) in the place of everyone else's. Our exploration of form leads us to conclude that the inconsistency with which the term is used gives criticism a solid justification for remaining the way it is—minus the polemics that state criticism should cease to be one thing in order to be something else. In other words, the record inspires confidence, insofar as criticism has tacitly allowed a methodological and discursive pluralism to count as a testament to rigor, much as it does for other fields and forms of knowledge.

Our argument has been that the work of literary studies ought to be credited as a type of explanation. It entails that ideas of form should vary according to the kind of questions critics ask of fields that both precede and respond

to their efforts, just as it entails that scholars and students of literature be credited with an expertise measured by the consensus judgment of the discipline. To recognize that literary studies is a discipline like others is to own that it is, in the cant of the bureaucrats and managers, a silo of specialized intelligence. Work in one proprietary language or idiom is inevitably not work in another; we evaluate research by asking whether or not it has provided satisfactory explanations for the questions it has set out to ask, while remaining fully aware that to ask some questions is not to ask others. No account of any phenomenon can explain that phenomenon completely or to the exhaustion or preclusion of any other mode of explanation. Explanations are bound to questions, questions are bound to disciplines, and disciplines are bound to the rules they make for themselves—nothing more.

PART TWO

Poetry and the Perception of the Environment

3

Presence of Mind

I will here explore some connections between theories of perception and varieties of literary form in the long eighteenth century. My goal is to trace the development of what I call an antirepresentational model of perceptual experience during the period, a model that considers perceiving to be an active process—more on the pattern of touch than vision—and that proposes that what the senses do is make the world available rather than hold it at a skeptical remove. The antirepresentational view forms something of a countercurrent within the eighteenth century's dominant theory of perception. On the dominant account, ideas or impressions provide an internal picture of an external object or event or state of affairs. I'm going to begin with this theory of perceptual representation (the dominant theory) and then turn to works of poetry, philosophy, and fiction that propose that what minds or works of art do is not so much represent things as make them present to us, or that concentrate on the process rather than the product of perception. In more positive terms, therefore, this line of thinking may be thought of as active or relational. My examples will be from the locodescriptive poetry of John Dyer and James Thomson, the commonsense philosophy of Thomas Reid and the aesthetics of Henry Home, Lord Kames, and a few moments from that eighteenth-century prose poet Laurence Sterne. My interest in these examples will be to explore how perception could be understood as direct contact or entanglement with external objects: as an aesthetics of presence, in other words.[1] With its emphasis on skilled action and its embrace of naïveté, the eighteenth-century aesthetics of presence has some bearing on the way we now talk about ecologically situated or embodied cognition.[2] So I conceive of this project as one of historical recovery as well as one of bringing the past to bear on some features of our present.

The Representational Stance

Empiricism is famous for saying that knowledge derives from the senses, but what do the senses actually show us, and how should their relation to the world be conceived? The question emerges across the period, in the manner, eventually, of a debate: is our sensory apprehension of the world direct, reaching out to objects and entities themselves, or roundabout, mediated by internal images of external things? This is Thomas Hobbes choosing the second option at something like the dawn of empiricism and materialism alike. "Concerning the thoughts of man," he writes in the first sentence of *Leviathan*'s first chapter, "they are every one a *Representation* or *Apparance*, of some quality or other accident of a body without us; which is commonly called an Object."[3] The point for Hobbes is that in coming up with our best theories of mental life we ought not to confuse the pictures in our head for the objects they represent. When external bodies "presseth the organ proper to each Sense," they create an internal motion whose "apparance to us is fancy" (14). Perceptual experience thus moves through a kind of filter, with motion on the one side producing an image on the other. "Sense in all cases, is nothing els, but originall fancy," Hobbes writes, "caused by the pressure, that is, by the motion, of externall things upon our Eyes, Ears, and other organs thereunto ordained" (14). Fancy is original on this account because it occurs at the moment of perception, not in a later instance of reverie. To fancy is simply to experience by way of the internal picture Hobbes calls a "phantasm" what is already in one's midst.

So although Hobbes insists that perception should be understood in physical terms, as a motion that joins internal fancy to an external world, he also maintains that one's engagement with this world is at something of a distance, always tarrying after its images. "The object is one thing," he writes, "the image or fancy another" (14). Many that followed shared this oscillation between worldly engagement and perceptual seclusion. Consider Locke's celebrated likening of vision to a camera obscura: "Methinks the understanding is not much unlike a closet wholly shut from light, with only some little openings left, to let in external visible resemblances, or ideas of things without; would the pictures in such a dark room but stay there, and lie so orderly as to be found upon occasion, it would very much resemble the understanding of a man, in reference to all objects of sight and the ideas of them."[4] Would the pictures in a camera obscura remain in place, they would resemble the settled ideas in a person's head. And they would do so because the understanding in Locke's account stands in view of ideas that both represent things and acquire a kind of stability. Or to put matters in reverse, vision furnishes the mind with ideas that shape what we

see. Experience tells me that one red voluminous object is an apple, another a tomato; and after each idea is hung in place, I don't have to guess which is which every time I step into a garden. Viewed either way, however, our senses do not so much reach to objects themselves as bring ideas of objects to mind. Summing up the conventional wisdom some forty years later, Hume writes in the *Treatise* that "'tis universally allow'd by philosophers, and besides is pretty obvious of itself that nothing is really ever present with the mind but its perceptions or impressions and ideas, and that external objects become known to us only by those perceptions they occasion."[5] Or, as he clarifies in the *Enquiry*, "the slightest philosophy . . . teaches us, that nothing can ever be present to the mind but an image or perception, and that the senses are only the inlets, through which these images are conveyed, without being able to produce any immediate intercourse between the mind and the object."[6] Our experience is of the solid world but this world shows up on a screen, as "fleeting copies or representations of other existences, which remain uniform and independent."[7]

The representational stance seems at first glance to be a kind of soft dualism and so to keep the mind out of the physical picture of the universe preferred by modern science.[8] And yet for Hobbes and Hume (as for Boyle and Newton), the stance followed directly from the discoveries that science had made. Our senses reveal to us an apple or a fly or a rock. At the same time, instruments like a microscope show us that such midsized objects are made from smaller bits of matter. So we may conclude on this basis that our perceptual acquaintance is never quite with the ultimate nature of things. And we may further maintain that a science of perception should tell some sort of causal story about events out there and experience in here. In this respect, much of today's mainstream cognitive science of perception follows directly from assumptions put in place during the seventeenth and eighteenth centuries.[9] David Marr's groundbreaking study *Vision* (1982), for example, begins with the observation that "if we are capable of knowing what is where in the world, our brains must somehow be capable of *representing* this information," and so concludes that "the study of vision must therefore include not only the study of how to extract from images the various aspects of the world that are useful to us, but also an inquiry into the nature of the internal representations by which we capture this information and thus make it available as a basis for decisions about our thoughts and actions."[10] The question for Marr, as for Hume, is How does an organism build a rich three-dimensional set of images that correspond in some fashion to objective features of the physical surround? Representation in either case is understood to be a structural relation between acts or entities of the mind and properties or features of the world.

Toward a Theory of Direct Perception

Much of the cognitive science of perception follows in the representational line of Locke and Hume, but not all. In recent years, the representational stance has come under pressure from active, embodied, or haptic theories of perception, themselves a lineal descendant, I want to argue, of some eighteenth-century views of the mind and the senses.[11] In James J. Gibson's ecological theory, for example, perception is not an event in the brain but an achievement of the whole animal. Vision should be understood, writes Gibson, as an "exploration in time, not a photographic process of image registration and image transmission," as a style of tactile engagement rather than optical remove.[12] This account has been important for subsequent criticism of exclusively neural or computational approaches because it puts the perceiver in touch with an environment instead of focusing on the internal, enabling conditions for perceiving something. The idea is to conceive of perceiving with respect to a creature in motion rather than a single point and to think of what is perceived with respect to potentials for action or dwelling rather than objects in space.[13] "Instead of thinking of perception as a passage from inside to outside, from in here to out there," writes Alva Noë, a contemporary philosopher and cognitive scientist in the tradition of Gibson, we need to account for how "we ourselves (whole persons) undertake our perceptual consciousness of the world in, with, and in relation to the places where we find ourselves."[14] The argument for direct perception and the insistence on ecological analysis go together. "The world shows up for us in experience," Noë says, "insofar as we know how to make contact with it."[15] And we know how to make contact with it because we know how to use our bodies. Perception is a kind of skilled attunement to what the world affords, done by creatures whose eyes move as so or whose paws curve like this.[16]

I'm going to argue now that this idea of making contact with objects and environments in our midst—and in particular the notion that perceptual acquaintance employs a kind of everyday skill or homely style—emerges over the course of the eighteenth century alongside the idea that we ought to worry about whether our perceptions accurately capture the precise features of things. I'm also going to argue that literary writing plays an important role in getting this account off the ground. What I'm calling the eighteenth-century aesthetics of presence emerged in part as a way to address an urgent problem faced by the representational view. The problem went something like this: If visual perception moves on a line from the eye to the object, then how does one perceive the distance between here and there? All one should see is the point at the end of the line, and yet we experience visual space in three dimensions. How is this so? George Berkeley begins his 1709 *Essay towards a New Theory of Vision*

with just this conundrum. "It is," he writes, "agreed by all that Distance of itself and immediately cannot be seen," and that is because "Distance being a Line directed endwise to the Eye, it projects only one Point in the Fund of the Eye, which Point remains invariably the same whether the Distance be longer or shorter."[17] These sentences would prove to be very important. Our supposed inability actually to see distance—its existence only on a line directed endwise—formed the problem of depth perception for much of the eighteenth century. On Berkeley's influential account, the space between one point and another is not so much seen as inferred, calculated by means of "an Act of Judgment grounded on *Experience* than of Sense" (2). When we handle or bump into something, we form "ideas of touch," whereas when we view something, we form "ideas of sight." And when we perceive the distance between one thing and another—and so experience the world in three dimensions—we calculate unawares the distance of each from our hands (15). The house across the way looks smaller than the tree between me and the house, but since I have touched both a house and a tree at some point, I know things appear that way because the one is behind the other. So while "Tis plain that Distance is in its own nature imperceivable," we are able to experience depth and curvature and full surround by abstracting from tactile experience an idea of where something must reside if it appears to be of a certain size (6). Berkeley's new theory conceives of visual perception as indirect and inferential, a product of internal calculations. At the same time, it relies upon the immediate grasping of things by the fingers. After all, he says, we would never understand where anything is located, here or far away, without coming into contact with "the Objects that environ us, in proportion as they are adapted to benefit or injure our own Bodies" (64). The legacy of Berkeley's argument, we might say, is double, as he understands vision alone to move on a line through empty geometrical space and seeing at large to be wound up in ecologies of action and dwelling.

For literary scholars, this legacy is probably most familiar in Addison's notion of sight as "a delicate and diffusive kind of Touch" that "spreads it self over an infinite Multitude of Bodies, comprehends the largest Figures, and brings into our reach some of the most remote Parts of the Universe."[18] This sentence is from the first of the *Spectator* papers on the pleasures of the imagination, a series ostensibly designed to popularize Locke's representational view that sense "furnishes the imagination with its ideas."[19] Addison's notion of tactile vision is and is not a metaphor, however, and to that degree does and does not live up to this view. Sight brings into our reach things we could never actually touch and yet also turns and responds to what it encounters. In keeping with each idea, the *Spectator* papers that follow toggle between an account of vision that operates at a distance beyond the fingers and one that likens seeing to

drawing everything close. The papers on beauty tend to set tableaux at a linear distance, whereas those on the "new or uncommon" emphasize mobile gradation. Often associated with later ideas of the picturesque, Addison's category of the "novel" might be considered instead an aesthetic of measured distance.[20] We delight in scenes that are "perpetually shifting, and entertaining the Sight every moment with something that is new," he writes, with "such Objects as are ever in Motion, and sliding away from beneath the Eye of the Beholder."[21] We delight in these acts because they turn or adjust as we get closer to the grain, as the line from one object to another bends, rises, or descends according to the motion or sliding of things along the surface of the earth. Addison's tactile vision is in this way distinct from Berkeley's. Whereas Berkeley says that depth perception combines ideas of sight with those of touch, Addison says that seeing is a form of touching. For Berkeley, sight and touch pick out different features of an object and then combine them in the internal representation box. For Addison, at least in some of his moods, sight is touch-*like* because it picks out the same features we might access with our fingers: one thing beneath another, the rise and fall of the ground, the backward curve of a figure.[22]

Touching Ground

For writers after Berkeley and Addison the question of whether visual perception moved on a line through the air or along the uneven grade of the earth's surface remained open. Most followed the geometrical and representational line of thinking proposed and worried over in Berkeley's *New Theory of Vision*. For some, however, the project was to make visible the distance between one place and another by filling in and presenting space rather than drawing it on an intangible set of coordinates, by seeing along a receding surface or curved gradient, for example, or through a translucent covering or along an occluding edge. Among writers concerned with this filling-in, none are more relevant for my current purposes than authors of topographical or locodescriptive poetry, preoccupied as they were with varied matters of the earth's surface, with the sliding from vale to tree to hill to sheep to fruit and so on. It is this preoccupation, I'll now argue, that leads some poets to work out an aesthetics of perceptual presence in advance of its formalization in philosophy or science: specifically, again, to consider and account for seeing distance along a gradient or through a top layer or behind an occluding surface or edge rather than on a line directed endwise. The "curious eye" of Dyer's "Grongar Hill" (1726), for example, strays "over mead, and over wood, / From house to house, from hill to hill," seeing on its way (among other things) "The gloomy pine, the poplar

blue / The yellow beech, the sable yew," until "wandering" beyond the "purple grove," it pauses for a moment on the walls of Dinefwr castle:

> Deep are his feet in Towy's flood,
> His sides are cloth'd with waving wood,
> And ancient towers crown his brow
> That cast an aweful look below,
> Whose ragged walls the ivy creeps
> And with her arms from falling keeps.[23]

Responding to these lines almost fifty years later, William Gilpin would complain in *Observations on the River Wye* that Dyer had botched the perspective: "his distances . . . are all in a confusion," Gilpin writes, "and indeed it is not so easy to separate them from his foregrounds. . . . His castle, instead of being marked with still fainter colours than the purple-grove is touched with all the strength of a foreground; you see the very ivy creeping upon its walls."[24] Gilpin's complaint notes a dramatic foreshortening: the ivy-covered walls in Dyer's poem have the clarity of something etched and immediate, not a hazy prospect. This perspective is botched, however, only on the assumption that the poem intends to reproduce one vista from a place that does not move, rather than wind its way along the ground to walls whose presence is sketched by the partial occlusion of ivy. On this second reading, Dyer does not so much fail to render single-point perspective in the manner of a landscape painting as compose a kind of anti-ekphrasis, a moving perspective that cannot be rendered on a picture plane. Understood in this latter sense, the peculiar touching that Gilpin observes marks a transient end point turned on a rough tetrameter line: a winding and dropping that arrives at a misplaced presence, with trunks of ivy and the walls beneath them shifting into the foreground.[25]

Gilpin understands the recession along a surface and the covering of one surface by another as separate ways of seeing distance, whereas Dyer seems to think of recession and occlusion together, as a motion across and then coming close to an engaged world. The attempt in either case is to use the descriptive mode to see along a gradient, both over the ground and behind what is in front of you. James Thomson makes perhaps an even more interesting case because his poetry was once understood to be committed to abstract geometrical space, lines projected endwise, and distanced, incurious viewing. This is the reading one associates most readily with John Barrell, who, writing in the heyday of the hermeneutics of suspicion (the 1970s), seemed unwilling to conceive of Thomson's landscape aesthetics as anything other than a ruse: "Thomson is able to see the landscape, not as something in which he is involved, and which is all round him, but as something detached from him, over there: his eye may

wander over the view, but his own position is fixed, and from his viewpoint he can organise the landscape into the system of parallel bands and flat perspectives by which only he can comprehend what he sees."[26] Much of recent *Seasons* criticism has endeavored to unsettle Barrell's powerful reading and to locate in the poem models of perception and action that bring the viewer and the viewed into closer proximity. Kevis Goodman, for example, has focused on moments in the poem in which Thomson's "microscopic eye" brings to the surface a teeming world of vegetable life otherwise unseen, while Heather Keenleyside has looked at Thomson's use of personification to associate the "instability" of "persons and things" with an ethics and an ethos of patience that leave "moving and being moved [as] impossible to parse."[27] Whereas Barrell understands Thomson to "create a space between the landscape and the observer," Goodman and Keenleyside understand him to bring the two together.[28] This is, as it were, the way we read Thomson now. We are more inclined to see Thomson as involved in his world than to look for moments of detachment or ownership.[29] For my part, this inclination will be noticeable as a focus on Thomson's naïveté. This is Thomson's speaker lingering over items strewn between one place and another. This is distance perceived directly, Berkeley's empty space filled in.

And how does this happen? Thomson's eye moves along the surface of crowded space, so even air teams with bugs, dust, and droplets, each reflecting color or shade along its wing or edge. Summer insects "people the blaze" on a kind of up and down, for example, swarming from winter's repose to land on moving streams or passing "through green-wood glade" to feed on fresh leaves.[30] The episode ends when the insects come up against a striking background, passing over and landing on a pail set at close distance:

> . . . Some to the house,
> The fold, and dairy, hungry, bend their flight;
> Sip round the pail, or taste the curdling cheese:
> Oft, inadvertent, from the milky stream
> They meet their fate; or, weltering in the bowl,
> With powerless wings around them wrapt, expire.
> (Su. 260–265)

With minimal visual cues, the lines etch the flying, landing, and dying of insects on liquid. The insects glide on a crooked thread to the pail (and its lip) as milk streams nearby and cheese curdles at the bottom. Like the flight they describe, the lines bend on a kind of metrical warp, lifting from the trochaic "oft" across the subordinated "weltering" and wrapping before getting to the delayed "expire." Thomson's writing out of perceptual presence thus takes an

overall shape. The pail, speck, and milk come into view as one surface passes on top of another, as gauzy wings move over an opaque pail or a milky stream pours beneath a whirling speck.[31]

This simple example shows one method by which the poem attends to objects at a middle distance, not (again) as points on a grid but as features of an ecology that change with the position from which they are viewed. In this way, the perception of something solid—the filling in of distance—depends both on the layout of what is seen and on the motion of who is seeing: the array in which a pail placed just so will shear off when a glance from just here moves to just there. This is so, I think, even in the poem's more static-seeming still lifes, the "fruit empurpled deep" of autumn, for example, that

> Presents the downy peach, the shining plum
> With a fine bluish mist of animals
> Clouded, the ruddy nectarine, and dark
> Beneath his ample leaf the luscious fig.
> (A. 675–679)

Writing about the seventeenth-century Dutch still lifes that animate and lie behind these lines, Svetlana Alpers has described how they "encourage the mind to dwell on perceiving as a process [by featuring the] experience of an object as coming into its own, distinguishing itself from other things, taking shape."[32] Understood in this fashion, Thomson's still life makes the perceptual object less familiar by describing how fruit takes shape from behind something one sees through or around. Apart from the merely "ruddy nectarine," each piece seems to stretch distance along an occluding surface or partial cover: a passing membrane of down or mist or leaf that brings the skin so close to ours. The fine blue of the animal shapes that cloud the skin of the plum, for example, elevates the shine to a presence crowding out the quiet nectarine. The skin of the peach and the plum and the rind of the fig pop out because they form a curved background to a filmy covering, and the eye, like a finger, must pass from the one to land on the other.[33]

Seeing and Skill

In lines like these, Thomson seems to move from one midsized object to another, dropping a line of sight along the gradient and so responding after a fashion to Berkeley's question about distance while providing an example of Addison's diffusive kind of touch. By the middle decades of the eighteenth century such ideas of perception as direct contact became more explicitly formulated in works of theory, often in stated contrast to ideas of perception as

a relation between an internal image and an external entity. For the duration of his long career, for example, Thomas Reid's central preoccupation was to overturn the notion—common to empiricists from Locke to Hume—that "external things must be perceived by means of images of them in the mind."[34] These are his words from *An Inquiry into the Human Mind on the Principles of Common Sense* (1764), where he elaborates on these principles in lively and unabashed terms: "that we can have no conception of any thing, unless there is some impression, sensation, or idea in our minds which resembles it, is indeed an opinion, which hath been very generally well received among philosophers but it is neither self-evident nor hath it been clearly proved; and therefore it [is] more reasonable to call in question this doctrine of philosophers than to discard the material world, and by that means expose philosophy to the ridicule of all men, who will not offer up common sense as a sacrifice to metaphysics" (75). As Reid understands the representational theory of Locke and Hume, the notion that one perceives objects through a filter of ideas leads inevitably to skepticism about whether these objects really exist. The goal then is to use the ordinary assumption that we access the world directly as a standard for thinking about perception and to assert that any challenge to this notion of access violates common sense. The means of achieving this goal is, in turn, to reject the language of mental imagery as a needlessly recondite picture of the everyday habits of viewing and acting. Whereas Locke and Hume found the need to come up with a separate panoply of mental states—impressions, ideas, senses, images, and the like—Reid admits only of our having "natural signs" that automatically and with no interference fasten experience to their objects. Unlike mental representations, natural signs bear no similarity to the world; they are simply part of it: "They pass through the mind instantaneously and serve only to introduce the notion and belief of external things, which by our constitution are connected with them" (63). So on Reid's view we are caught up in the world in the sense that there is only a slim distance between the sign we possess and the signified we inhabit. "Natural signs" go unnoticed in our experience as "the mind immediately passes to the thing signified without making the least reflection upon the sign, or observing that there was any such thing" (63).

With respect to sight, this "immediate passing" allows one actually to see what is between one place and another. In fact, according to Reid's dense and difficult account of what he calls "the geometry of the visibles," depth perception happens because vision projects on the surface of a sphere, not on a flat plain (103–111).[35] Sight tilts on a curve, Reid says, because it fastens to objects receding on a bent gradient. The formal theory of perceptual presence lagged behind its literary antecedents, as it conceived of vision as a kind of touch and presented depth as curvature or occlusion among midsized objects. What

is common to both is the notion that if one is averse to a posture of detachment—in ordinary or aesthetic acts of perception—then one must also be averse to a theory of internal representations. The act of standing in relation to an image means that one is somehow not participating in what that image represents. Dyer and Thomson raise this objection, naïvely as it were, in order to put the beholder of beautiful works of art or beautiful pieces of nature in a place to re-create them in time: it is not the image of the finished whole that concerns them but the various strands by which it is made. Reid asks his reader simply to trust her naïve judgments about the encountered and lived world. The worry here (again) is that a representational theory leads to skepticism and so, on his view, to disaster.

Reid's objection to the theory of ideas is religious, in the sense that he worries that skepticism leads to atheism, but it is also and inseparably grounded on earth. Near the end of the section on vision he describes the matter in autobiographical terms: "I gave implicit belief to the informations of Nature by my sense, for a considerable part of my life before I had learned so much logic as to be able to start a doubt concerning them. And now when I reflect upon what is past, I do not find that I have been imposed upon by this belief. I find that without it I would have perished by a thousand accidents. I find that without it I should have been no wiser now than when I was born. I should not even have been able to acquire that logic which suggests these skeptical doubts with regard to my senses" (170). The remarkable thing about instinctive or naïve belief, Reid seems to say, is not just that it turns out to be right about the world; it is also that it provides a better way to live in the world than its skeptical alternative. Providential benevolence adjusts our view of things to the way things actually are for us, providing a way to grasp onto the world without getting hurt. It is the basis of our thriving and so prompts a certain reverence: "Therefore I consider this instinctive belief as one of the best gifts of Nature. I thank the Author of my being who bestowed it upon me, before the eyes of my reason were opened and still bestows it upon me to be my guide, where reason leaves me in the dark" (170). The autobiographical passage braids the simplest acts of perception with consolations of heavenly nurturance, seeing with believing with loving. Reid's experience of the world conforms to the good designs of a creator. "And now I yield to the direction of my senses, not from instinct only, but from confidence and trust in a faithful and beneficent Monitor, grounded upon the experience of his paternal care and goodness" (170). In this inductive reliance on experience, Reid follows the empiricist procedures of his age. The authority of experience in his case just grounds the probity of what the senses show us, at once the reality of the external world and the care of its monitor.[36]

So while some strands of empiricism drew on experience to come up with a theory of mental representations, Reid does so to insist that we are caught up with the world itself, not with the images of things.[37] Elsewhere in the *Inquiry*, he is expansive on the everydayness of this world. "Poor untaught mortals believe undoubtedly, that there is a sun, moon, and stars; an earth, which we inhabit; country, friends, and relations, which we enjoy; land, houses, and moveables, which we possess" (18). Later, altering the formulation slightly, he writes that the "sun, moon, stars and earth, vegetable and animal bodies" form a "material world" and are not simply "sensations in the mind, or images of those sensations in the memory and imagination" (67). This valuation of the ordinary, or given, world shrinks the distance between our perceptual acts and the earth we inhabit. Most important for my current purposes, however, it does so by conceiving of perception as a kind of motor skill, secured by the providentially designed "fabric of the human body" (113). The vision that would grasp onto things is "skillfully and regularly performed" by "a system of unconnected muscles conspiring [as] wonderfully in their several functions" as "excellent musicians in a concert" or "a company of expert players in a theatrical performance" or "good dancers in a country dance" (113).[38] Perception is direct on this view because we are adept at using our bodies to bring the world—the earth, our friends, and our dwellings—within reach. Once again, the argument follows a somewhat-unlikely theism. Reid does not argue that god has provided the correct picture of things, in a kind of inverse story of Descartes's evil demon from the *Meditations*. Rather, he argues that god has provided a body that is adroit at moving through and so perceiving the world. Perception is direct because it is the achievement of the entire body.

I have maintained that this kind of achievement might be considered to be the creation of presence. The term itself reaches philosophical and aesthetic prominence at this time in the writing of Reid's friend and correspondent Henry Home, Lord Kames. In his 1762 *Elements of Criticism*, Kames devotes the chapter on "the emotions caused by fiction," along with intermittent discussion across the treatise, to describing how ordinary perception achieves presence and how literary art can create presence in turn. He begins by stating his commitment to direct perception and naïve realism: "That the objects of our external senses really exist in the way we perceive is a branch of intuitive knowledge: when I see a man walking, a tree growing, or cattle grasing, I cannot doubt but that these objects are really what they appear to be."[39] Like Reid, Kames would take the world for granted rather than throw it into doubt, so much so that we see the very trees grow. We "rely on the veracity of our senses," moreover, for the specific "end" of "laying open things existing

and passing around us" (1:66). Perceiving the world is a form of acting within it. The goal is to figure out how literary works can create the sense of one doing the same thing. When passing things are laid open in our daily lives, they are "perceived as in our view, and consequently as existing at present" (1:67). When a reader is "thrown into a kind of reverie" and is "in a state forgetting that he is reading, he conceives every incident as passing in his presence, precisely as if he were an eye witness" (1:69). The first is "real presence" and the second "ideal presence," and the aim of the chapter is "to describe ideal presence, and to distinguish it from real presence" (1:67).

The idea that some kinds of writing aim to make the world present differs from more traditional notions of aesthetic representation, in which the goal is to match a real-world antecedent, holding the representation and its object at once in the mind.[40] Ideal presence is not an image of a thing; it is the thing itself. "When ideal presence is complete," Kames writes, "we perceive every object as in our sight; and the mind totally occupied with an interesting event, finds no leisure for reflection" (1:70). The mind just grasps the literary world as present, not as a picture of something else. Ideal presence seems on Kames's account to be ramped up and extravagant—a "reverie"—but the point has as much to do with the fragility and transience of this achievement, depending as it does on a skilled use of form. "In appearance at least, what is more slight than ideal presence? And yet from it is derived that extensive influence which language hath over the heart" (1:74). In the fiction chapter, Kames concentrates mostly on how writers use narrative to create a "succession of incidents" and therefore a "succession of impressions," deepening the sense of presence by "reiterating impressions without end" (1:72). Elsewhere in *Elements*, he looks more closely at trope and figure. Apostrophe, for example, aims "to bestow a momentary presence upon a sensible being who is absent" (2:554–555). When this figure joins with personification, it aims to bestow presence and sentience at once, so "things inanimate" may qualify "for listening to a passionate expostulation" and thus be "conceived to be present" (2:555). For my purposes, momentary presence describes the formal and figural way of bringing something to hand, the reaching out to things so they may be brought into view. Momentary presence is by its nature fleeting and, as it is set out in writing, requires one's skill and handiwork. If the apostrophic speaker is at home in the world, for example, that is because she is good at paying it the right kind of attention. "Figures of speech," cautions Kames, ought "to be scattered with a sparing hand: nothing is more luscious, and nothing consequently more satiating, than redundant ornaments of any kind" (2:610). Writing is a skilled practice of cultivation. The image is intriguingly georgic, a mode and genre I'll

spend some time with in the next essay. Kames's writer of figures is, in other words, like the skilled gardener of cucumbers in William Cowper's *The Task*, pinching each second stalk in order to yield "summer fruits brought forth from wintry suns."[41]

What Is It Like to Be a Starling?

Like the pail of milk or the bunch of fruit, the cucumber is not over there but right here, and it is right here because it is the subject of momentary presence, one that shows up for a creature with a certain kind of body and a certain kind of motility. The locodescriptive poets understood this because they were working through the ecology of perception on the ground, naïvely, as it were. I have argued that this naïveté extends to the idea that the world shows up as present, not as a mental representation, and that presence is something achieved through a kind of skill. Seeing is like touching is like gardening. I'll turn now as I close to some versions of presence in a few moments from Sterne. The first is from an early letter that Sterne wrote to Elizabeth Lumley before they were married; the rest are from *Sentimental Journey*. Lumley was apparently about to leave her family's country house:

> Thou sayest thou wilt quit the place with regret—I think so too—Does not something uneasy mingle with the very reflection of leaving it? It is like parting with an old friend, whose temper and company one has longbeen acquainted with.—I think I see you looking twenty times a day at the house—almost counting every brick and pane of glass, and telling them at the same time with a sigh, you are going to leave them—Oh happy modification of matter! they will remain insensible of thy loss.—But how wilt thou be able to part with thy garden?—The recollection of so many pleasing walks must have endeared it to you. The trees, the shrubs, the flowers, which thou reared with thy own hands—will they not droop and fade away sooner upon thy departure—Who will be the successor to nurse them in thy absence.—Thou wilt leave thy name upon the myrtle-tree.—If trees, and shrubs, and flowers could compose an elegy, I should expect a very plaintive one upon this subject.[42]

The letter is remarkable for its use of apostrophe and personification to entwine its recipient in the fold of a built and natural environment. Lumley is at home in the world; or rather, the home—its walls and windows, walks and gardens—is her world made present to mind. Seen this way, the apostrophe and personification provide a kind of linguistic shape and poignancy to the familiar acquaintance she has with the house and the gardens. "The apostrophizing poet," writes Jonathan Culler, "identifies his universe as a world of sentient forces."[43] Culler notoriously finds this identifying embarrassing and

indicative of the distance of the lyric from the world. But Sterne and the poets I'm interested in seem after something else entirely. In this case, the brick and the glass and the flowers, shrubs, and trees are present as available to Lumley, just as she is present as available to them (or at least to the flowers, shrubs, and trees; the brick and glass are insensible, after all). Each mourns the other. Each mourns the other in anticipation of the other's no longer being available. Each is present to the other as a living thing.

The kind of presence sketched by the trope, as Sterne writes about it, stems from the tactile know-how Lumley brings to gardening, as if to see the world beyond the end of one's fingers one must actually reach out to touch it. As with Reid, the acquaintance Lumley has with created and living things takes some work and some skill, even as it seems to extend, in Sterne's vision, to more naïve and ordinary acts of perceiving. The latter point will become clearer years later when Sterne returns to and embellishes this understanding of presence in that most tactile of all eighteenth-century novels, *Sentimental Journey*—that novel of handholding and pulse taking. He returns in fact to the very myrtle tree upon which Lumley wrote her name and does the same. Arriving at Calais, Yorick contrasts his sense of worldly entanglement with the jaundiced and inward view of those unresponsive to travel. The world is all barren "only to him who will not cultivate the fruits that it offers," he says, and then declares while clapping his hands, "was I in a desart, I would find out wherewith in it to call forth my affections. . . . I would fasten them upon some sweet myrtle, or seek some melancholy cypress to connect myself to—I would court their shade, and greet them kindly for their protection—I would cut my name upon them, and swear they were the loveliest trees throughout the desert: if their leaves wither'd, I would teach myself to mourn, and when they rejoiced, I would rejoice along with them."[44] Once again personification traces a line of contact between the ends of one's fingers and the places one inhabits and, in so inhabiting, perceives. The novel simply removes the letter's earlier and more explicit references to Lumley's skilled handiwork while retaining the feel of acquaintance and the work of the trope to bring the world within reach.

The episodes in which objects and persons and animals are found to be within reach in *Sentimental Journey* are of course many, and I'm not going to detail them here. No eighteenth-century novel (again) is more concerned with touch. I would turn instead to a passage that clarifies that this putting of touch into the foreground makes a point about vision in particular and perception at large. This is Yorick soon after he arrives in Paris:

> I own my first sensations, as soon as I was left solitary and alone in my own chamber in the hotel, were far from being so flattering as I had prefigured

> them. I walked up gravely to the window in my dusty black coat, and looking through the glass saw all the world in yellow, blue and green, running at the ring of pleasure. . . . Alas poor Yorick! cried I, what art thou doing here? On the very first onset of all this glittering clatter, thou art reduced to an atom—seek—seek some winding alley with a tourniquet at the end of it . . . there thou mayest solace thy soul in concourse sweet with some kind grisset of a barber's wife, and get into such coteries! (47)

In her preface to the 1927 Signet edition of *Sentimental Journey*, Virginia Woolf cited this passage (and this passage alone) as the quintessence of what she calls Sterne's "pure poetry."[45] It is easy to see why. We are asked to consider Yorick gazing out his window onto the busy street below and to follow or adopt the rushing scene of color that saturates his visual field: a dusty black coaxes yellow and blue to combine into green. But we are asked also to consider the structural layout of the scene. Once the line of sight passes over the coat, it remains fixed at the window looking out at the street, while Yorick remains "solitary and alone" in the room. The hotel fills out Locke's metaphor of the camera obscura, in other words, as light from the street projects an image in a closed chamber, but it does so to some critical effect. In this respect, Sterne echoes no one more than Reid, who also took aim at just this metaphor. "Locke's doctrine of ideas," Reid writes, "alleges, without any manifest proof, that every man shut in, as it were, in a camera obscura perceives nothing outside but only the images or ideas of things depicted in his own camera."[46] For Sterne as for Reid, the account of vision as a screening of images in a dark room puts too much emphasis on detachment and pictorial representation. The world does not project to a point.

In drawing attention to the Reidian and realist elements of Sterne, I aim to provide a context different from the long-standing association of the novelist with the project of Adam Smith and David Hume and, indeed, even from the project of sympathy, as that has been modeled, for example, as an intersubjective encounter in James Chandler's recent and magisterial *Archaeology of Sympathy*.[47] Sterne's is a realism not limited to the emotions or to forming images of what is on someone else's mind. Rather, I want to say it is a realism of the surrounding world conceived as something drawn close. On this view, perception is a kind of skill and a kind of technique, not the sitting in a darkened room so much as a walking about a crowded city or a reaching out to plants and stones. Sterne shows this technique in scenes of making the world present by bringing it to hand or seeing it with one's fingers. He also elicits this technique in skill of his own, using his own craft to show how objects are made present to whoever beholds them. So, for example, when Yorick encounters his famous starling, the sentences bend to elicit the visual zigzag of a moving human body. "I had

some occasion," Yorick writes, "to step in the court yard," and so "walk'd down the stairs," whereupon hearing a cry, "I look'd up and down," turned back, and "looking up again I saw it was a starling hung in a cage" (68–69). The description mimics a kinetic unfolding: this is what Yorick sees as he walks this way with his head turned that way, as he brings the visual field within reach. With the attention to physical movement and shifting lines of sight, in other words, Sterne's sentences create the sense of an available world: a bird unseen from one vantage will come into view when a head is moved like this; a courtyard will back on to a street when entered from a room. They create points that are both "movement dependent," in Noë's words, with the slightest motion of the body modulating the sensory relation to the object of perception, and "object dependent," with the slightest motion at the edges of the visual field grabbing our attention.[48] They turn finally to a kind of seeing that is not simply pictorial, as Yorick "takes both hands" to the cage and wrestles with the "twisted and double twisted wires" while the bird flies to the spot of his fingers and "thrusting his head through the trellis" and pressing "his breast against it, as if impatient," repeats, "I can't get out" (69). Personification—Sterne's know-how and handiwork—traces two bodies in close, moving proximity and shows Yorick caught up with what he touches and in so touching makes present.

The encounter begins with some doubt on Yorick's part about whether the starling is really asking to be set free or is merely a mechanical thing insensibly repeating words taught by a previous owner. It ends by discarding skepticism and accepting a common place in a shared world, one that unfolds in time and at the end of one's fingers. This turn from the skeptical to the naïve might stand as the common thread among my disparate writers. As I've intimated from time to time, I also think it sheds some light on our current naïveté—our more accepting interest in objects and surfaces and forms. We really do see things directly, Reid said. The world outstrips what is in our heads. Just look. But know too, and this might be the lesson from the eighteenth-century techniques of presence, how much skill there is in seeing what lies between here and there, as Berkeley said, or in turning a beautiful leaf to its side, as Dyer and Thomson wrote, or finally, for everyone reading, in simply engaging with works in the way that we do. There is a lot to see, and there is a lot to lose.

4

On Beauty and Being at Home

I return to the moment with which I began. Robinson Crusoe has built a place to live that is safe from the elements and out of sight from marauders. This has involved a fair bit of carpentry learned on the fly, but now that everything is in place he can begin a new activity: "having settled my household-stuff and habitation, made me a table and a chair, and all as handsome about me as I could, I began to keep my journal."[1] Recall that at this moment in the history of the language "handsome" could mean close to one's hands as well as attractive. And so there is an interesting puzzle of usage. Does Defoe mean that Crusoe finds the design of his house to be aesthetically pleasing, or does he mean that the design puts items Crusoe might need conveniently within reach? When we step back from the passage and put it in a slightly larger frame, I suggested, we see that the opposition is a false one and that our interpretive choice has dissolved. Handsome means at once attractive and close to one's hands. Defoe is in fact fond of the word "handsome." It appears thirteen times in the novel, whereas "beautiful" appears only once and "beauty" not at all.[2] The handsome, we might say, forms the horizon of Defoe's interest in aesthetics, one tied closely to the manufacture and use of things. It tends to come up with reference to crafted objects, as a way of indicating their special appeal as well as their nearness and palpability. The "hacking and hewing," clearing and working the inside of a tree "as to make an exact boat" creates, for example, "a very handsome periagua" (101). All the "dry wood I could get at hand" for a signal fire makes "a good handsome pile" (147). The passage concerning household goods "handsome about me" is unique only because it so efficiently condenses the handy and the attractive. The design is pleasing for Crusoe because everything sits "about" him. The design is *aesthetically*

pleasing because it creates a kind of beauty linked with this having of things close at hand.

The first feature of the "handsome" that we might notice along these lines is that unlike other models of beauty it assumes a near proximity between a body and what is "about" it. The second is that it is premised on interaction and so also on motion. The household stuff lies handsome about Crusoe because all of it is within reach, but in order to grasp the pen or the cup or the hatchet, Crusoe has to move his body in some way. Nothing is handsome to a body unable to move. An object may be handsome to a person who is at rest only with the idea of motion lurking somewhere in the background. It is "pleasing" to find the goods "ready at my hand" because, so placed, "I might come at them easily." In what follows, I will be interested in the twin premises of proximity and motion as conditions of dwelling, of learning how to live, established in evolving contrast over the course of the period to an aesthetics premised on a resting point from which one views something at a distance. The aesthetics of the handsome involves the use of things. In this respect it belongs to a set of ideas around craft in increasing tension with the idea that beauty and utility are at odds with each other.[3] The household goods are handsome about Crusoe because he might at any moment move to take one in his grip for some purpose. The boat and the pile are handsome because, like the shelf, the baskets, and the table, they have been created by him, in a process described as immersive: hacking, hewing, carving, stacking, leveling, and in all respects handling and building something from the environment.

This immersion goes deep. Crusoe did not land on the island knowing how to make a shelf or a periagua. With the help of his tools, he learned the skills by necessity. Skilled practice not only makes something from the world, therefore, it also remakes the maker. Smoothing a plank or carving a boat turns Crusoe into someone capable of transforming what is around him in a way conducive to living on an island. Craft is both an immersion in the stuff of the world and an alteration of that stuff and oneself. So while craft aesthetics involves the making of handsome things, it also grounds a mode of perceptual experience, a way of encountering environments as something to be built as well as lived in.[4] The previous essay looked at connections between models of perceptual presence in the literature and theory of the eighteenth century and contemporary antirepresentational or embodied models of cognition. I'd like now to explore the particularly aesthetic dimension of this account of perceptual experience. I'll follow ideas of handsome beauty over the course of the period, stopping at some familiar and some unexpected places along the way. In keeping with my emphasis on craft, I look more at practice than at

theory, although I will spend time with the theory of craft. Thus, prominent aesthetic philosophers such as Anthony Ashley Cooper, Third Earl of Shaftesbury, and Francis Hutcheson appear only in passing, but room is made for practitioner theorists like Jonathan Richardson and William Hogarth. I'm especially interested in poetry because, I argue, the formality of line and meter provided a way to model experience alongside or even ahead of the ways such experience was more explicitly formulated in works of philosophy or science. I'm interested in georgic and locodescriptive poems, finally, because they take up such matters as viewing and touching nature, and because these are minor genres whose formal humility matches the experience and beauty they evoke.

Embodied Aesthetic Perception

When Crusoe says that the pile of wood or the array of household goods or the periagua is handsome, he is performing an act of perceptual discrimination. He is telling us how the world appears to him. And yet the discrimination is of a certain kind. Some part of the world shows up as handsome because Crusoe perceives it as a potential for some sort of action. The wood is handsome because he may reach out to it to spark a fire; the periagua, because he can use it for transit. On more ethically fraught territory, Friday is "a comely handsome fellow, perfectly well made, with straight, strong limbs, not too large," and so will prove "useful, handy, and helpful" around the island (162, 166). Again, the meaning of "handsome" includes beauty and readiness to hand but is not equivalent to either.[5] The word is intriguing because there's something at once appealing and graspable about the items or people who are handsome. The perceptual discrimination underlying the aesthetics of the handsome is in this respect an ecological one. It is situated in the local environment in which a particular body finds itself and across which that body moves. In contemporary terms, we would say that a handsome aesthetics is one of affordances. The world shows up in terms of what it affords a creature of a certain kind, with a certain shape and a certain mode of kinesis. "Handsome" just names an interaction between that creature and the relevant features of her world. "The affordances of the environment," writes James J. Gibson, "are what it offers the animal, what it provides or furnishes." But for that reason they "have to be measured relative to the animal. They are unique for that animal. They are not just abstract physical properties."[6] This is one critical feature of Gibson's influential theory of affordances: they are both attributes of the external world and relative to any creature within it. The ecological view, that is, emphasizes dynamic engagement with an environment that in turn plays a constitutive role in generating experience. Such

experience is ordinary and the stuff of life but it is also achieved through skilled attunement to a world in which one is embedded. "We need to perceive the slant of the ground. We need to see the holes in it and the protuberances on it. We need to distinguish the solidity, rigidity, and opaqueness of surfaces from their opposites. For *if* we can detect the gaps, separations, sizes, and shapes relative to our bodies, we will perceive directly and immediately their affordances for us."[7] Perceptual experience on this view is an active and so a creative encounter with an environment that meets the animal halfway. Slants or gaps or surfaces are always relative to a body whose movements they guide. Even ordinary experience on this account is a kind of craftwork, a skilled manipulation of material forms, or, as the ecological anthropologist Tim Ingold has put it, an "environmentally situated and perceptually engaged activity . . . through which real forms emerge and are held in place."[8]

The experience of beauty should be no different, even as it picks out a special set of actions or properties: the encounter with some remarkable feature of the earth's surface or set of lines, the creation of works of art or the design of a place to live. What Defoe adds to the Gibsonian picture is the emphasis on how skilled action alters the encountered world. The aesthetics of the handsome is not just a kinetic adjustment to something that is, in Gibson's preferred word, "invariant"; it is a way of adjusting or varying things in turn. The act of aesthetic discrimination—perceiving some part of the world as handsome—is in this respect not just kinetic but kinesthetic: aesthetic perception re-creates the world it encounters. In the case of the handsome or craft, that is because discrimination is so caught up in the making of things or the viewing of things as if they are potentially and perennially something to be made, lived within, or altered. The eighteenth-century genre of georgic poetry is particularly relevant for this set of concerns.[9] Revived with Dryden's 1697 translation of Virgil, the georgic takes as its subject matter the skilled know-how of farming.

> What makes a plenteous Harvest, when to turn
> The fruitful Soil, and when to sowe the Corn;
> The Care of Sheep, of Oxen, and of Kine;
> And how to raise on Elms the teeming Vine:
> The Birth and Genius of the frugal Bee,
> I sing, *Mecaenas*, and I sing to thee.[10]

These are the first lines of Dryden's *Georgics*. The poem goes on to describe in famously patient detail the arts of handling both the earth's surface and the creatures that swarm upon it. David Fairer has argued that the genre ought to find a place in ecologically focused criticism for its antipastoral recognition

of human involvement with environments. In the mode of what he calls "the eco-georgic," nature is close up and worked over, smoothed with harrows, pounded with rakes down to its "crumbling Clods."[11] I will return to the broader strokes of this view of environments below. For now, I'm interested in what it entails for the genre's perceptual and aesthetic ecology, how the world shows up as handsome for the reader of a poem.

As Ann Van Sant has observed, *Robinson Crusoe* has strong affinities with the georgic despite its being in prose, interested as it is with planting and farming as well as house building. The preeminent "work of hands" is to bend the island ecology to Crusoe's living.[12] According to the georgic mode of craft, this work amounts to a kind of grasping onto things. In a poem like John Philips's *Cyder* (1708), for example, the growing of a well-bred apple follows from the careful practice of grafting.

> Respect thy Orchats; think not, that the Trees
> Spontaneous will produce an wholsom Draught.
> Let Art correct thy Breed: from Parent Bough
> A Cyon meetly sever; after, force
> A way into the Crabstock's close-wrought Grain
> By Wedges, and within the living Wound
> Enclose the Foster Twig: nor over-nice
> Refuse with thy own Hands around to spread
> The binding Clay . . .[13]

The mood balances between imperative and subjunctive, any slight countering to fact just pulling the reader to alter the trees so they will bear the best fruit. To respect one's orchards is to know how to manipulate the strains of their apples. The speaker describes the practice as a demanding craft first of cutting, wedging, and inserting twigs into grains, then spreading the clay that holds the graft in place. Respecting is altering, even by force: an "art" of correcting what nature breeds on its own. And this altering is again an act of aesthetic perception as well as discrimination, one marking out in handsome detail the parts of the tree as they show up for the planter and as they "beautifie each Month / with Files of particolour'd Fruts, that please / The Tongue, and View, at once."[14]

Several features of this aesthetics are worth our attention. The first is that its handsomeness presents the world up close and remade with action. One might say that the apple trees are affordances—we perceive them as they yield fruit and cider—but only in the sense that they are cultivated by the art of the planter's hands. The second is that the specifically aesthetic language of beauty and taste arrives at the end as a summing up or making explicit of the georgic

descriptiveness that has preceded it. The act of aesthetic perception comes before the reflection in marked terms. This reflection, however, contains its own unique turn of form, a kind of doing or craftwork by the poem itself. For the beauty of an apple occurs in two sensory modes at the same time, and this can happen only because the poem stretches a zeugma across the line break—"please / The Tongue, and View, at once"—grafting an act of taste to an act of vision that would otherwise be separate in time and space. The body of the poem, that is, does something that the body of a person would have difficulty doing; it looks at an apple while also eating its flesh or drinking its juice. The "art" of the poem is in this respect not so far from the "art" of the planting, a kind of handiwork or craft that creates beauty in the act of splicing.[15]

The aesthetics of the handsome is grounded in forms like zeugma and genres like georgic. This is literature providing a kind of ecological, perceptual theory of its own, in the fine grain of its form. In what follows, I'll explore this form in a number of settings and examine how its emphasis on the moving body and a graspable world stands alongside and complicates theories of the beautiful that emphasize detachment and disinterested contemplation. The topics at hand, as it were, include not just such things as the wedging and enclosing of one twig within another but also skilled bodies working with brushes, pencils, and other tools or walking across some landscape or building a hutch or simply encountering works of art and literature that depict or elicit the same. This kind of beauty involves creating and living in a world rather than standing back and taking enjoyment of it. Or so I will attempt to show.

Lines of Beauty

I'll turn now to the locodescriptive or prospect poem because, along with the georgic, that genre provided over the course of the period an important staging ground for poetry to consider perceiving and living within an environment. My first example will be John Denham's "Cooper's Hill" (1642–1668), long understood to be the inaugural poem in the locodescriptive line.[16] "Cooper's Hill" is in many respects about, or a performance of, detachment and ocular aesthetics. Yet there is an important undertow present at the same time, as I'll attempt to show. The structure of the poem consists of four separate views taken from a single point, the eponymous Cooper's Hill located in Surrey several miles outside London. Each view has political and topical significance for the dynastic upheavals of the mid-seventeenth century, and each is rendered in the heroic couplets that would come to be the orthodox measure and form for many of the poets who succeeded Denham. The trick is to have the couplets reveal and enact the features of the landscape the poet finds so

important and so calming to his picture of the overall and entire surround. Each view moves on a line of sight, rendering in serial form a modified and linguistic version of Albertian single-point perspective.[17] The first view is of the dome of Saint Paul's Cathedral and the city of London below:

> Through untrac't ways, and aery paths I fly,
> More boundless in my Fancy than my eie:
> My eye, which swift as thought contracts the space
> That lies between, and first salutes the place
> Crown'd with that sacred pile, so vast, so high,
> That whether 'tis a part of Earth, or sky,
> Uncertain seems, and may be thought a proud
> Aspiring mountain, or descending cloud,
> *Pauls*, the late theme of such a Muse whose flight
> Has bravely reach't and soar'd above thy height:
> Now shalt thou stand though sword, or time, or fire,
> Or zeal more fierce than they, thy fall conspire,
> Secure, whilst thee the best of Poets sings,
> Preserv'd from ruine by the best of Kings.
> Under his proud survey the City lies,
> And like a mist beneath a hill doth rise;
> Whose state and wealth the business and the crowd,
> Seems at this distance but a darker cloud.
>
> (11–28)

This first look puts the eye in competition with fancy—the physical with the mental—only to braid reflections on what he's seen (the power and protection of the "best of Kings") with the perception that "contracts the space" between here and there. So "contracted," the detailed act of seeing also calls attention to the distance from which the dome seems to be both a cloud and a hill and the city a rising mist and darker cloud. The next two vistas repeat this attention to seeing and to a distance at once contracted and magnified: Windsor Hill, which "above the Valley Swells / Into my eye, and doth itself present," and "a neighboring hill" topped by a fallen chapel and abbey that captures his "wandering eye" (39–40, 112–113). The passive eye that receives the presentation in the second vista begins to wander in the third, but in all three the prospect includes an idea that blurs into the image itself—"state" and "wealth," for example, that seem at a distance to be a darker cloud.

It is the role of the couplet and the meter to put the image and the reflection together into an overall account of what the speaker sees. The emphasis falls on the act of balancing in such a way that the lines carry out a principle inherent in every facet of nature, politics, and the cosmos, namely, what Earl

Wasserman famously described as the doctrine of *concordia discors*, according to which "existing things are brought into harmony by the clash of opposing elements."[18] On Wasserman's account, "the doctrine of *concordia discors* is at least as ancient as Pythagoras and Heraclitus" but also "came to be the cosmic rationale for England's parliamentary monarchy and the model for the ideal attributes of the king of such a mixed state: the political harmony arising from the conflict of the monarch and populace is but an imitation of the cosmic harmony produced by the clash of opposing elements."[19] Each individual feature of Denham's landscape—the dome and the city; the cloud and the mist; the valley and the hill—provides an analogue for not only a political order but also the order of the universe. None seem to have an exact priority over the other, so that on every occasion that one looks at the surface of the earth, one sees evidence of a divine and a political system registered in the fine structure of the poem, in the closure of its couplets, its balanced contrast between one and another unit of a composed syntax. In this way, the poem, as Wasserman writes, "not only specifies a harmonious union of contraries; it is itself a verbal enactment of the theme, producing poetic harmony out of a complex system of similar opposites."[20] The surface features of the earth look like the units of a heroic couplet because (remarkably) each has the same structure. This system of analogues culminates in the fourth vista—"My eye descending from the Hill, surveys / Where Thames amongst the wanton valley strays" (159–160)—with its well-known and oft-imitated apostrophe to the river:

> O could I flow like thee, and make thy stream
> My great example, as it is my theme!
> Though deep yet clear, though gentle yet not dull,
> Strong without rage, without oe'rflowing full.
> (189–192)

Readers of eighteenth-century poetry will recognize these couplets even on the rare occasion when their origin can't exactly be remembered. Hollowed out and rendered purely as syntactical form, Denham's specific pattern of balanced opposition, chiasmus, and inversion reappears across the Restoration and the entire eighteenth century. According to Wasserman, the lines form "an explicit statement of the doctrine of *concordia discors* in its fullest cosmic terms" because they join depth with clarity, strength with calm, into a whole more harmonious than its sundry parts.[21] The river is like the balanced monarchy, itself like the ordered cosmos, itself illustrated in one hemistich crosshatched to the other by the matching units of a sentence. This last is particularly important for my current purposes moreover because it identifies harmony with a certain version of form that inheres across all phenomena, as if one were

to look at the river and see also the cosmos and a couplet. The celebrated Thames couplet just does the work of existing as the form it describes: the opening, entirely iambic line cleaving at the fourth syllable with the monosyllabic deep/clear pairing in the first hemistich slightly jostled by the extra foot and double-syllabled gentle / not dull in the second, the concluding line then further varied by the trochaic "strong" leading to the open-voweled and "flowing" chiasmus that brings the couplet to a close. The river like the nation like the poem exhibits a heterogeneous unity accented in the end by strength.

This vision, we might say, is a kind of ecopoetics of high neoclassical doctrine, as (again) the surface features of the earth have the structure at once of a heroic couplet and a politico-cosmic system, with the whole tilting toward an idealized unity and equilibrium. One word for this ideal is "beauty." In fact, the speaker of Denham's poem says and does this work quite explicitly. Speaking of the "wise Maker's" (200) delight in beholding such "things of wonder" (199), he observes:

> Wisely she knew, the harmony of things,
> As well as that of sounds, from discords springs.
> Such was the discord, which did first disperse
> Form, order, beauty through the universe.
> (203–206)

There is no point in asking what is the relation between form and order and beauty because each is understood to be a version of the other: form the arrangement of order, order the achievement of form, and beauty the value of each. More important in the present instance is that this picture of things indicates a particular conception of what it means to create a work of art like a poem, since the structure of the poem turns out to be identical to the structure of the rest of the world. This is the undertow to which I referred earlier, as the conception of the artwork here modifies slightly the poem's emphasis on the distant prospect and the single point from which it is viewed. The four vistas all exist on a line from the point on Cooper's Hill where the speaker is standing—so much will be critical for the reception of the poem, as we will see—and yet because the features of the earth espied are identical to the poem that elicits them, there is always the chance that the distance will be "contracted" or the image will "present itself" or (in other words) the world will seem in reach.

This foreshortening of distance, as much else, derives from the poem's peculiar understanding of crafted form. The job of the poet is not to distinguish his poem from the rest of the world but to create something that is exactly like that world, down (again) to its fine structure—"O could I flow like thee"—but

then the rest of the world turns out to have exactly the same properties as the poem. The creative act is therefore not exactly one of representation or imitation or mimesis because it does not consider the poem to be a derivative version of a natural original. To write a poem is rather to extend or join up with the world by adding more parts to it. That is why distance can unexpectedly seem to be shorter than one had been led to believe. The important trope for this adding and this foreshortening turns out to be apostrophe: the act of speaking to the river in such a way that draws the river into the overall being of the poem and the poem into the overall being of the river. So while the apostrophic "O" marks a turn of address to the river Thames, it is, as Jonathan Culler puts it in his classic analysis of the trope, one "devoid of semantic reference."[22] That is, the "O" is not of or about anything but is, again in Culler's phrase, "the pure O of undifferentiated voicing."[23] And yet the effect in this instance is not so much a subjective cast put over the things of the earth, as Culler would have it, as the empty physics of sound, an "O" tossed (or flowing) unassumingly into the stream.[24] Even the "could" of the first line isn't really about longing—isn't really a mark of the mental or, as Culler would say, the subject—since it is fulfilled as soon as it is said by the example and theme. "Could I flow like thee" is accomplished in the act of stating, in the very cadence of its utterance. The lines are only shape and only sound but so is the social order and so is the river Thames—hence their easy transit across the century: to Alexander Pope's "Tho' Learne'd, well-bred; and tho' well-bred, sincere; / Modestly bold, and Humanly severe" to Oliver Goldsmith's "though grave, yet trifling; zealous yet untrue" to William Mason's "Liberal though limited, restrain'd though free."[25] The lines move across the century in the manner of an imitative leitmotif because they are something close to pure form.

So we might say that Denham and his descendants are committed to a kind of formalism and, with the emphasis on sound, meter, and rhyme (the stuff from which form is made), even perhaps to a kind of materialism. My point about the formalism in this case, however, is not only that it lends itself to repetition but also and more consequently that it establishes a relation of both consubstantiality and proximity to the addressee. The river is present or nearby as it is spoken to, even if the literal account of the poem sets it off at a distance. Locodescriptive poets after Denham revise features of his aesthetics, but they sustain and in some respects further develop this orientation to ecology. Paul Alpers's construal of Renaissance apostrophe as an address to entities "conceived to be in a metonymic relation to the speaker, as part of his/her being" is helpful in this context.[26] So is Alan Richardson's reminder that eighteenth-century and Romantic era apostrophe often registered the

presence of "everyday speech situations" within the world of a poem.[27] The idea is not of one subject addressing another that exists only in her head, as in Culler's dualist picture, but rather of turning to something or someone who is adjacent or at hand and, for my purposes, of coming to dwell on or with what is spread across the surface of the earth: other people, animals, and the immediate environment. The apostrophizing poet speaks to something that is just here and does so in the precise formal manner of that thing's existence: he or she creates a poem that *is* the world it describes, that makes or joins up with or adds parts to an environment in which one might live.

I will return to the relation between apostrophe and dwelling at some length below, but first I would like to explore how Denham's version of the locodescriptive gets narrowed particularly to its conception of beauty and then blended with elements of the georgic. The poem I draw attention to here is George Granville's "The Progress of Beauty," first published in 1701 and then celebrated and reprinted for the next half century. This poem is important for its turn of the locodescriptive to a certain notion of beauty and because it is a source for Jonathan Swift's poem of the same name, undertaken with a different aesthetics in view. So let me make clear: Granville's poem represents the kind of beauty at a distance, aesthetics as contemplation, with which the ecocraft tradition breaks. (We might say, in other words, that Granville moves in one direction, Swift another, and that both are contained in Denham.) Granville's *Progress* identifies a formal property in women—their beauty—and then marks in heroic couplets that property's identical appearance in various contexts from prehistory to the eighteenth century. As one of its advertisements put it, "this excellent Poem traces Beauty from the most distant Climates and most early Times to Great Britain and the Reign of King James the Second, and ends with Ladies of the Court."[28] History changes but beauty does not. On Granville's mythos, the "Beauty that fires the World" springs from the God of Day and the Queen of Love to light down serially on polities and nations across time.[29] Granville's is a particular kind of formalism, we might say, as beauty in the first line of the poem literally "descend[s] from above" to find its ground in bodies of various kinds (141). The form of beauty is eternal and transcendent, even as the matter in which it is expressed—here Helen of Troy, there Cleopatra, here a landscape, there some ladies at court—is subject to change. As with Aristotle, then, form does the work of turning any bit of matter that is potentially beautiful into the actual shape of something that has beauty.[30] The point of the poem is just to track how potentiality turns to actuality over the course of time and in various locales. So Granville's speaker asks his muse "of Beauty sing, its shining progress view /

From Clime to Clime, the dazzling light pursue, / Tell how it spread, and how in Empire grew" (145). And so his muse does just that.

The dazzling light is everywhere a drop of heaven and everywhere something to see as a finished product. Form is transcendent, in other words, even as it is also grounded, and again the job of the poem is not to show things getting formed so much as to reveal the forms they achieve, to track, that is, the progress of grounded beauty from place to place, time to time. The line this progress takes proposes beauty as grounded form, form as transcendent potential, and the poem as a vehicle for each. Here the debt to one version of Denham and one interpretation of the locodescriptive written in the high neoclassical style is the most clear. We are to look at beautiful things as they show up at the end point of a line from our eyes, as if they are set at a distance, and we are not to move.

> As when our Eye some prospect would pursue,
> Descending from a Hill, looks round to view,
> Passes o're Lawns and Meadows, till it gains
> Some beauteous spot, and fixing there, remains:
> With the like rapture my transported Muse
> Flies other objects, this bright Theme to chuse,
> Princess ador'd and lov'd, if Verse can give
> A deathless name, thine shall for ever live;
> Invok'd where-e're the Brittish Lyon roars,
> Extended as the Seas, that gird our shoars.
> (153)

The extended comparison between prospect taking and looking at beautiful women plucks from Denham and the locodescriptive its structure of detachment while leaving out what will later turn to elements of craft (in Jonathan Swift or Jonathan Richardson we might say) or elements of a walk-around (in John Dyer or William Cowper): the line of sight extends from a point whose stability is first anchored and then bereft of body. As it descends, looks around, and passes over the curvature of the earth, that is, the eye toggles in a socket that has just enough dimension to turn from place to place but not enough to move with feet on the ground or reach out with fingers. Once the view "gains / Some beauteous spot," moreover, all that is needed is a single point to fix one line in space to another. The fantasy is that the second point—the "beauteous spot"—then fills out to form a body with actual and deathless dimension.

Swift's "The Progress of Beauty" (1719) responds to this aesthetics at every turn. Where Granville charts the progress of already-formed beauty across

time and place—exchanging one beauty for another so that each descends from heaven as complete and never changing, Swift charts the progress of a single body whose beauty needs to be formed and who is subject to erosion and decay: "rotting Celia," the prostitute-beauty always at the cusp of falling to the pieces from which she is made.[31] And where Granville does this in the high style of heroic couplets, inherited again from Denham, Swift opts for a roughened tetrameter that would become his metrical calling card, the body of the poem having the "grist" he understands to be the key property of matter (84). As Helen Deutsch has written of William Wimsatt's reading of Swift, the tetrameter line is in this respect "a sort of found art" and (now quoting Wimsatt) one "composed, characteristically of ready-made phrases, from the colloquial and stereotype repertory, pieces of stock language laid together in bundles."[32] Finally, where the beauties in Granville's poem always lie in front of a beholder, who is placed like Denham's eyeball looking out on a prospect, the one beauty in Swift's poem makes and then looks at the lines of her own face. In all these respects, linguistic and scopic, form does not paste onto matter in the heavens; it is always in the process of becoming or decaying, in need of the artist's hand to stay in place, if but for a moment.

Swift's revision of Granville does not so much mark a distinction between form and matter as categories, or formalism and materialism as methods of evaluating art, therefore, as show the first literally grounded in the second: form literally grounded in matter. This is Swift, making it all too clear:

> Matter, as wise Logicians say,
> Cannot without a Form subsist.
> And Form, say I, as well as They,
> Must fayl if Matter brings no Grist.
> (81–84)

"Form is shape," as Sandra Macpherson has recently put it, "or more precisely, the shape a kind of matter takes."[33] The idea is that what Swift understands to be the stuff of the world—in this poem, sweat, lead, skin, makeup, cheek bones, pencils, paint, and brushes, elsewhere of course shit—has or creates the shape we call art or beauty. Swift's attention is to the act of making this happen, the turning of potential beauty into actual shape, forming we might say rather than form. So when, for example, Celia wakes to find her rouge and mascara having "chang'd their Ground" and now falling in "rivulets of sweat" down the cracks of her face, her response is that of an artisan (32, 38):

> But Celia can with ease reduce
> By help of Pencil, Paint and Brush

Each colour to its Place and Use,
And teach her Cheeks again to blush.

She knows her Early self no more,
But fill'd with Admiration, stands:
As Other Painters oft adore
The Workmanship of their own Hands.
(49–56)

We should I think read these lines without irony and without aggression, or before doing so at least take a look at the sort of aesthetics they intimate. Celia's face is handsome in the sense of Defoe's use of the word that same year. The ease of her reduction of her face marks the identity of art with craftwork, the finished moment of standing before and admiring an object of your own creation, fashioned with the skilled know-how that precedes and brings it to being.[34] The first stanza describes tools and techniques of creation; the second, a beholding peculiar to having made something. The use of color in its proper place, in other words, derives from a controlled movement of the arm, the hand, and the head, each movement a kind of perceptually guided and environmentally situated action and the whole the emergence and holding in place of form Swift calls beauty.

Readers from Felicity Nussbaum to Tita Chico have for good reason grouped "The Progress of Beauty" with the dressing-room poems of a dozen or so years later ("The Beautiful Young Nymph Going to Bed" [1731], "The Lady's Dressing Room" [1732], and others).[35] It seems important in the present context, however, to point out that the poem also links back to Swift's urban georgics of 1710—"A Description of the Morning" and "A Description of a City Shower"—and so again to what David Fairer has argued is the eighteenth century's most important genre for thinking through the ecological dilemmas and developments of the modern age. In locodescriptive fashion, Celia's face forms a kind of landscape, of course, with vales and streams of its own, but it also provides an occasion for tenuous engagement with the scarce and finite nature characteristic of the georgic mode. "Georgic writing," argues Fairer, "is often shadowed by the realization that nature does not carry us along."[36] Its world "is a stringent and often uncomfortable place" that recognizes "issues like excess, waste, process," as well as labor, use, sustainability, and exploitation.[37] This is a world familiar to any reader of Swift, and one given a kind of poignancy by the fluid decay of Celia's body at the end of the poem, once forming reaches its end. It is also a reminder that beauty requires attention and skill to maintain and lasts only so long as matter has grist. The beauty of

some thing is not on this view imposed from without, like a stamp on an inert set of materials; rather, it arises from the continual manipulation, admixture, and transformation of the medium in which all creatures and all stuff subsists: the reduction, for example, of color to its proper place on a face by the skilled use of "Pencil, Paint and Brush." Like the surface of the earth, the human face is fragile and ephemeral, subject to change, neglect, and abuse and so worth some attention and care.

The Aesthetics of Craft

To look back to Swift and georgic and craft is to break somewhat from the conventional picture of eighteenth-century theories of the beautiful, based as I mentioned at the outset on spectatorship and the subjective experience of the beholder: the theory we associate with the writings of Joseph Addison, Anthony Ashley Cooper, Third Earl of Shaftesbury, Francis Hutcheson, and to a certain extent Immanuel Kant. On this picture, the problem with aesthetic discrimination was how to ground judgments of beauty whose bases were in sensory experience rather than rational demonstration. The alternative picture I'm attempting to draw has less to do with this kind of judgment at a distance than with the skilled making and experience of things close up. It has debts to G. Gabrielle Starr's account of an "anti-Platonic tradition of thought that links material, erotic, and imaginative pleasures, that figures value as labile, the product not of transcendence but metamorphosis," and especially to Ronald Paulson's heterodox story of eighteenth-century aesthetics in terms of "the artist rather than the patron or connoisseur" and the "material art object" rather than its subjective apprehension.[38] Paulson centered this account on William Hogarth's artworks and their theoretical elaboration in the 1753 treatise *The Analysis of Beauty*. I would step back to include the broader "artisanal experience of matter and nature" that Pamela Smith has identified as critical to early modern cultures of science and natural philosophy.[39] "For artisans," Smith writes, "experience and the production of things were bound up with their own bodies"; so, "they articulated in their writings and in their works of art a view that certainty is located in matter and nature and that knowledge can be gained by observing and experiencing—often by bodily struggle—the particularity of nature."[40] Elaborated into an account of handsome beauty, the artisanal view turns from the specular aesthetics of the beholder to consider the grip of a brush or the movement of the hand or the turn of the shoulder: the embodied ecology and "struggle," as Smith would have it, that enter into making art objects or apprehending the natural and the designed world.

When, for example, the portrait painter Jonathan Richardson wants to

explain and defend the role of the maker of art in *An Essay on the Theory of Painting* (1715/1725)—the first substantial treatment of the visual arts in English—he writes, "A Painter must not only be a Poet, an Historian, a Mathematician, etc. he must be a Mechanick, his Hand and Eye must be as Expert as his Head is Clear, and Lively, and well stored with Science."[41] Painting requires the same understanding of actions and events as the written arts of poetry and history and the same understanding of nature and figure as science and math. The "mechanic" dimension to the visual arts just requires further extension of these into "bodily excellence" (27). One interesting feature of this model then is that it distinguishes the eye from the mind, prying apart a relation that had been coupled in the Anglophone aesthetic context by Locke and then Addison.[42] The eye is less a conduit for sensation or a cabinet for images than an extra limb. A painter must have "a Delicacy in his Eyes to judge of the Tincts of Colours which are of infinite Variety; and to distinguish whether a Line be straight or curv'd a little; whether This is exactly parallel to That or oblique, and in what degree; how This curv'd Line differs from that, if it differs at all, . . . and he must have a Hand exact enough to form these in his Work" (25). The distinctively mechanical expertise to painting is thus a two-part kinesis, at once a picking out of perspective, shape, line, and color and the execution of these on the picture plane: keenness of vision and the skilled use of tools. Each is present in the person who can put line, color, and shape into the "*tout ensemble*" Richardson calls beauty (126).

The expression "*tout ensemble*" refers in Richardson's use to the objective features of a beautiful painting, which as he describes them are something like a transposition of Denham's couplet. For a painting to be beautiful, "a sweet Harmony and Repose must result from all the Parts judiciously put together, and united with each other" (128). With the shift in medium just comes a greater attention to the skill needed to create that ensemble with brush and oil. The more the *Essay* emphasizes that kind of attention, the more it turns to a kind of prose georgic of the painterly arts. So the defense of the painter's vocation alternates with a theory of what makes an image beautiful, and both coalesce in the step-by-step account of how to manipulate color or line on canvas. It follows that the vision peculiar to the artist is not (or not only) the taking in of a landscape or a body or a sunset so much as the scouting out and handling of things in the world. To see like a painter is to use what one has learned every time one looks at anything: "Tis true other Men may see as well as a Painter, but not with Such Eyes; a Man is Taught to See as well as to Dance, and the Beauties of Nature open themselves to our Sight by little and little, after a long Practice in the Art of seeing" (216). On the account of craft aesthetics, the body of the artist itself has transformed by years of practice, so that ordinary perception has become an

extraordinary talent, a kind of active working over of whatever falls into view and so a kind of dwelling in the ordinary. The result is an opening of the visual field, as "a judicious well-instructed Eye sees a wonderful Beauty in the Shapes and Colours of the Commonest Things, and what are comparatively inconsiderable; Nay such a one will discover something Pleasing in what Another finds only Poverty, or Deformity" (216). The well-instructed eye knows how to bring the world into view in such a way that it has the features of something that is beautiful, but this know-how is both intensely skilled and seemingly effortless. For the painter, it is vision itself.

Artisanal aesthetics of the kind essayed by Richardson understands the experience of beauty to be active and creative, whether that is simply in the opening of one's eyes or the use of one's hands. In fact, artisanal aesthetics continually blurs the distinction between the visual and the haptic, turning the act of seeing the world into the act of exploring and manipulating it. The point of view is like Celia's applying a physical "tynct" on a face one can touch. To be an artist is to see the world as a *tout ensemble* and to know how to create that ensemble on a canvas. Hogarth joins this line of thinking therefore when he begins *The Analysis of Beauty* by declaring that he hopes to bring "a practical knowledge of the whole art of painting" to our understanding of the perception of beauty.[43] Apprenticed at age sixteen to the silver engraver Ellis Gamble, and throughout his life one who etched out lines on the surfaces of metal or canvas, Hogarth, like Richardson, draws on ideas of the artist's skill (*technē* in the Aristotelian language of craftwork) in creating what is at the end of one's fingers.[44] The practical knowledge of painting turns out to be the ability to decompose any object—a tree, a face, a table, a sunset—into its constituent lines, including especially the "serpentine line" whose undulating wave marks the actual presence of beauty in the object itself (15 and passim). To "learn to see objects truly" is to learn to identify the "nature of those lines . . . by which we are directed to call the forms of some bodies beautiful, others ugly" (20, 17). In other words, it is to learn to put oneself in the position of the artist as she both makes and observes items in the world.

As Abigail Zitin puts it, the adjustment to the practitioner's stance "registers an incipient resistance to illusion, to being consumed by the representational content of an image."[45] The experience of beauty, whatever exactly that might be, is less important to the *Analysis* than the ability to identify the lines that compose beautiful objects. Hogarth refers to this activity as a "manner of attending to forms" (26), and for this reason Zitin has described his theory as a kind of "practitioner's formalism."[46] Hogarth's theory is a formalism because it understands beauty to reside in objective shape; it is a practitioner's formalism because it understands that to view such a shape is to re-create not

to represent it. According to Hogarth, the artist's skill is to see from within an object—by identifying its lines—and the artwork's end is to put the beholder in place to do the same: to, as it were, handle everything she sees. "Let every object under our consideration," he writes, "be imagined to have its inward contents scooped out so nicely, as to have nothing of it left but a thin shell, exactly corresponding both in its inner and outer surface, to the shape of the object itself: and let us likewise suppose this thin shell to be made up of very fine threads, closely connected together, and equally perceptible, whether the eye is supposed to observe them from without, or within" (21). Once we do this, Hogarth continues, "we shall find that the ideas of the two surfaces of the shell will naturally coincide" and that to attend to individual threads is at once to observe and inhabit the entire object, to "enter into the vacant space within this shell, and there at once, as from a center, view the whole form within" (21). Hogarth's language in this passage seems to balance between a description of the techniques of visual perception used by practicing artists and a lesson on how ordinary viewers can, like artists, turn objects into shells and shells into lines. ("I would desire the reader," he says, "to assist his imagination as much as possible, in considering every object, as if his eye were placed within it" [22].) In either case, the end toward which the practitioner's technique drives is both to pursue and to compose what comes into view. "We shall always suppose [a] principal ray moving along with the eye," he writes, "and tracing out the parts of every form we mean to examine in the most perfect manner: and when we would follow with exactness the course any body takes, that is in motion, this ray is always to be supposed to move with the body" (33). Like Richardson, Hogarth intends to bring the practical knowledge of the painter to ordinary acts of perception, and for him that means bringing an ability to trace out the shape and motion of the world at hand. To experience the beauty of some object or body is both to draw its lines and to move with them in a kind of dance.

Apostrophe and Dwelling

For many, the idea of beauty in the eighteenth century meant the contemplative encounter with and finally the judgment of some sort of harmonious thing: "we are struck," in Addison's formulation, "we know not how, with the symmetry of anything we see, and immediately assent to the beauty of an object, without inquiring into the particular causes and occasions of it."[47] I've drawn attention instead to a tradition predicated on the embodied, skilled, and kinetic labor of the artist or artisan. Where writers from Hutcheson to Kant define the beauty of some thing in contrast to its potential

use, moreover, the aesthetics of craft says that to be handsome is to be graspable and so conceivably to have some purpose.[48] Hume, for example, writes in this vein when he declares in the *Treatise*, "Most of the works of art are esteem'd beautiful, in proportion to their fitness for the use of man, and even many of the productions of nature derive their beauty from that source. Handsome and beautiful, on most occasions, is not an absolute but a relative quality, and pleases us by nothing but its tendency to produce an end that is agreeable."[49] Absolute beauty may be some sort of end in itself, Hume proposes, but it is more common to find a relative, handsome beauty whose end dwells in the use it proposes. For Hogarth such relativeness is the place to begin one's inquiry. The first category of *The Analysis of Beauty* is "fitness," or "the design for which every individual thing is formed, either by art or nature," whether these are household items like "chairs, tables, and all sorts of utensils and furniture" or the "pillars, arches," "windows and doors," of the house itself or finally the "general dimensions of the parts of the human body" who builds and lives within the house (25–26). The attention should turn in each case to the potential for action or movement each object of beauty holds. With this conception of beauty in place, I'll now return to the variations of the locodescriptive, apostrophic relation to the environment with which it joins. I noted earlier that the most influential and imitated apostrophe in eighteenth-century verse is to a river that has the form of a couplet. The successors I quickly adduced shared much of this specific orientation, reworking it over time as a particular kind of entanglement. Both the Goldsmith and Mason couplets, for instance, are from poems about perambulation, the first from "The Traveler," the second from the sonnet "To a Gravel Walk." Both are notably apostrophic. Goldsmith's wandering speaker turns at moments to "ye fields, where summer spreads profusion around" or "ye lakes whose vessels catch the busy gale," and Mason's speaks across the sonnet to the "smooth simple path" that forms a circle around the two acres of his garden and guides his step so he may walk "fearless of dew or dirt or dust."[50] Both finally sustain a sense of a world at hand or underfoot by keeping the apostrophic assertion relatively subdued, in the first case by following each noun with phonetic and assonant anchors to the surface of the earth (profusion spread around; vessels skimming on water) and in the second by tacking after an "undulating line" of rhyming front and middle vowels, along "sidelong tufts," "thy brief course confine," "through lawn or grove," "I rove," and so on.[51]

The mood is low-key and the relation adjacent: a turn of speech that reaches out to something that is just here. This is a version of beauty that is, we might say, at hand or engaged. It is also one that is fragile because it is drawn from means that are limited. Anahid Nersessian has recently argued that Ro-

manticism "counters fictions of unlimited access and achievement by embracing the material constraints exemplified by aesthetic form" and so "takes its own formalism to mime a minimally harmful relationship between human beings and a world whose resources are decidedly finite."[52] The poets that I've featured here might be imagined in similar terms, with respect especially to the tying together of finitude with form. Fairer identifies precisely this feature of eighteenth-century poetry as part of his "ecogeorgic" line stretching from Dryden's translation of Virgil (1697) to Dyer's *The Fleece* (1757), Cowper's *The Task* (1785), and elsewhere besides. Rather than pastoral ideas of unsullied and boundless nature, the ecogeorgic stresses both the limits of the earth's bounty and the skill and responsiveness needed for its cultivation: the "interest in mixture, alteration, contingency and various kinds of trial-and-error" along with the "shifts of emphasis from leisured consumption in favour of practical production" that one finds in the grafting of strains of apple in *Cyder* or the untangling of wool in *The Fleece*.[53] Practicality in this case just means attending to the grasp and grip of several well-described affordances: a twig and a wedge in the grain for splicing, a "spikey steel" for combing, and so on.[54] The world shows up at the end of the wool-comber's "sinewy arm," but this is, in Fairer's words, part of a "commitment to the minuter readjustments and qualifications that allow life to continue" or, as Nersessian would have it, a means to figure out how to make do in a world of finite resources.[55]

From these vantages, *The Task* seems particularly relevant. Once the opening encomium to that archetypal affordance—the sofa—comes to an end, the speaker turns to one of many walks that structure the long poem's interest in how to dwell in the world:

> For I have lov'd the rural walk through lanes
> Of grassy swarth close cropt by nibbling sheep
> And skirted thick with intertexture firm
> Of thorny boughs: have lov'd the rural walk
> O'er hills, through valleys, and by rivers' brink.[56]

The scene of perception modeled in this first walk is ecological in the terms of Gibson and Ingold (and handsome in the terms I have been developing) not only because of its attention to nature but also because of its depiction of limber movement across a world that seems within reach: the sheep have nibbled the grass to comfortable treading and, with the gerund, seem nearby the walking speaker, as do the skirting and thorny boughs. Unpunctuated across the five lines, the lanes seem to move the point of view over, through, and by the ground while keeping it tacked not so far above what it sees. In these respects, the poem is not just *about* constructed ecosystems like the garden,

the greenhouse, the path, or the hutch but *is* one itself—in its formal and material properties. When the speaker is not walking, he is of course sometimes resting (in his brown study), and for an entire book he is gardening: "friends, books, a garden, and perhaps, his pen, / Delightful industry enjoy'd at home" (3.335). The delight of the gardener's hand—"demanding rather skill than force"—simply transposes the practiced gait of the walker to the practiced craft of the planter, all phrased with a kind of reserve that matches the emphasis on making do, finding a way to live (3.407).

So it is not surprising, I think, that the poem's only extensive account of making a work of art describes the handiwork of needlepoint, the gentle coaxing of figure against ground done by the speaker's household companion:

> . . . here the needle plies its busy task,
> The pattern grows, the well-depicted flower
> Wrought patiently into the snowy lawn
> Unfolds its bosom; buds, and leaves and sprigs
> And curling tendrils, gracefully disposed,
> Follow the nimble finger of the fair;
> A wreath that cannot fade, or flow'rs that blow
> With most success when all besides decay.
> (4.150–155)

The representation of craftwork here traces the coming into being of a flower and its snowy lawn from the needle-holding finger's patient pointing of the scene into a depicted and deathless object. The ekphrasis is not exactly of a piece of needlepointed fabric, however, so much as the act of needlepointing itself. The gently conjunctive motion of the line—buds and leaves and curling tendrils—just marks out the embroidery within the unfolding time scheme of the vignette. The line puts down one word *and* another *and* another, just as the needle threads one stitch and another and another, so the figure and its ground at once come into being and into view.

I want to emphasize the "gentle" aesthetics brought to view by this idea of craft, of beauty that takes shape from the ends of one's fingers, and I want to connect this aesthetics to the overall scene in which the depicted object gets created: the speaker at home with his companion in a world of crafted things held close at hand. So as I close I'll fold this scene into Cowper's depiction of species cohabitation, his asking in similarly low-key or minor-noted tones how we might live without harming other animals. The lines from book 3 on gardens turn from a lament about hunting to address a hare seated nearby, and as they turn, the emotional register switches from plangent to something more still.

. . . detested sport,
That owes its pleasures to another's pain;
That feeds upon the sobs and dying shrieks
Of harmless nature, dumb, but yet endued
With eloquence, that agonies inspire
Of silent tears and heart-distending sighs!
Vain tears, alas, and sighs that never find
A corresponding tone in jovial souls.
Well—one at least is safe. One sheltered hare
Has never heard the sanguinary yell
Of cruel man, exulting in her woes.
Innocent partner of my peaceful home,
Whom ten long years' experience of my care
Has made at last familiar, she has lost
Much of her vigilant instinctive dread,
Not needful here, beneath a roof like mine.
Yes—thou may'st eat thy bread, and lick the hand
That feeds thee; thou may'st frolic on the floor
At evening, and at night retire secure
To thy straw-couch, and slumber unalarmed;
For I have gained thy confidence, have pledged
All that is human in me to protect
Thine unsuspecting gratitude and love.
If I survive thee I will dig thy grave,
And when I place thee in it, sighing say,
I knew at least one hare that had a friend.
(3.326–351)

The apostrophe is so tamped down in these lines that it easily goes unnoticed; one might take a second to register that the address has turned midway from the recipient of complaints about hunting to a hare somewhere (and happily) in the vicinity. The turn is marked solely by the em dash in the lines "Yes—thou may'st eat thy bread, and lick the hand / That feeds thee." The turn from the hunted animal to the kept hare is from describing the one to speaking to the other. And such a turn is, as Culler might say, "apostrophic by any definition."[57] But the address is quiet, not "O hare!" but something more like "oh, hey, you here, hey hare." And this seems in keeping with the modulation of affect from tears and exclamation points to the familiar "Well—at least one is safe." The tone matches the proximity; its quality is of an intimate address to a creature who is just here, who is sharing the physical space from which "thy" and "thee" are uttered, a shelter furnished with a hare-sized version of the iconic sofa with which *The Task* begins. The familiar idiom reveals the

speaker's favorite artifact of dwelling, the seat made for "soft recumbency of outstretched limbs," here built from straw and repurposed for another kind of body (1.82).

This subdued and tactile troping seems well suited to a speaker "who long in thickets and in brakes / Entangled, winds now this way and now that / his devious course uncertain, seeking home" (3.1–3). The idea would be that to live in the world is to reach out to something that is nearby, with which or with whom one shares some space, space that precedes and shapes one's actions. For what it is worth, Cowper—that is the biographical Cowper, not the speaker of the poem—kept hares as beloved pets, and so it is entirely possible that he was speaking, petting, feeding, or intermittently watching one as he wrote the lines. The "Yes" that immediately comes before the apostrophe seems to respond to and so record the hare's presence.[58] The hare cannot speak, but he can tug at the speaker's sleeve or jump on his lap or look in his direction. The hare gets into the poem as one end of a conversation—responded to with "yes"—across two species. Here in any case is a letter Cowper sent to the *Gentleman's Magazine* in June 1784 as he was composing *The Task*:

> In the year 1774, being much indisposed both in mind and body, incapable of diverting myself either with company or books, and yet in a condition that made some diversion necessary . . . I undertook the care of three [hares] Puss, Tiny, and Bess. Immediately commencing carpenter, I built them houses to sleep in. Each had a separate apartment so contrived that their ordure would pass thro' the bottom of it; an earthen pan placed under each received whatsoever fell, which being duly emptied and washed, they were thus kept perfectly sweet and clean. In the daytime they had the range of a hall, and at night retired each to his own bed, never intruding into that of another.
>
> Puss grew presently familiar, would leap into my lap, raise himself upon his hinder feet, and bite the hair from my temples. He would suffer me to take him up and to carry him about in my arms, and has more than once fallen asleep upon my knee. . . . [He would] lick my hand, first the back of it, then the palm, then every finger separately, then between all the fingers, as if anxious to leave no part of it unsaluted. . . . Finding him extremely tractable, I made it my custom to carry him always after breakfast into the garden, where he hid himself generally under the leaves of a cucumber vine, sleeping or chewing the cud till evening. . . . I had not long habituated him to this taste of liberty, before he began to be impatient for the return of the time when he might enjoy it. He would invite me to the garden by drumming upon my knee, and by a look of such expression as it was not possible to misinterpret. If this rhetoric did not immediately succeed, he would take the skirt of my coat between his teeth, and pull at it with all his force.[59]

Read alongside the related lines from the poem, the letter brings a more complete picture of the life with hares into view. The letter and the poem might be said to describe what it was like for Cowper to live with hares, so long as we take aliveness to have kinetic and kinesthetic meaning. Life for each is a kind of movement: the walk along the close-cropped trail, the hop from the hutch to the hall to the garden's cucumber vine. Dwelling, in turn, is an immersive activity for which carpentry is both tenor and vehicle. The hutch built for hares is like the house and garden in which it is located, each designed with skill and attention. Indeed, as readers of *The Task* well know, the particular manual dexterity involved in growing the cucumber plant under which Puss shelters—"The vigilance, the labour, and the skill" that bring "summer fruits" from "wintry suns"—is the subject of painstaking discussion in book 3 of the poem, in which the gardener carefully presses the plant between the thumb and finger, so that energy might be harnessed to the growing of larger fruits (3.548, 553). The letter has no apostrophe, exactly, but it is rife with hands and paws and feet and so might be said to describe the perceptual ecology that the humbler version of the trope creates and explores. Puss, no less than Cowper, is a practitioner of rhetoric.

The apostrophe to the Thames that so shaped the eighteenth-century presentation of landscape found the river to be beautiful in the same way as the poem and also the same way as a providentially arranged cosmic and social order. The ideal of making a couplet was to match that order, to add more parts to it. The ideal of *The Task* is not exactly to have Cowper's looser, more conversational version of blank verse do that. The world is not already there for the modeling. Rather, that world requires some work so it can be beautiful, and so one might also have hares and needlepoints and cucumbers. One task of *The Task* is to show how there is not much difference between the two. Finding a way to live means finding a way to live in the world and, for Cowper at least, a way to live in a multispecies world. We all have to do that. And we all have to do that in ways that draw upon our skill, or ways of dwelling. My argument has depended on the assumption that the literary presentation of changing and ambiguous words like "handsome" and the shape of such things as heroic couplets or a line of tetrameter verse matter and that they matter for many kinds of things, from how we understand the past to how we live in the present. If I've been at all convincing (and I may not have been, I grant you that), it is because I know something about how to wind my own sentences around sentences that are out there in the world—crafted objects in either case.

PART THREE

Fictions of Mind

5

Empiricism, Cognitive Science, and the Novel

> "I see into minds, you see," the robot continued, "and you have no idea how complicated they are. I can't begin to understand everything because my own mind has so little in common with them—but I try, and your novels help."
>
> ISAAC ASIMOV, *Liar!*

No one literary form has a proprietary stake in the mind, but as genres go the novel has since its inception taken remarkable interest in mental states. Among other things, eighteenth-century fiction is so much writing about the mind: about how thoughts represent things, cause other thoughts to happen, or lead to actions. The same might be said for empiricism. Seventeenth- and eighteenth-century philosophy paid unusual attention to the content of minds and the nature of ideas, to "human understanding" as Locke and Hume put it. While the connection between empiricism and the rise of the novel is a touchstone of literary studies, with a venerable tradition of scholarship dating back to the beginnings of the profession, only recently have critics drawn upon philosophy of mind and cognitive science to talk about the way in which thinking takes shape in particular works from the period.[1] This is, of course, not so much of a surprise, since criticism is, as a rule, skeptical of framing older texts with present-day models. The risk is one of anachronism or universalism, either shoehorning recalcitrant descriptions of the mind into our current language of cognition or locating both within a timeless and unchanging account of the psyche. My intention in this essay is to do neither; it is rather to consider what kind of insights can be gained by placing the description of thinking in the fiction and philosophy of the eighteenth century alongside certain tendencies within contemporary philosophy of mind and cognitive science. I'll begin with a comparison between empiricist and computational accounts of mental architecture and look at how each describes the shape and process of cognition. I'll then turn to "theory of mind," a line of work in cognitive science that has proven especially attractive to literary studies because it concerns how thinking about the thoughts of other people can be modeled or provoked by works of fiction.

Mental Architecture: From the Association of Ideas to the Language of Thought

Despite their many differences, there is an important sense in which mainstream empiricism is compatible with mainstream cognitive science.[2] Most but not all philosophers of the seventeenth and eighteenth centuries had some sort of representational theory of mind; many but not all cognitivists do too.[3] On this view, the mind works by forming representations of objects and events and then implementing them in various processes of thought. "Concerning the thoughts of man," Hobbes writes in *Leviathan*, "they are every one a *Representation* or *Apparance*, of some quality or other accident of a body without us; which is commonly called an Object."[4] Slide ahead a few hundred years and things are not so different. "Mental processes," writes Jerry Fodor, an early and influential theorist in the twentieth century's cognitive turn, "are computations, that is, they are operations defined on the syntax of mental representations."[5] For Hobbes as for Fodor, the work of the mind is to have thoughts about or of some distal entity or state of affairs and then to put thoughts together in a way that leads to behavior. Thoughts are "intentional" in the sense coined by Franz Brentano: one has a belief about one thing or wants another, and unless those things are other minds, the object of belief or desire does not have intentionality itself.[6] Hobbes found this point to be worth some emphasis; "the thing we see is in one place; the apparance, in another," and between the two lies some sort of reference or allusion (14). When "at some certain distance, the reall and very object seem invested with the fancy it begets in us," we ought to remember that "the object is one thing, the image or fancy is another," and we ought to recognize that images and fancies are matters of thinking, while objects and events are matters at which thoughts are directed (14). What our minds do is create images out of perceptions and memories, and once that is done, Hobbes continues, they piece images together in the "succession of one Thought to another" that we experience as mental life (20). Fodor's argument that the mind is like a computer is thus at least in a preliminary sense consistent with the view presented by Hobbes. Each makes a case for intentional realism and claims that mental states have semantic and causal properties distinct from other states of the world. Mental states are typically about something and in their aboutness have a peculiar capacity for meaning and for agency.

One distinguishing feature of empiricism, however, was that it attempted to cobble together an account of thinking with an account of epistemology. For Hobbes as for Hume, the architecture of mental representation was meant to satisfy a set of concerns about knowledge. When we think, our ideas tell us

something about an external world. That world exists independently of our thoughts yet can be understood only through the images we have of it in the mind.[7] Consider Locke's famous description of the mind as a kind of camera obscura: "the Understanding is not much unlike a Closet wholly shut from light, with only some little opening left, to let in external visible Resemblances, or *Ideas* of things without; would the Pictures coming into such a dark Room but stay there, and lie so orderly as to be found upon occasion, it would very much resemble the Understanding of a Man" (2.12.2). On this description, the mind is a three-dimensional place littered with images, and thinking is a "repeating and joining together" of images into a sequence or *association* in which one idea leads to the next by means of some sort of inference (2.12.17). To have a mental state is to be in view of a representation, a picture of something one experiences or a series of pictures one puts together, and to be in view of a representation is to be in some relation of greater or lesser accuracy to a world that is being depicted. Locke's project, in this last respect, is not so much to understand what our beliefs are or how they are structured as it is to figure out whether we are justified in having the beliefs that we do.

In contrast to empiricism, the computational model tends to split apart such questions of epistemology from questions of psychology, to be less concerned with the accuracy of representations than with how they are put together and thus to consider what the eighteenth century called ideas as something like units of a mental language.[8] Each model has a theory of mental representation, but the nature of cognition differs between them. If the one associates over a parallel sequence of ideas, the other performs operations over a structured order of symbols. The mind is not so much a screening room for pictures, on the latter view, as it is an instrument for processing *concepts*. Consider the following thought: "Jonathan is writing an essay." To think that Jonathan is writing an essay, according to the computational logic, isn't to think Jonathan and then writing and then essay. It is to think *about* Jonathan *that* he is writing *an* essay. The predicate "is writing" holds the entities "Jonathan" and "essay" in such a way that some parts of the thought have priority over others in determining its overall meaning. For the thought to be a thought, on this view, it needs to be more than a series of pictures, or else we would never be able to think Jonathan "is writing" rather than the meaningless series "Jonathan/is/writing . . ." or the meaningless lumps "Jonathan is," "writing an," and so on.[9] Like a computer, the mind on this account is sensitive to the syntactical arrangement of its concepts. Unlike a computer, however, the mind is not sensitive only to syntax. For the semantics of a thought to arise from its configuration, each of its lexical units must also have an independent meaning. On the computational model, therefore, thinking tends to have what linguists call

a *compositional* form, according to which the meaning of any one thought is determined by the structure of its syntax and the meaning of its constituents.[10]

The point of the comparison is not so much to scold empiricism as an inadequate philosophy of mind as it is to indicate what is important in its cognitive architecture by means of its difference from later models of mental representation. I will argue later in this essay that what is allegedly wrong about empiricism turns out to be "right" for some aspects or versions of the novel, although not perhaps in the way that we have traditionally imagined. To get us there, let us observe the way in which Fodor describes the difference: "mental representations are sentence-like rather than picture-like. . . . In sentences, there's a distinction between *mere* parts and constituents, of which the latter are the *semantically interpretable* parts. By contrast, every part of a picture has an interpretation: it shows part of what the picture shows."[11] Fodor's point is that empiricism's commitment to the image entails that it can only consider thinking as one idea after another and not, as he would prefer, a computation over the whole. "Associations are operations on parts of mental representations," while "computations are operations defined on their constituent structures."[12] The distinction has an important corollary for the way in which we consider the mind. An association can never get beyond the image because it ties semantics in an epistemic relation to objects. In contrast, computations discover the semantics of mental representations in the way in which their lexical units are organized.

Across the long divide between empiricist and computational theories of the mind, therefore, several important distinctions come to the fore. The computational model agrees with the empiricist model that ideas exist in our minds as representations but disagrees with the empiricist corollary that representations are pictures of things.[13] Because of its epistemic commitments, empiricism wants to argue that simple ideas are copies of experience and that complex ideas are built from relations among simple ones. Hume, for example, proposed not only that impressions lead to ideas but also that simple ideas lead to complex ideas in virtue of the regularity of connections between them. "Were ideas entirely loose and unconnected," he writes in the *Treatise*, "chance alone would join them; and it is impossible the same simple ideas should fall regularly into complex ones (as they commonly do) without some bond of union among them, some associating quality, by which one idea naturally introduces another."[14] This quality requires some sort of inference from one idea to the next, either resemblance, contiguity, or cause and effect, but in every case the relation is connective and probable with nothing that would add to or break apart the idea-images themselves.[15] It is this connection of fused parts that is so difficult to bring into computational theory, according to

which (again) the meaning of a complex idea inheres in its constituent structure not in its order of pictures. "If images are to serve as vehicles of thought," writes the cognitive psychologist Zenon Pylyshyn in a recent study of vision, "then they have what might be called interchangeable parts, much as lexical items in a calculus do."[16] And if images are to have interchangeable parts, they wouldn't exactly be images as we are accustomed to thinking of them; they would be "more language-like than pictorial" and would lose their "alleged depictive nature."[17] So while we may think we think in pictures, in fact we think in something closer to a script, one that has the formal capacity to encode representations in a computable syntax.

It is with some surprise, then, that one reads in Fodor's monograph on Hume how "Hume's *Treatise* is the foundational document of cognitive science."[18] The effort is to revive Hume by purifying his philosophy of its empiricism. Fodor is favorably disposed to the *Treatise* because "it made explicit for the first time the project of constructing an empirical psychology on the basis of a representational theory of mind."[19] The only trouble with Hume is that his psychology has refused to let go of his epistemology. There is no reason to suppose that concepts are tethered to the impressions that provide their warrant. The impression, for example, of a dog could plausibly decompose into the concepts of dog or animal or mammal or quadruped or Snoopy. One distal object has an array of possible simple concepts, all of which could then become the sentential units of complex concepts. So Hume is right to say that complex thoughts are built from simple and irreducible ones, on the computational view, just wrong about the copying from impressions and about the manner of construction.[20] The associative structure carries much of the blame. Hume wants complex ideas to contribute to the meaning of their constituents: I have never heard Snoopy bark but I can formulate the idea of Snoopy barking by connecting my image of the first to my image of the second. But how then is this anything other than placing two simple ideas in a sequence, and how is thinking anything more than hanging the same pictures in different places? Computation wants to suggest that simple concepts are, as it were, simpler than impressions, and complex concepts more complex than associations. Without both elements of the theory in place, we cannot explain how minds go about thinking: "Hume needs an argument that the structure of complex concepts is semantically transparent, so that if the content of the simple constituents is experiential, then so too is the content of complex concepts constructed from them. But he clearly hasn't got such an argument, and since the semantic productivity of novel concepts requires their structure not to be semantically transparent, I can't imagine where he might look for one."[21] We are thus, on Fodor's account, witness to an interesting failure. The association

of ideas is transparent because its merely causal structure doesn't contribute anything on its own: Snoopy merely runs into or precedes barking. Yet structure is precisely what is needed to create new thoughts (Snoopy barking, as the case may be). "There is a tension," Fodor writes, "between what semantic productivity requires and what empiricism permits; the former wants the structure of a representation to 'add something' to the content of its constituents, but the latter wants it not to. Well, since productivity isn't negotiable, maybe Hume should give up on his empiricism. Come to think of it, maybe he should give up on trying to infer his epistemology from his psychology. Come to think of it, maybe we should all do that."[22] Fodor's elegant drollery should not obscure the salient difference in view. The difficulty with Hume's empiricism is that it continues to derive complicated ideas from associations of simple ideas and to define simple ideas as copies of experience. Despite their ostensible simplicity, these idea-images are just too big and inflexible to fit into a sentence of a mental language, and so therefore, Hume has no way to cash out the cognitive science he invents. "Bother epistemology," Fodor concludes. "And bother empiricist epistemology most of all."[23]

Those of us who are less interested in whether empiricism accurately described the way in which the mind works than in what its model of the mind can tell us about seventeenth- and eighteenth-century culture might still learn a great deal from the frustration in this particular area. If the "idea" in the representational architecture of empiricism turns out on comparison to be an image of an object and thus to be object-*like*, what, for example, might this tell about the related model of agency or action? The computational model tends to consider behavior as an output of a particular type of propositional attitude, an operation that takes the sentential form of "desire that . . ."; on this account, to say that I desire some particular object is to say that the object of desire is not properly an object at all (or at least not an image) but rather a constitutive unit of a language whose semantic yield supervenes on its syntactic placement. Empiricism also talked about agency in terms of attitudes, but with an important difference. There the representational structure preserved the pictures of objects without decomposing them into their constituents.[24] Locke, for example, argued that what motivates a person to take this or that action is uneasiness in the want of some absent thing. One acts to relieve this uneasiness by striving toward an object of desire or by ridding oneself of an object of distaste (2.21). The arc of the mental state that produces action is propositional (or aspires to be), but the structure in which the proposition is expressed is not a language. One's attitude is in relation to an object-image, not to the sentence in which that object-image is decomposed. And so agency on this view is an output of a person's relation to an idea that is picture-like.

In taking account of a person's actions, we ought to infer backward to some prior mental state in which that person stood in relation to an internal object in roughly the same manner that one stands before a thing one sees.

When writers like Locke and Hume attempted to account for knowledge, they thus had to account for what it *felt* like to stand before an image. On the computational side of things, the question of knowledge ought really to be dispensed with when we talk about thinking. It can only introduce a fateful confusion of epistemology with psychology, a discussion of justification with a discussion of mental process, and thus a thralldom to the image instead of a manipulation of symbols. (It also introduces the messy question of who or what is experiencing the feeling of thought, a problem that computation tends to consider unanswerable and beside the point.) In this instance, however, the confusion leads to an interesting dilation on the subjective experience of objects and associations. The cognitive disciplines would refer to this experience as qualia—the immediate sensory impact of an object—or, when strung together, as phenomenal consciousness.[25] Locke was indeed one of the first philosophers to name the relation we have to representations as "consciousness," and it is on this basis, he argued in his chapter on personal identity, that we have an idea of ourselves as "selves" (2.27). Locke's chapter on personal identity was one of the most controversial sections of the *Essay*.[26] It is also quite a familiar one to scholars of eighteenth-century literature, so I won't belabor its contents here except to remind us that Locke makes the point that personal identity resides in the awareness a mind has of its internal repertoire of experience: "consciousness always accompanies thinking, and 'tis that, that makes everyone to be, what he calls *self*; and thereby distinguishes himself from all other thinking things, in this alone consists *personal Identity*" (2.27.9). To be a person is to have a series of connected experiences during which time one is aware of the representational nature of one's thoughts; it is to believe that the same person was in view of representations in the past as in the present, and that one ought to care about the person's fate in the future.

One of Locke's earliest readers, the philosopher, playwright, and novelist Catherine Trotter, takes up this point in her 1702 *Defence of Mr. Locke's Essay on the Human Understanding*.[27] The argument Trotter feels the need to defend at length in the pamphlet is Locke's notion that identity resides in a form of consciousness defined as the awareness one has of representations. "*Personal Identity*," Trotter argues "consist[s] in the *same Consciousness* and not in the same *Substance*, for whatever *Substance* there is without *Consciousness* there is no *Person*."[28] So far Trotter adds little to the language of the *Essay*. The distinctiveness of Trotter's approach becomes apparent when she moves to describe how the self takes shape as a series of attitudes taken in relation to objects and

thus, she reasons, as a series of objects itself. The mind is a peculiar kind of stockroom. "I am thinking," Trotter writes, "of a horse; his beauty strength and usefulness. Does this thought preserve the Idea of a Church, of Happiness or Misery" or, for that matter, of an "apple" or a "table"? Or are these things pushed out by new ideas? "If they remain in the soul when I was only thinking of a horse," Trotter continues, "wherever they are bestowed, it may be presum'd, there is room for that one idea more without thrusting out another to give it place."[29] Because I still have the idea of a church somewhere in my mind when I think about a horse, or because I can preserve the idea of a table or a person when I think of an apple, I am able to string different objects into unique thoughts. And because I am able to produce and be conscious of such thoughts, I am the same person today as I will be tomorrow, one subject to the distinctive accidents of the narrative of life and culpable for my actions in this world and the next.

The leap to identity is, as Locke's critics pointed out, not so much proven as assumed in this argument, since there is nothing in the logic of mental representations to entail that the same person is always in view of different ideas.[30] Trotter takes it upon herself to make ideas supervene on a person who is having them. Her consideration of whether there is space in her head for more pictures—whether she can find room for an apple once she looks at a horse—is in this respect a kind of literal version of the theory of association, a way of imagining one's life as a constant series of mental representations. Ideas are representations of things and also things in one's mind. The mind is a bottomless satchel of ideas. Life is an aleatory string of connections between them. A writer of fiction as well as philosophy, Trotter was well suited to draw out the supervenience of ideas upon persons. Around the same time as Locke's *Essay*, she published the epistolary novel *The Adventures of a Young Lady*, a loosely told story of the various amours of Olinda, who one day meets and falls in love with the older Cloridon. Misled into thinking that Cloridon has fallen in love with someone else, Olinda discovers to her surprise the strength of her feelings. "I found myself seiz'd with an unusual I knew not what."[31]

> As soon as I was alone, I examin'd my self upon the matter. Why shou'd this trouble me (said I within myself) who wou'd not entertain his Love, when it was offer'd me, and I have often Resolv'd never to see him, even when I thought him Constant? How comes it then, that I am so Griev'd and Angry that he loves another? And that I wish with such impatience for his Return? In fine, I discover'd that what I had call'd Esteem and Gratitude was Love; and I was as much asham'd of the Discovery, as if it had been known to all the World. I fancy'd every one that saw me, Read it in my Eyes: And I hated myself, when Jealousie would give me leave to Reason, for my extravagant thoughts and wishes.[32]

Olinda's bout of concern leads her to inspect the procession of her ideas and so arrive at what Trotter and Locke would call her personal identity. The "I knew not what" that seized her can be revealed only by introspection and self-reporting. Thus, epistolary disclosure is augmented by internal speech, as if the writing down of ideas was not enough to display their actual content and she needed to strip the external covering to see the mental process itself. The voice inside Olinda's head represents her ostensibly real thoughts; the voice of the letter writer, a reflection on those thoughts that leads to a discovery of their truth (that she is in love). Olinda's ideas become so clear to her as pictures that she imagines others must be able to see them as well. Or so she fears when self-examination leads her, at the end, to place herself in the position of someone else viewing the young lady named Olinda who is so clearly in love with Cloridon. The multiple perspective slows down the train of Olinda's ideas so that each may be separately examined as a discrete image; this is how she discovers that esteem and gratitude are really love. As Trotter will go on to argue in defense of Locke, the self is a collocation of mental states, a collocation to which we may attribute desire, belief, and, finally, action. Understanding that a person's identity is composed of thoughts that have the property of images and images that are representations of objects thus credits that person with an inner life and accounts for her behavior.

Mind Reading

Olinda's letter is an object in a series of objects, and so it both peers into and provides a model for her thoughts. The unusual proximity of Locke and Trotter, and the interesting anomaly that Trotter was a writer of both philosophy and fiction, reveal a more general point about empiricism and epistolary form at the turn of the century: each is interested in putting the interior states it reveals into a sequence. Epistolary novels place one letter after another and, like the minds they represent, run by association, not by computation. (As a model of the mind, *Pamela* has no language of thought.) They also draw attention to one special feature of the variety of objectification on view in the passage from Trotter's story: namely, that the particular object represented within the mind of Olinda is her own mental state, by definition not something observable in the external world. Since all mental states are representations, on the Lockean view, the object-image we are invited to examine is a metarepresentation of what she is thinking, an idea of an idea. Such high-order metarepresentation is relatively common for fictional characters and can occur in moments of both introspection and self-reporting—Olinda's thoughts about what she must be thinking—and in reflection on the minds

of other people. Anytime one character attributes ideas to another or thinks about what another character might be thinking, the mental process involves turning that person's thoughts into an object within one's own mind. Contemporary philosophy and cognitive science call this process "theory of mind," so named because it describes how one mind goes about developing a theory of the contents of another (or, as in the case of first-person mind reading like Olinda's, of itself).[33] The point is that mental states are never observable in the same manner as Trotter's horse, and so some sort of inferential process, or mind reading, must be at work in order for them to be represented or formed into ideas at all. This is especially so in the case of third-person mental states, where attribution is undertaken at a distance from the mind that is being represented. The eeriness and power of the Olinda passage, for example, derives in part from her reading of her own mind from a third-person perspective, imagining that some outside observer could view its contents through the look in her eyes.

The sort of theory that Olinda is developing in this passage is of her own mind and it is presented to us as a discovery that she is in love. The manner in which the passage slows down to present the process of mind reading and then switches at the end to a third-person perspective on first-person experience describes a rather intricate version of what is elsewhere an ordinary procedure, one in which, as Alvin Goldman puts it, "people attribute to self and others a host of mental states" and interpret human actions in the "mentalizing" terms of desire or belief or intention.[34] The narration of Olinda's discovery seems so remarkable, in fact, because it is such a complicated and involuted version of an everyday practice. Her worry at the end about the visibility of her mental states is a doubly embedded act of representation, in which she reads what she fears other people are reading about her thoughts. To put this in terms of Trotter's empiricism, Olinda represents her past mental state when she is alone and reflecting on what had seized her. This metarepresentation includes, as it goes along, an embedded mental state that belongs to "everyone" who, in turn, represents the mental state of Olinda in love. Mental state representation is not always so recursive or multiply embedded, and in fact, theory of mind as a philosophical or cognitive enterprise is designed to address the often-simple ways in which agents interpret others or themselves in terms of belief or desire or one or another emotion. So, for example, when Olinda spurns an earlier suitor, Berontus, she describes how he "left me almost as Angry at himself as he was before at me; and did not come near me for some time there-after."[35] Olinda here attributes an emotion to Berontus because of the way he speaks and acts in her presence; she then draws inferential conclusions about his subsequent behavior (his not visiting her) on this basis

even in the absence of any observable evidence. Fodor would call this a "piece of implicit, non-demonstrative, theoretical inference," not least because the episode is so ordinary and unreflective.[36] One imagines that Trotter did not give the description a moment's pause, which is only to say that even the least remarkable incidents of third-person mind reading involve an objectification of another person's ideas so they may be formed within the representational architecture of one's own mind.

I don't think that Trotter's novel is remarkable in this particular case, nor do I think it really could be. What I want to suggest, however, is that there is a relation between the empiricist model of thought and the way in which theory of mind problems were developed in the early novel. We have already seen that empiricism tends to model cognition in terms of association and semantics in terms of object-pictures: a horse giving way to an apple or a church or a concept of faith or of happiness or misery. There was something particularly amenable about this representational theory of the mind to the type of meta-representation that goes on when one character attributes thoughts to another or when a reader attributes thoughts to both. One person represents another person's representation, and in each case the idea is experienced as a kind of object-picture or an association among them. "He left angry" is an instance of second-order attribution and so a relatively simple instance of mind reading. Things get more complicated when one is attributing a mental state to someone who is doing the same. Suppose Olinda notices that Berontus is angry about her loving someone else: her mental state includes an idea of his, yet "his" includes an idea of hers. In recent work on theory of mind problems in the novel, Blakey Vermeule and Lisa Zunshine have each described the way in which such embedded "orders of intentionality," as Vermeule puts it, increase "the cognitive load on both writer and reader alike" in a way that leads to experiments in literary form designed to capture the "gauzy filaments" of consciousness in the "fragile casing of narrative."[37] I will have more to say about this "cognitive load" below, but I would point first to the way in which the broader insight finds support in Trotter's representative version of epistolary thinking, with its sequential ordering of ideas and concern for first- and third-person mental states.

We need not look only at epistolary fiction or concentrate on the canonically "psychological" novels of Richardson or Burney in order to find intricate, multiply embedded orders of intentionality in the fiction of the period. Consider, for example, the following passage from Defoe's *Roxana*, where the eponymous heroine discusses the possibility of regret with her lover at the time, the French prince: "My dear, says he, if once we come to talk of Repentance, we must talk of parting." The exchange then becomes speechless,

contained within a single recursive thought: "If Tears were in my Eyes before, they flow'd too fast now to be restrain'd, and I gave him but too much Satisfaction by my Looks, that I had yet no Reflections upon my Mind strong enough to go that Length, and that I could no more think of Parting, than he could."[38] The burst of emotion suggests a transparent feeling, as if her disinclination were the actual tears. Yet the content of her thought, as Defoe narrates it, is an intricately layered series of embeddings, reaching at the end to fourth- (and, if one counts the reader, fifth-) order intentionality. What Roxana writes might be reworded like this: "I realized that he thought that I had no more intention of leaving him than I thought he did of leaving me." Or even more boiled down: "I thought that he thought that I thought the same thing about him that he thought about me." Putting it the first way flattens out the passage, and putting it the second denatures it entirely. Even so, the two rewordings allow us to see the way in which Defoe attempts to compress within a single image a multilayered embedding of one mind within another described to a third.

To illustrate the passage from *Roxana* within the empiricist architecture of mental representation, all we would have to do is make a slight adjustment and say that Roxana represents the prince's idea of her, which is itself embedded with an idea of him, and that each idea runs on an association of object-pictures, including especially the final moment when the tears contain both Roxana's feeling and her sense of what the prince must be feeling. To what degree is it unhistorical to describe this as a theory of mind problem and to make recourse to cognitive science for its explanation? Not so much, I think, or at least not yet. Mental content (one's own and others') was an intense concern for the period that developed both the representational theory of mind and the literary genre in which the theory was explored. Theory of mind, as I've described it so far, works as well as it does with the architecture of mental representation, in other words, in part because each is an eighteenth-century preoccupation. Roxana's tears bring out an idea. That idea has the quality of a picture of the prince's feelings looking at a picture of hers. When we interpret her burst of tears, we attribute to her a mental state she describes as a feeling caused by a certain image. What Fodor might describe as the error of Trotter's or Defoe's empiricism, then, might also be viewed as the way in which writers from the period formalized problems of thinking, mind, and mind reading.

Considering how entwined theory of mind is with the literature and philosophy of the period, I don't think it's very surprising that the cognitive disciplines have become of special interest to eighteenth-century scholars, like Vermeule and Zunshine. Empiricism's attention to the cognitive solicits a notice from critics, who then use theoretical tools in historical continuity with the theory of the period itself. In posing this as a historical problem, however,

I am reading somewhat against the grain of their work. Zunshine's *Why We Read Fiction: Theory of Mind and the Novel* (2006) argues that novels are "grist for the mills of our mind-reading adaptations" because they ask us to "posit a mind whenever we observe behavior as they experiment with the amount and kind of interpretation of the characters' mental states that they themselves supply and that they expect us to supply."[39] Our mind-reading capacities are, on this view, the same as any reader's in the eighteenth century. When, for example, Zunshine argues that *Clarissa* is a "massive and unprecedented in Western-literary-history experimentation with readers' Theory of Mind," she means to suggest that the novel's tragically entangled and often-mistaken spots of attribution are unprecedented while the cognitive capacities of readers are not.[40] Thus, the novel "reenters culture with every new interpretation because it is peculiarly geared to its exclusive environment," a fixed ecology that it "latches onto."[41] Fictional minds are one thing and real minds are another, and the one develops techniques to approximate or provoke the other.[42]

In place of this kind of argument, I've attempted to show how some of the formal features of the early novel match up with the naïve theory of mind seen at work in the fiction and philosophy of the period. Putting matters this way, though, risks contrasting a weak historicism to a hard-nosed cognitive science. We wouldn't want that; so let's look a little closer at Zunshine's claims. If the account of *Clarissa* seems to place the novel within the ostensibly permanent features of human psychology, that may be because of the particular strain of cognitive science with which she is working. Heavily indebted to the work of Simon Baron-Cohen, Zunshine has taken on board a series of assumptions about the evolutionary history and modular structure of the mind/brain over which there is considerable debate within the theory of mind literature itself.[43] Mind reading on her account is an adaptive capacity that "must have developed during the 'massive neurocognitive evolution' which took place during the Pleistocene (1.8 million to 10,000 years ago)."[44] As early humans began to live in groups, pressure was placed on interpreting behavior in terms of mental states, and so natural selection favored a cognitive architecture structured for metarepresentation. Theory of mind subserved a kind of atavistic chess, according to which hominids were always trying to find out, in Baron-Cohen's words, whether someone's "next action is to attack you, or to share its food with you, or to mate with you."[45] The logic of this argument works by what is often called reverse engineering, taking the alleged properties of the human mind and tracing them backward to some early moment in the Darwinian drama. So, according to this story, adaptation promoted the development of a Theory of Mind Mechanism (ToMM), located in a special module devoted to inferring, or theorizing, mental states.[46]

The evolutionary-modular account is often described as a "theory-theory" because it emphasizes how agents make speculative inferences about mental states.[47] Once the ToMM goes online, it supplies a rudimentary theory of mental content and allows agents to read behavior in terms of belief, desire, and the like. Our minds are designed, on this view, to provide automatic attributions according to one or another psychological law. The ToMM receives as input certain information about a target's eye movement or speech or physical action and provides as output an idea of what the mental state of the target is likely to be, in roughly the same way that a cyclotron measures particle speed. Mental states are themselves unobservable, yet we are built with mechanisms to provide inferential or theoretical knowledge of them anyway. When Zunshine writes of "the relationship between our evolved cognitive capacity for mind-reading and our interest in fictional narratives," therefore, she suggests that novels raise to the level of conscious apprehension a process soft-wired into a specific, encapsulated domain of the cognitive mind, one put in place by natural selection thousands of years before the writing of novels themselves.[48]

Zunshine's point is not exactly to reveal the novel as a fortunate holdover from a template set in stone ages ago. She wants to claim that there are an infinite number of possibilities that could arise from our cognitive endowment and that any particular genre must be traced to the circumstances of its time before it is correlated with the adaptive structures of the mind.[49] Even so, the burden of transposing this account of evolutionary development to the artifacts of a given historical moment—not simply the eighteenth century but *any* spot of cultural time after the invention of writing—is considerable. It is a long way from the Serengeti Plain to Harlowe Place, and one wants to keep the "fragile casings" of narrative from buckling during the ride. Zunshine attempts to resolve this problem by emphasizing that theory of mind is "context dependent."[50] The module comes online only through social interactions, including the various tasks we perform as readers; while we do not need to read *Clarissa* to learn how to attribute mental states to other people or ourselves, our capacity to do so is given a workout when we do. Suggestive as this argument is, it still leaves the process of attribution separate from the artifacts with which it is correlated. The one is literally prehistoric; the other, from some moment in recorded time.

Where does this leave the episodes of mind reading we observed in Trotter and Defoe, let alone the drawn-out inferential drama of *Clarissa*? When Roxana attributes to the prince a mental state that contains an image of her own embedded with his, she seems to interpret his behavior in light of her own feelings. He is every bit in love as she, which she knows because she feels so in love herself. One word for this sort of mental transposition during the eigh-

teenth century, whether of propositional attitudes or emotions, is sympathy. I raise the connection here because eighteenth-century models of sympathy bear something of a family resemblance to the main rival of the theory-theory approach to mind reading: the "simulation theory" developed by philosophers like Goldman and scientists like Vittorio Gallese. Simulation theory, according to Goldman, "says that ordinary people fix their targets' mental states by trying to replicate or emulate them. It says that mindreading includes a crucial role for putting oneself in others' shoes."[51] The important point of distinction between this account and the theory-theory of Baron-Cohen and others is that simulation presumes that agents come to a theoretical inference of the contents of other minds only after they first take their own system off-line and run a simulation routine of the target's mental state. Agents operate "their mechanism on the pretend input appropriate to the target's initial position [and] use their own minds to 'mirror' or 'mimic' the minds of others."[52] Inferential metarepresentation is thus the final output of a process that includes an initial, introspective self-representation generated by an enactment of the conditions under which the other mind is understood to be thinking.

Third-person attribution on this account begins with a first-person simulation of the thoughts of someone else or oneself. While philosophers like Goldman are more reserved in their language of modules and less committed as a rule to evolutionary psychology, they share theory-theory's contention that mind reading typically occurs at the "functional or neural" level and only on occasion reaches the threshold of conscious awareness.[53] Were we to correlate the passage in *Roxana* with a simulation routine, we would thus have to account for the way in which the novel slows down, in order to make explicit and track, a subpersonal and speedy cognitive mechanism.

Perhaps that is what literature does after all, perhaps not. I would merely note here that the eighteenth century's version of mind reading does not seem entirely apart from the version offered by simulation theory. Compare Goldman's account of shoe wearing to the opening page of Adam Smith's *Theory of Moral Sentiments* (1759). "As we have no immediate experience of what other men feel," Smith begins, "we can form no idea of the manner in which they are affected, but by conceiving what we ourselves should feel in the like situation."[54] Our senses can never "carry us beyond our own person," so in order to form an image of what another person is thinking or feeling we must use our imagination to "place ourselves in his situation" and "conceive ourselves enduring all the same torments" as him (9). Smith's opening move is strangely familiar: mental states are by their nature perceivable only through some sort of inferential stance. Even if our brother is on the rack, we come by our sense of his thoughts indirectly, and even then it will only be a simulation generated

by taking our system off-line and replicating his predicament in our mind. The resemblance of the simulation routine to the way in which our period talked about the mind contains no easy lesson, however, for how we might correlate the literary historical materials with the methods of cognitive science. One might want to say that it provides a way to avoid the transmillennial gap between cognition and culture that we encountered in evolutionary theory-theory. Seen this way, mind reading need not arrive so hardened and so entirely in advance of fiction. The roots of the routine in eighteenth-century philosophy are, like the novel, part of an attempt to come up with a model of the mind. Yet this risks collapsing the two into a facile symmetry, in which Goldman's account is preferable simply because it seems *like* the artifacts we are used to reading. Whatever we gain by identifying a shared project between our period of study and present-day theory ought not to be purchased at the expense of what we have seen as the productive friction between the two or stand in place of doing the hard work of relating what happens visibly in novels and what might occur intractably in minds. In what remains, I'll sketch out some preliminary thoughts along these lines.

Those of us who work in literary study are, needless to say, not in a position to judge the relative merits of simulation theory and theory-theory as accounts of the mind itself. We take what we can, putting modes of analysis together and seeing what emerges in the process. In this way, the appeal, as well as the disadvantage, of the simulation approach consists in the relation it illustrates between fictional and the philosophical versions of the mind and between the eighteenth-century materials and contemporary theory. The questions raised by this relation are, accordingly, under what sort of social, technological, and cultural pressures did the period come up with a model in which introspective mind reading became both possible and urgent, and according to what formal devices did writers evoke and render palpable a process understood to be mental and imperceptible? I cautioned earlier against tracing an evolution of literary forms in terms of a steadily more accurate account of what is set in stone in the distant past. Smith's version of the simulation routine provides, in this respect, an alternative model of how the language of cognitive science might work for literary study. When he writes that we have no way of getting beyond our own sense of things—that the first-person experience of our brother on the rack is inaccessible to us by anything other than an inference—he places great importance on the role of the imagination to reveal a second-order representation of what our brother might be thinking. We have seen already that what then ensues is a simulation that outputs a sympathetic sense of his pain.[55] The function of the imagination in its root sense of presenting images remains of interest. Smith here relies

upon the empiricist account of cognition as an association of ideas rendered as object-pictures of experience: "It is the impressions of our own senses only, not those of his, which our imaginations copy. By the imagination we place ourselves in his situation . . . and thence form some idea of his sensations" (9–10). The imagination forms a picture out of one's own repertoire of experience in order to form a picture of someone else's. We can imagine someone else's sensation if we manage first to imagine our own in her place. Arranged this way, the imagination allows for a kind of counterfeit sense, or picture taking, of one's experience as a replicated state of another's. In so doing, it relies on the implicit notion that mental images have the ability to yield intentional content, one's own or others'.

The reliance on this sort of semantic yield is simply one error of empiricism, according to the computational model. The imagination is an insufficient medium for mind reading because the pictures it furnishes do not mean anything until they are decomposed into a language of thought. Or, to put it another way, Smith places too much faith in the unbroken integrity of images, since after all, only some parts of an image are constituents of meaning and those are important in virtue of their syntactic placement. I raise the contrast of the associative structure of sympathy with the computational architecture of the mind at this point because it uncovers several clues about the complicated role the imagination plays.[56] As we have seen, the primary function of the imagination appears to be to provide an image of another person's thoughts or feelings. One can never experience what is in another person's mind, but one can have a second-order inference of it by imagining oneself in that person's place. In this respect, the imagination adds something to the ordinary association of ideas. The association pattern typically runs by putting together ideas that are copies of experience. Yet mind reading involves producing an idea that has no correspondent in experience beyond what we can imagine were we to be in the same situation ourselves. At the same time that the imagination adds something to association, however, it also implements association. "When two objects have frequently been seen together," Smith writes, "the imagination acquires a habit of passing easily from the one to the other. If the first appear, we lay our account that the second is to follow. Of their own accord they put us in mind of one another, and the attention glides easily along them" (194). In the first account, imagination supplements the associative logic by providing ideas of things one never has experienced. In the second, it implements that logic by providing the glue between one idea and the next. We expect one idea to produce another because we remember that it has done so in the past. On the computational side, traces of ideas lodged in memory are reworked into the language of thought every time one has a new idea. As Fodor puts it, "you

don't need an independent faculty of the imagination to implement inductive principles" because you can always feed traces into new thoughts: "records of X/Y coincidences are written in whatever language the mind computes in (Mentalese, say) and are stored in locations in the memory (for example, on the tape, assuming that the mind has the sort of architecture that Turing machines do). These records are themselves mental representation tokens; they are semantically interpretable and causally active and can be moved and copied, ad lib."[57] And so the object-image breaks down to the memory trace, whose meaning inheres only in its sentential function. Put next to Fodor, then, we can see how Smith tasks the imagination with joining whole pictures to one another and, as a consequence of this function, with producing pictures of things one never sees, like another person's mental state.

The point of comparing sympathy to computation is thus to reveal rather than to dismiss Smith's empiricism. Smith understood ideas to have the shape of pictures and thinking to be an association among them. Computers may not work that way. But novels might, or they might have. Many early works of fiction are of course quite concerned with coming up with forms to depict thought. The question remains to what degree the account I have provided is useful in explaining these forms. I have tried to show how eighteenth-century fiction and philosophy understood intentional states as relations to object-images and the process of attributing such states to oneself or others as a nesting of images within images. To put things this way is not to say that what novels really do is slow down or make explicit what is at the cognitive level an extremely fast and unnoticed process. Rather, it is to say that novels represented thinking in such a manner and that novelists understood reading to occur in such a fashion. It is to say that thought often occurs in eighteenth-century fiction as a process of reciprocal image association also imagined to obtain in the process of reading. Such a version of thinking is both like and unlike the computational theory of mind. Neither one has to be explained by the other in order to see how models taken from the cognitive disciplines might sit in an interesting tension with the theory of the period itself. Both are evidently concerned with describing the way in which the mind works. And in the comparison, much of what is particular about thinking in eighteenth-century literature and philosophy comes sharply into view.

6

Around 2005; or, Two Novels and the Problem of Consciousness

"Consciousness" is a tricky word. In everyday conversation, it brings up ideas of the self or soul or thinking or simply the contents of the mind. In philosophical or scientific use, it usually refers to the raw feel of some mental state, or, as the expression goes, "what it is like" to see red or taste asparagus or stub a toe or feel ashamed.[1] Consciousness in this sense just means experience, and to be conscious means to have the experience of, say, seeing blue or feeling cold or being anxious. For all its apparent simplicity, however, such "phenomenal" consciousness or examples of "qualia" turn out to pose troubling questions for inquiry into the mind, including the fundamental question of how there could even be states of conscious experience in a physical world. Matter itself seems to be without experience and yet it gives rise to experience of various kinds. How is this possible? How could the physical state of something like a brain create the subjective state of something like a sharp pain or a saturated field of color? In the words of the neuroscientist Christof Koch, "How can activity in the brain trigger feelings? It's just squishy stuff." Philosophers and scientists perplexed by this question refer to it as the "hard problem" of consciousness.[2]

What Is It Like?

My aim here is to look closely at the migration of the consciousness problem to contemporary literary culture.[3] Let me begin, however, with some intellectual history. For that we need to step back to the 1970s. "Consciousness is what makes the mind-body problem really intractable."[4] This short and sharp statement forms the opening sentence of Thomas Nagel's foundational essay on consciousness, neuroscience, and reduction, "What Is It like to Be a

Bat?" The essay proceeds as a thought experiment designed to illustrate how consciousness eludes physical explanation. Nagel would like to understand the subjective experience of being a bat. How should he proceed? Bats have a perceptual system unlike ours. They navigate by bouncing sonar off objects and calculate their relation to prey by the angle, speed, and volume of returning sound. Humans cannot echolocate in this manner because we lack the organs to emit or hear sonar. We understand how echolocation works because bat scientists (chiropterologists) have studied the behavior and physiology of bats. But lacking the perceptual organization of the bat body, we cannot form a conception of what it is like "for a *bat* to be a bat" and to perceive the world by deflecting sound off ambient objects (169). This point of view is "denied to us by the limits of our nature," our wanting the proper anatomy (170). The inference Nagel drew from this example was simple. The analysis of echolocation performed by chiropterologists goes far to describe the structure and function of the bat nervous system while still not providing an account of bat experience. No matter how complete, physical description cannot reveal how the world appears to a bat and so cannot explain what bat experience *is like*. The reduction to physical explanation "can succeed only if the species-specific viewpoint is omitted from what is to be reduced" (175). Since this viewpoint is nothing other than experience itself, Nagel concluded, the program of reduction comes up short—hence the intractability Nagel observes in his lapidary first sentence. For perfectly natural reasons, consciousness eludes the ordinary procedures of scientific understanding, despite the best advances in our comprehension of the way the brain works.

Unlike every other feature of the physical world, consciousness cannot be stepped outside of and examined objectively, on this account, or not at least without losing sight of what one is studying. We may examine the physical structure of brains by reducing them to microscopic parts, and when we do so, we get closer to the nature of brains themselves. Were we to try to do so with any conscious experience, however, we would only get further away from that experience. "Every subjective phenomenon is essentially connected with a single point of view, and it seems inevitable that an objective physical theory will abandon that point of view" (167). Science brings the world into focus by taking it away from any one point of view. Conscious experience *is* precisely one point of view, so "any shift to greater objectivity—that is, less attachment to a specific viewpoint—does not take us nearer to the real nature of the phenomenon: it takes us further away from it" (174). Even if we were to locate the precise events in which the brain creates, for example, the feeling of a shirt on one's neck or the brown and green appearance of tree bark, doing so would abandon the experience of feeling a shirt or seeing tree bark

to arrive elsewhere: the neural events that ostensibly give rise to the experience. So how can we make consciousness amenable to the ordinary method of objective, third-person science?

The crux of Nagel's essay was not that consciousness is drawn from a mysterious kind of substance or exists apart from the rest of nature; nor was it that conscious experience is essentially private and unique.[5] Rather, the opposite is so in either case. One reason conscious experience poses special difficulties for the scientific program, according to Nagel, is because it varies according to its physical ground: the sound heard by animals with cochlea of one kind, the joy felt by creatures with limbic systems of another. In fact, this variance comes close to defining what consciousness *is*: "the fact that an organism has conscious experience *at all* means, basically, that there is something it is like to *be* that organism . . . something it is like *for* the organism" (166). Conscious experience has the features it does because of the precise physical nature of the creature that is conscious. To be conscious is to have a point of view, and to have a point of view is to have an experience fixed by one's "fundamental structure" or "internal neurophysiological constitution" (169). Considering our own case, we could say, for example, that the exact distribution of rods and cones in the retina controls what it is like to see a certain color. Any one experience of green (say) is a single instance of a larger type: what it is like for me or you or anyone else with eyes of a particular kind to respond to different wavelengths of light. Conscious experience is therefore physically specified and shaped. At the same time, however, no description of the physical ground captures the experience itself. No amount of precise information concerning the structure and function of photoreceptors or the visual cortex or wavelengths of light would explain to a blind person what it is like to see green.[6]

Asking what it *is like* to be a bat therefore defined consciousness in a specific way merely by posing the question in a certain manner. The hard problem was that of explaining *phenomenal* consciousness or *qualia*, from the Latin *qualis* for "of a certain type or kind," such as the greenness of green, the taste of asparagus, or the tug of envy. It was not that of explaining higher-order thought or mental representations, neither of which were defined by experience and therefore both of which were more amenable to the standard procedures of third-person science.[7] To study the problem of consciousness is, in contrast, to attend to a what-it-is-like-ness specific to the physical structure of different organisms. Echolocation is a different kind of perception from sight. The formal organization of bat perception makes it difficult to adopt the bat point of view because the "view" is too altered for bat qualia to be approximated or known or imagined. While the overall thesis was (again) that no amount of objective data from neuroscience is going to tell us what an

experience is like, one important upshot was that experience itself has a form. The objective stance cannot describe what it is like to be a subject with a point of view because that stance leaves out the distinguishing formal features of experience: the different appearance of the same object when revealed by sonar or by light.

The historical background for these and related worries about consciousness has been the ascendancy of neuroscience. Already in 1974, Nagel could complain of the "wave of reductionist euphoria" cresting over the study of mind (165). In many respects, that wave only continued to peak. Advances in neuroimaging such as positron-emission tomography (PET) and functional magnetic resonance imaging (*f*MRI) scans only put us closer to seeing what a third-person view of the brain might be. Yet, for that reason (so the argument goes), they only sharpen the trouble of explaining features of conscious experience with reference to events in the nervous system. David Chalmers dubbed this difficulty "the hard problem of consciousness" in 1995, although by his own reckoning he had simply given a name to a widely shared concern.[8] "The hard problem," he wrote, "is that of explaining how and why physical processes give rise to phenomenal consciousness."[9] We know that much behavior is accompanied by conscious experience, and we know that such experience arises from neuronal activity, but we still don't know the *why* of the first or the *how* of the second. Worry about this situation furthermore was not unique to philosophers. Koch, for example, used close to the same terms to describe his own influential work on the neuroscience of consciousness: "the dilemma can be expressed succinctly by the question, 'How can a physical system, such as the brain, experience anything?' "[10] For Chalmers, "a solution to the hard problem would involve an account of the relation between physical processes and consciousness, explaining on the basis of natural principles how and why it is that physical processes are associated with states of experience."[11] For Koch, the "supreme aim" of the research program on consciousness, in contrast, "is to discover the *neuronal correlates of consciousness* or NCC," which he defined as "the smallest set of brain mechanisms and events sufficient for some specific conscious feeling."[12] Like the notion of a "hard problem," the expression NCC gathered considerable traction. The idea was simple and seductive: the science of consciousness should locate the neural systems directly associated with qualia of one or another kind.[13] This program stops short of explaining how events in the nervous system give rise to experience or whether they could occur without doing so. The idea instead was to try to see what activity in the brain accompanies which conscious phenomena.[14]

As such brain-based accounts of consciousness proliferated, the fundamental question of *how* a brain generates experience seemed again to remain

unanswered. Locating the "correlates" of experience in neuronal activity does not explain why or how such activity gave rise to experience, after all, just that such activity is associated in some regular way with experience.[15] In the words of the philosopher Joseph Levine, there is still "an explanatory gap" between the one and the other.[16] Responses to this dilemma through to the present period have ranged from the dismissive to the hopeful to the pessimistic, with much depending on the underlying commitments and worldview one carries.[17] For those favorably disposed to engineering and technology, the reduction of conscious states to events in the brain—the closing of the explanatory gap—is on the horizon of the kind of scientific work now well under way; we just need more time to get it right.[18] For those inclined to see consciousness as irreducible, in contrast, the explanatory gap entails a factual gap; we just need to expand our account to include both the experiential and the physical.[19] For some even, the consciousness problem has meant that we should enlarge our sense of the physical so that it includes phenomenal experience among the basic furniture of the universe. Alongside physical properties like mass or charge reside phenomenal properties of what some experience is like: this is the counterintuitive yet increasingly popular theory known as panpsychism, explored in the next essay.[20] For still others, the problem has meant a renewed attention to embodiment and to considering experience as something that conscious agents transact in relation to an environment they inhabit. This approach will be especially relevant in the final section of this essay. In all these cases, the recent success of the neural everywhere except where it matters most has led to some hard thinking about what the ordinary procedures of physical explanation cannot reach and what the terms "physical" and "experiential" should be taken to mean.

The rest of this essay concerns how literary writing has in its own way shared in this project. I focus on two novelists—Ian McEwan and Tom McCarthy—who have written in expository fashion about the consciousness problem, and I look closely at two of their novels, McEwan's *Saturday* and McCarthy's *Remainder*, both published in 2005 and both committed to using the shape and style of their sentences to address the issues that the consciousness problem raises. This formal dimension is especially important. My novelists are significant to consciousness talk because they respond to its questions in the unique manner of their medium, not because they are public intellectuals (although they are that too). They are significant, that is, because they assert the importance of aesthetic form for understanding experience in a world that might otherwise have no place for it. In this respect, the novels display an interesting pushback, I think, with respect to the questions and materials they're engaging. They have their own account of consciousness worth putting

in the mix. My own modest goal in pointing this out is just to emphasize the relevance of works of art and the humanities disciplines that study them for thinking through one of the fundamental topics of our time.

Ian McEwan and This View of Life

How is it that the brain gives rise to experience? And why is it that answers to this question remain so elusive? McEwan has articulated his position on these and related matters in a series of essays and interviews representing his thoughts as both the culmination of a long-standing interest in science and a particular response to religious fundamentalism, especially in the wake of 9/11. The lengthiest and most elaborate of these—"Literature, Science, and Human Nature"—appeared first in a volume edited by Steven Pinker and then in an anthology designed to bring evolutionary psychology to the literary humanities. I have written elsewhere about the "literary Darwinism" with which McEwan has affiliated himself, so I won't say too much about that here.[21] It's perhaps enough to say that McEwan's position on these topics rehearses the main tenets of the movement: "the mind [is] a biological product of adaptive forces," and "literature has always, knowingly and helplessly, given voice to . . . [that] which binds us, our common nature" as biological creatures.[22] Literary Darwinism and evolutionary psychology, however, have little to say about the problem of consciousness as such. One may believe that human psychology evolved under selection pressure during the Pleistocene Age and that novels emerged from and helped to create our peaceable nature without having any answer to the question of why any act of our psychology needs to be felt or how any physical object could be the locus of experience.[23] As elsewhere, empirical investigation into allegedly adaptive features of human cognition leaves the question of experience untouched. The relevance of McEwan's literary Darwinism to my present concerns therefore is only that it provides a background sensibility for his entry into consciousness talk, the sensibility behind statements like this: "it is this universality [our common nature] which the biological sciences, now entering another exhilarating phase, are set to explore further."[24] The standing disposition of our author, we might say, is empirical, skeptical of mystery, and taken with experiments in neurobiology.[25]

Let me pose as a curious example of this disposition—curious because it states a position on these matters and then undercuts itself—a passage seemingly "about" the consciousness problem from near the end of *Saturday*, McEwan's novel of neurosurgery and home invasion set on the day of international protest to the invasion of Iraq. *Saturday* tells the story of one traumatic day

in the life of a neurosurgeon named Henry Perowne, whose afternoon of squash playing and fish buying becomes ominously interrupted when his car collides with that of a marauding criminal named Baxter. After diagnosing Baxter on the fly as suffering from degenerative Huntington's disease and then defending his family from the criminal's later invasion of his house and near rape of his daughter, Perowne returns to his operating theater. Baxter's now-injured skull lies open, the brain awaiting a doctor's knife. An epiphany follows:

> For all the recent advances, it's still not known how this well-protected one kilogram or so of cells actually encodes information, how it holds experiences, memories, dreams, and intentions. He doesn't doubt that in years to come, the coding mechanism will be known, though it might not be in his lifetime. Just like the digital codes of replicating life held within DNA, the brain's fundamental secret will be laid open one day. But even when it has, the wonder will remain, that mere wet stuff can make this bright inward cinema of thought, of sight and sound and touch bound into a vivid illusion of an instantaneous present, with a self, another brightly wrought illusion, hovering like a ghost at its center. Could it ever be explained, how matter becomes conscious? He can't begin to imagine a satisfactory account, but he knows it will come, the secret will be revealed—over decades, as long as the scientists and the institutions remain in place, the explanations will refine themselves into an irrefutable truth about consciousness. It's already happening, the work is being done in laboratories not far from this theatre, and the journey will be completed, Henry's certain of it. That's the only kind of faith he has. There's grandeur in this view of life.[26]

The last sentence is an unmarked quotation from Darwin, whose biography Perowne has been slowly reading. Its presence is not surprising. In fact, we might easily extract from the sentences that precede the quotation a stance on the consciousness problem that fits well with the neo-Darwinian optimism found in McEwan's essays. This stance will remain consistent to the degree to which we remain with it as extracted content and bracket for a moment the manner in which it is here composed. Seen this way, the message and the moral is that the brain's giving rise to experience is difficult quarry but one in the ultimate purview of the recently advancing sciences. Someday we will know how the water of neural tissue turns into the wine of consciousness, just like we now know how DNA encodes the structure of life.

The analogy to life is a familiar one in debates about consciousness and is often used as a deflationary rejoinder to those who find the problem deep or intractable.[27] Once upon a time we couldn't understand how dead matter could create living organisms, now we do; the same therefore will someday be the case for how nonexperiential tissue gives rise to experience. Whether or

not one understands this analogy to hold defines in no small part one's position in the larger debate. According to Daniel Dennett and Stanislas Dehaene, for example, once you have explained functions like "encoding information" and "hold[ing] experiences, memories, dreams and intentions," you have explained consciousness itself.[28] On their view, our relation to consciousness is exactly like our predecessors' relation to life; we just don't yet understand the relevant structures and functions in the brain. In contrast, according to David Chalmers, "there is a disanalogy between the problem of consciousness and problems in other domains." Life may be explained entirely in terms of structure and function without any further or open questions, whereas consciousness always brings with it the question of why any relevant function is accompanied by experience. So "there is no distinct 'hard problem' of life, and there never was one," whereas there is a hard problem of consciousness, and there may always be one.[29] In establishing the analogy to life, therefore, the narrator's perspective would seem to be close to Dennett's and Dehaene's. The "final secret" of the brain lies in the purview of objective explanation like the rest of the physical world. Once the secret is disclosed, mystery will turn to wonder and bafflement to secular awe: look how much comes from so little!

The claim that wonder will remain once science has finished its business is common to those who celebrate neural or evolutionary accounts of human behavior. (Richard Dawkins's autobiography, for example, is titled *An Appetite for Wonder*.)[30] Yet it is, I think, mistaken to identify the narrator here with the author or to squeeze from the passage something like a statement or position on intellectual politics. The first thing we might recognize in this respect is that the epiphany turns on a certain trick. For although it is the infirm and injured home invader, Baxter, whose brain lies exposed, it is the neurosurgeon Perowne whose consciousness frames the scene and through whom the perspective is focalized. There is, in other words, an important mismatch between the brain depicted and the experience evoked. This split is at once extended and papered over by the further trick of McEwan's style, the insistent perfection of his sentences in free indirect discourse. As is the case throughout the novel, that is, the passage appears to translate Perowne's first-person experience into the third-person grammar from which the story is told. In Frances Ferguson's words, *Saturday* "tracks its chief protagonist's movements and thoughts with the sort of closeness only available in the mode of reported speech and thought, or *free indirect* style," so "we learn what one might learn if one were inside the head of Henry Perowne, husband, father, neurosurgeon, party to a minor traffic accident, squash player, and son."[31] I would only add to Ferguson's account that our closeness to what is "inside the head of Henry Perowne" is at something of an angle and our learning comes with some com-

mentary. As is often the case with free indirect discourse, McEwan's sentences remain partially detached from the perspective they slide into. They hover in a space between omniscient diegesis and a world understood from one place, now brushing up to Perowne's view, now stepping back to remark on that view. The passage begins with a plain narrating forward from the indicative mood, "For all the recent advances," still very little is known. With the sudden switch to the interrogative—"Could it ever be explained, how matter becomes conscious?"—and so to the classic marker of the free indirect style, we inch closer to Perowne's perspective even as we feel that his perspective is lightly mocked. The doctor is perhaps too confident that the answer is yes. So the passage is most in Perowne's view when it ends with a kind of evangelism it also criticizes: "the secret will be revealed . . . , the explanations will refine themselves. . . . It's already happening, the work is being done in laboratories not far from this theatre."

This grating of the message against the tone in which it is delivered—the sense in which we are supposed to find Perowne's secular piety a little overbearing—puts limits on any claim that McEwan is simply channeling the optimism of a Dennett or a Pinker into his story. Instead, it suggests that McEwan's form stands in an intriguing relation to its content. How is it that "mere wet stuff" can give rise to a "bright inward cinema of thought, of sight and sound and touch"? We are to understand the question as something passing quickly in Perowne's mind as he looks at someone else's brain: the inward cinema turned outward by McEwan's sentence. But it is the free indirect discourse of the novel, not the science of its protagonist, that facilitates the transition from first-person phenomenology to third-person syntax, as the forward motion of the narrative fastens a thought had from one point of view on to the surface structure of the story itself. The resulting play of proximity and distance lends itself to irony, in this case about Perowne's complacent optimism, but it also turns attention back to the form. Finely wrought sentences do the work that neuroscience fails to accomplish by detaching the experiential from the personal so it may reappear as the matter of narration. At the same time, the irony indicates something like a departure from the experience by making it subject to aesthetic distance: it is not simply Perowne we read, but Perowne braided with a knowing gloss. The form echoes the switch from Baxter's brain to Perowne's point of view precisely by making that view subject to wry reflection.

This sort of turn is arguably implicit every time McEwan writes in the free indirect style, but I'm particularly interested in its proximity to discussions of the physical grounds of experience, since there the form seems, as it were, to explain its content. Here is another example. Looking out from the balcony of

his Fitzrovia home, as the novel begins, Perowne glances down on two nurses walking through the square whose breath mists in the early-morning cold:

> They pass right beneath him, and make a quarter-circular route around the gardens before striking off. There's something touching about the way their breath rises behind them in single clouds of vapour as they go, as though they're playing a children's game, imitating steam trains. They cross towards the far corner of the square, and with his advantage of height, and in his curious mood, he not only watches them, but watches over them, supervising their progress with the remote possessiveness of a god. In the lifeless cold, they pass through the night, hot little biological engines with bipedal skills suited to any terrain, endowed with innumerable branching neural networks sunk deep in a knob of bone casing, buried fibres, warm filaments with their invisible glow of consciousness—these engines devise their own tracks. (11–12)

As elsewhere, the sentences track Perowne's consciousness while he considers the consciousness of others to be an intriguing problem, but they do so in this case with an insistent reflexivity about their own procedure. With the drop of the pronoun, we move immediately into the perspective that would find the nurses' breath "touching." Yet that is stepped back from in order to reveal Perowne's own empyrean perspective, itself an allegory for a narrator's remote yet possessive relation to his or her characters, his status as what Blakey Vermeule calls a "God novelist."[32] This is Perowne looking out his window telling a sort of story about those he sees, as a kind of god. These are his experiences, omnisciently presented, of their actions. Omniscience thus slides from the surface features of the allegory—the remote possessive god on his veranda—to the perspective taken by the narrator. In the act, the technique of narration itself comes under review. What does it mean after all to present what passes in the mind of an insomniac neurosurgeon in the early-morning hours of a major protest? And how does one do it? It is in the context of such attention to his own formal methods, then, that McEwan returns in the next sentence to free indirect discourse *and* to the metaphysics of consciousness and free will: my how those little trains go about their business, fired by mechanism yet not determined in their course of action! Once the pronoun disappears for a second time, in other words, the sentence does the work of third-person narrative sequencing—he sees this and then that—even as it sustains the first-person point of view. So ostentatiously laid bare, the form may then become a kind of theory of its content, answering the questions it asks. How is it that warm filaments and fibers can have a "glow of consciousness"? How can physical beings evade the law of determination and move on their own reckoning?

The form can answer these questions, after a fashion, because its design is to present experience on the objective plane of syntax and so make it available for all points of view. This presentation, of course, marks a shift in what an experience *is* precisely because it overlays any one of them with mood, tense, structure, and everything else that might make it more of a representation of a thing than the thing itself. The distance of Perowne from the nurses is in this way also the distance of the literary work of art from the political and neural events it describes, the distance, that is, of aesthetic autonomy. The ironic overlay—present here if in a more muted register than in the other passage—is only one dimension of the perfected sheen designed to separate the sentences from the experience they describe. The sentences become in this way abstracted and representational artifacts. In a further development of McEwan's irony, then, Perowne's own perspective turns out to be one that is uncomfortable with the novel's pervasive interest in beauty. Although his son is a musician and his daughter and father-in-law are both poets, Perowne himself is not sure he quite understands what "literary genius" is or whether "he's ever experienced it first hand" (65). "It interests him less to have the world reinvented; he wants it explained. The times are strange enough. Why make things up?" (65). The novel is formally committed to an aesthetics that its presiding character seems to disavow. McEwan's sentences do the work of presenting a consciousness that would find them inaccessible or a waste of time. Unable either to create or to appreciate works of art, Perowne imagines that his daughter must imagine him "a coarse, unredeemable materialist" (135). He reserves "awe" for the "material world, its limits, and what it can sustain—consciousness, no less," "the actual not the magical" (66). In contrast, the novel's own practice of putting experience into sentences that also perfect and abstract that experience—the novel's commitment to beauty and aesthetic autonomy—finds its person unexpectedly in Baxter, who is brought up short just before committing rape and atrocity by a spontaneous reading of "Dover Beach," a poem famously about the very split of art and science the novel ponders: "It's beautiful. You know that don't you. It's beautiful" (231). The response to the poem is like the response to the style. Insofar as each commands assent and presumes distance, both are at once the form of an experience and also the turning of that experience into something else, into art.

The Shape of Mind in Tom McCarthy's *Remainder*

It is perhaps not surprising that the corrective McEwan's fiction performs to the sort of science envy indulged by his essays derives from the high-water mark of nineteenth-century realism. The free indirect style establishes limits

precisely by looking back to the moment when art and science are supposed to have split with the arrival of Darwin and secularization that McEwan elsewhere celebrates. In contrast both to science envy and its literary refusal, then, I will pose as my second example the writing and fiction of Tom McCarthy, whose 2005 *Remainder* was touted by Zadie Smith, in an influential essay in the *New York Review of Books*, as both the most significant novel of its decade and the direction Anglophone fiction should follow into the new millennium. Like *Saturday*, *Remainder* pays close attention to felt experience and neural trauma. The story concerns a nameless protagonist who has at some point in the middle past received a massive brain injury from falling debris of some kind. After months in coma and recovery, the protagonist feels both strangely split from his physical sensations—always one step at a remove from a wished-for unity between sensing and doing—and, aided by an eight-and-a-half-million-pound cash settlement, in need of rebuilding and reenacting the material conditions of both past actions and present experiences. The story tells of variously outlandish efforts to reconstruct settings from events in the narrator's life and hire various players to do elaborate and punctilious reenactments of those events. McCarthy's attention to experience thus sits side by side with an attention to the built environment that supports such experience and to the physical movement that brings it to life. The matter of the brain turns out to be important insofar as it is matter like (not unlike) the matter of wiper fluid, dry wall, coffee, carpeting, and so on.

Remainder caught Smith's attention because the tone as well as the story seemed to announce a remarkable departure from the tradition of representing psychology perfected in a novel like *Saturday*. Smith calls this tradition the "lyrical realism" of Balzac, Flaubert, and Eliot and claims that it is now in its "long-term crisis" as a viable mode. The status of her account as literary history is ultimately less important for my current purposes, however, than its picture of McCarthy's project as a turn in the delineation of consciousness. According to Smith, McCarthy's radical "excision of psychology" marks a salutary departure from lyrical realism's "consoling myth of . . . the self [as] a bottomless pool," its commitment to introspection and epiphany, and its retreat to the nuclear family. And it does so because McCarthy's project is "to rid the self of its sacredness, to flatten selfhood out," and to "empt[y] out interiority entirely."[33] Smith and more recently Mark McGurl and Walter Benn Michaels have argued that this project attempts to update an older depth model of psychology with the supposed lessons of postmodernism and post-structuralism.[34] N. Katherine Hayles in contrast has argued that *Remainder* ought best to be seen as a kind of allegory for what cognitive science has taught us about the "crucial role of nonconscious processes in supporting

normal human behavior."[35] My interests are instead with McCarthy's decision both to focus his story on neural trauma and to put emphasis on physical action and reenacted, built environments. I'm going to argue that the two should be seen together. Over the course of the story, we learn that the brain is not (or at least not on its own) the basis of experience, but to understand the importance of this, I argue, we should take the idea of flattening or emptying more extensively and literally than Smith imagines. The experiment of McCarthy's "experimental" fiction is to see what happens when you give form to the idea that experience is something one does, not something one has. In this way, the novel serves as a critique of the very terms in which the hard problem has been posed. What would it be like were experience itself flat, like the wall of a bathroom or a phrase said in deadpan?

To get a sense of how radically this vision departs from McEwan's, we might turn briefly to a 2011 essay of McCarthy's on the tension as he sees it between literature and experimental psychology. "If I had a tenner for every time I've been invited to take part in a 'cross-disciplinary' project that MRI-scans a writer so as to 'understand' their work I'd be a rich man," McCarthy there quips. But, he continues, this is a "straight category error." "While neuroscientists might have valuable things to tell us (or our doctors) about (for example) brain injury, the glib, wholesale transferal of the logic of neuroscience to the realm of culture is one of the great follies of our age."[36] The great worry that had consumed *Saturday*—that neuroscience, "now entering another exhilarating phase," might be taken to explain everything—is here dismissed with a wave of the hand. The argument against psychology is in this respect one against neural reduction, but it is also, in keeping with Smith's reading, one against "lyrical realism." The two critiques go hand in hand. "Literature, rightly understood," McCarthy argues, "has little or nothing to do with psychology" because it has little or nothing to do with neuroscience but also because it has little or nothing to do with "individual persons, with their thoughts and fears and so on."[37] Neural reduction and lyrical realism make the same mistake of supposing that experience happens in the private space of the head. McCarthy's conclusion is dramatic. "Literature, in short, is not made up of 'characters' " but, rather, "understands that existence, whether individual or collective, is formed and unformed within networks of language and ceremony, spread across topographies whose axes, or gravitational force fields are law, pleasure and mortality, subject to the exigencies of topography itself."[38] The "anti-naturalist, anti-humanist" fiction he values gives access, as he puts it elsewhere, "not to a fully rounded, self-sufficient character's intimate thoughts and feelings as he travels through a naturalistic world, emoting, developing and so on—but rather to an encounter with structure." "We

don't want plot, depth or content: we want angles, arcs and intervals; we want pattern."[39] The logic is simple. To be against psychology and to suppose that literature has no characters is to be against inner or experiential states like "thoughts and fears" and to be for external forms like topography and buildings and shapes like angles and arcs, or at the very least it is to recognize the extension of the first (experiential states) into the second (states of the physical or geometrical world). No wonder that *Remainder* spends so much time scooping out and reenacting the memories of its nameless narrator.

Yet the question remains whether the excision of hopes and fears amounts to the getting rid of experience or whether the point of *Remainder* isn't in part to redefine experience in such a way that it has not only a physical but also a spatial basis.[40] And it is in this respect that McCarthy's remarks on neuroscience might be more than passing drollery. One should hardly be surprised after all that McCarthy has been asked to be on "cross-disciplinary" projects involving brain scans. *Remainder* takes as its central premise that the reenactor has a neurological deficit, and much of the early part of the novel concerns physiotherapy.[41] The novel has a more than passing interest in how to repair a nervous system unable to match up with the rest of the world. McCarthy's wariness of neuroscience, moreover, isn't concerned with the science's ostensible materialism. After all, he wants (in an oft-quoted phrase of his) to make "matter, *matter*."[42] It is precisely because the narrator's brain is at bottom made of the same stuff as the falling debris that the one is subject to the effects of the other. What turns out to be important then is not the brain's giving rise to experience—as if in a vat or in Perowne's operating theater—but rather its coordination of a moving body. "I've learned to do things slowly since the accident, understanding every move, each part of what I'm doing," the narrator recounts in the first chapter; "I didn't choose to do things like this; it's the only way I can do them."[43] "After the accident," he further explains, "I had to learn how to move" (19). And learning how to move means concentrating on such things as "lifting a carrot to your mouth," which in "the act itself, when you come to try to do it, turns out to be much more complicated than you thought" (20). The act is complicated because the experience of it gets in the way of actually doing it. "I closed my fingers round the carrot," the narrator recalls. "It felt—well, it *felt*: that was enough to start short-circuiting the operation. It had texture; it had mass" (21). In the event, an awareness of the physical carrot gums up the actual lifting, leading to "a surge of active carrot input scrambling the communication between brain and arm, firing off false contractions, locking muscles at the very moment it was vital they relax and expand, twisting fulcral joints the wrong directions" (21). The serial commas perform a stilted movement. McCarthy wants to show just how much actu-

ally sensing the carrot in all its "gnarled, dirty, and irregular" realness inhibits the simple motion of gripping and moving (20). And that turns out to be the lasting problem. "Everything was like this. Everything, each movement. . . . No Doing without Understanding: the accident had bequeathed me that forever, an eternal detour" (21, 22–23).

The protagonist-narrator-reenactor loses the ability to act without being aware that he is acting, without it occupying a volume of experience. And this trouble soon comes to stand as a basic condition for everyone. He had been "inauthentic" or unreal like this even before the accident, and so have other people. His solution and the novel's solution is to reinvent the experiential so that it is something one does rather than something to which one is subject. The flattening that Smith notices as a theory of character becomes in this respect literal, as an affair at once of the spatial arrangement of the events and the tone in which they are presented. When in an antic replay of Proust the narrator happens on a crack in a bathroom wall, for example, the déjà vu spreads out to compose the walls and corners and floors of a vividly rendered building. The memory leans hard on the prepositional form, the most spatial of grammatical constructions: "Most of all I remember this: in the rooms and on the staircase, in the lobby and the large courtyard between it and the building facing with the red roofs with black cats on them—that in these spaces, all my movements had been fluent and unforced" (67). The narrator's recollection of having been for a time "real"—his having "*been* without first understanding how to be"—fastens a fluid freedom of action to a rigid structure (67). Each part of the building is where it is in geometrical relation to something else. He is in a room and on a staircase; the courtyard is between a lobby and an adjacent building (with a red roof and black cats!).

The sentence turns from relating a body to a building to relating one building to another. This prepositional structure is not, however, without an associated set of experiences. In fact, the commitment to prepositions is also a commitment to the point of view that each preposition depends on for meaning, the vantage from which something is in, on, or between something else.[44] As the events turn to reenactment, this dependence becomes increasingly clear. The point is just that prepositions flatten experience to shape. The novel's patient detailing of physical environments includes (for example) equally patient recording of the exact lines of sight or zones of sound and touch that bring such environments to view: whether the partially obscured kitchen from which the reenactor observes the preparation of his kedgeree, with "blue flames jumping out of frying pans, fingers raining herbs down over dishes, things like that," or the gradually revealed surfaces, shadows, and vistas of the reconstructed, reenacted apartment building (83). These episodes are written not to show

perceptual experience represented in the head (like a kind of theater) so much as included within the physical, as something brought to view or made present by skilled engagement (the kind of skill the narrator loses and attempts to regain through reenactment). Consider, for example, how McCarthy describes one of the reenactor's first passes through his building: "I turned the first corner, glancing through its window as I moved: light from the courtyard bent as it approached me; a long thin kink travelled across the surface of the facing building, then shot off away to wrinkle more remote, outlying spaces. The red rooftiles were disappearing as I came down, eclipsed by their own underhang as the angle between us widened. Then I turned again and the whole façade revolved away from me" (142). The paragraph comes to an end, and so the typeface itself pivots and indents, but then the description keeps going: "I continued down the stairs. Sounds travelled to me—but these, too, were subject to anomalies of physics, to inference and distortion. The pianist's music ran, snagged and looped back on itself, first slowing down then speeding up. The static crackle of the liver broke across the orphaned signals cast adrift from radios and television sets. The Hoover moaned on, sucking matter up into its vacuum" (143). The account could go on even further; in fact it does for a bit, and that is because its shape doesn't reflect a well-formed experience so much as design an unfolding movement. The building doesn't just show up in his head. It is actually there. The visual and auditory data are equally in the world modeled by the start, turn, start of the sentences themselves.

Like any physical space or object, buildings fall into parts: hallways, apartments, people, and courtyards, along with the views and sounds they project onto and around each other. Reenactment ties experience to each one of these parts rendered in minute detail so that any one experience flattens according to the prepositional form it takes. The scenes of reenactment thus play out in miniature a striking feature of McCarthy's tone: its commitment from the outset to a kind of deadpan, uninflected first person. The novel begins thus: "About the accident itself I can say very little. Almost nothing. It involved something falling from the sky. Technology. Parts, bits. That's it, really: all I can divulge. Not much, I know" (3). And so it continues. Whereas the free indirect style at once evokes an experience and puts it at the distance of a finished aesthetic object, deadpan redefines experience in the process of its expression. This redefinition consists in part in the sort of flattening Smith had occasion to observe. The lack of tonal accent in this case matches an "excision of psychology" then stretched out in prepositional form so that it has the shape of something like a building. But it also consists in the resistance to the representational gap marked by such a form as McEwan's third person. McCarthy's first person does not attempt to represent a thing, so much as to

be that thing, to make it present. In this way, the deadpan has its own theory of consciousness that it wants to put in play. "One day we spent a whole morning going back and back and back over the moment at which her face switched from addressing me with the last word of her phrase, the *up*, to cutting off eye contact," the reenactor says of the woman who fries liver and then takes out her trash. "Another afternoon we concentrated on the instant at which her rubbish bag slouched into the granite of the floor, its shape changing as its contents, no longer suspended in space by her arm, rearranged themselves into a state of rest" (162). The reenactor and the liver lady's movements slow to a kind of tai chi, drawing out the "constituent parts of the whole sequence" so it may be reassembled and taken apart again (162). The goal seems at once to be to dispense with representation—the encounter with the liver lady gets repeated but is immediate and primary each time—and to create in the reenactor a kind of feeling, a "tingling . . . mixture of serene and intense" that indicates realness (44). Slowed down and made unfamiliar, the experience in each case does not layer on top of the motion. It is, rather, identical to it.

Early in his effort to hire staff to fill in the human parts of his reenactments, the narrator explains to one overly theatrical applicant for the role of the guy who fixes his motorcycle in the courtyard that he should "Not act; just do. Enact. Reenact" (118). The instruction is important for the novel's account of what experience is. To enact rather than to act, in the account of *Remainder*, is to play one's part without worrying about motive; or rather, it is to reduce one's motive to the same status as a ray of light passing over a rooftop or a wave of sound bounced by an anomaly of physics. To enact is not to represent anything but rather to be part of something. Phrased in this way, the critique of representation, if we can call it that, puts McCarthy's novel in contact with some currents of cognitive science that share his impatience with the exclusive focus on the brain. In fact, "enact" and "enactive" are central concepts in the tradition of embodied and ecologically embedded cognition that also pays attention, like the McCarthy of *Remainder*, to the way that moving bodies bring about perceptual experience. "The enactive approach," write Francisco Varela, Evan Thompson, and Eleanor Rosch in their field-creating study, *The Embodied Mind* (1991), holds that "perception consists in perceptually guided action."[45] By this they mean that perceptual experience arises from a dynamic interplay between a body of a certain kind and an environment of another. "A cognitive being's world is not a prespecified, external realm, represented internally by its brain," Thompson clarifies in a separate study of more than a decade later, "but a relational domain enacted or brought forth by that being's autonomous agency and mode of coupling with the environment."[46] "The main idea" of the enactive theory, writes Alva Noë in a work published just a

year before *Remainder*, is that "perceiving is a way of acting. Perception is not something that happens to us or in us. It is something we do."[47] To recognize that perception is something we do is "to reject the idea—widespread in both philosophy and science—that perception is a process *in the brain* whereby the perceptual system builds up an *internal representation* of the world."[48] So on this view the hard problem is somewhat misconceived. Consciousness is not something that the brain does or that is mysteriously present in all matter but is created by whole bodies as they engage and move about the world. In their different ways, the enactive theory and McCarthy's fiction reject the idea that to perceive is to create a picture and to have a mind is to hold private one's experience. At moments, McEwan's fiction does so too, as the perfected irony of free indirect discourse gives way to the skilled, kinetic expertise of the surgeon busily at work. Each displaces consciousness from the inside and the intellect to the surround, and each takes experience to be an "encounter with structure."

This connection should be understood, I think, as historical rather than genetic, a shared accounting for perception as action and for action as embedded in an ecology rather than a set of influences on a novelist.[49] McCarthy's innovation in any case lies more in the way his novel presents things than in the content of its ideas, its status (one might say) as a work of art. Once again, this novel seems particularly interested in putting its own procedures of art making into relief, and so in its way adding an aesthetics to the enactive and ecological theory of perception. At first glance, one might expect that the resistance to the representational image would become a resistance to aesthetic autonomy.[50] McCarthy's turn from pictures of things to things themselves would be one from art to non-art. But that doesn't happen. Instead, *Remainder* draws on and adjusts a resistance to representation common to canonical modernism and much of the twentieth-century avant-garde.[51] When Clement Greenberg endeavored to find one common feature of modernist painting, after all, he came up with its "delimitation of flatness" because it was in such delimitation, he argued, that paintings drew attention to their own presence within a world they were not just reflecting.[52] Seen from this vantage, McCarthy updates flatness to include more contemporary versions of performance, including of course reenactment, while also providing the flatness of his own medium in the first-person deadpan.[53] The deadpan form, in other words, aims to overcome the representational interface while spreading both experience and its corresponding works of art to the far corners of the physical world.

Remainder is every bit as conscious of its form as *Saturday*. It just has a different idea of what form is and does. "In school, when I was maybe twelve,

I had to do art," the reenactor begins one chapter; "I wasn't any good at it, but it was part of the syllabus" (90). What follows is a revealing meditation on the making of art as its own type of perceptual activity. "For a few weeks we were taught sculpture. We were given these big blocks of stone, a chisel, and a mallet, and we had to turn the blocks into something recognizable—a human figure or a building. The teacher had an effective way of making us understand what we were doing. The finished statue, he explained, was already there in front of us—right in the block that we were chiseling away at" (91). The art object is already there, only requiring a certain kind of physical motion—the lifting of one's arm and hammering—for it to come into its own. The action is a deliberately plain shucking away of what is not art; thus, the reenactor can "not be any good at it" while also standing as the form-giving example in McCarthy's ordinary sentence. " 'Your task isn't to create the sculpture,' he said; 'it's to strip all the other stuff away, get rid of it. The surplus matter.' " The reenactor takes this as a lesson on how to create his building ("chiseling away at surplus matter" will "scare my building out" [96]), and we are in turn supposed to take both as an account of how to see form as a kind of matter, the novel as a thing in the world rather than the world's representation. Creative engagement merely strips away the surplus matter of what is neither experience nor art.

The point of rendering perceptual states as ecologically embedded actions is not only to make them fall into parts with a kind of heft and dimension but also to recognize consciousness as an everyday skill and every sentient being as an artist. To view consciousness as skilled engagement and experience as a kind of art is also to put things like novels at the center of discovering how it is that we live in and navigate the world. McEwan and McCarthy both want to do that, and both do so in conversation with the explanations provided by neuroscience. Both brush up against the neural as a way to sharpen their sense of how novels and other artworks fill in what neural explanation cannot supply on its own. After all, no matter how fine-grained our picture of the brain at work may someday get, it will never provide an account of what it is like to read or view or hear something. But the novels also do more than simply supply the first-person phenomenology left out by third-person explanation. The way that they put limits on neural reduction also puts limits on the inward or private picture preferred by much of neuroscience and shows the importance of such external forms as written sentences and the built environment. The role of artworks like these novels is therefore not to remind us that we have experiences. It is to adjust our understanding of what these experiences are made from and how they occur. It is to wonder whether even the hardest problems posed by the sciences have been phrased or shaped in the right way.

7

Two Kinds of Panpsychism: Margaret Cavendish and Marilynne Robinson

Our consciousness problem is to explain how experience can emerge from something that has no experience at all, the sound of a loon from the firing of a neuron. One radical answer to the problem is to say that experience does not emerge from nonexperiential matter after all but rather is everywhere present in matter itself, each infinitesimal quark also a tiny piece of consciousness. In modern form, this line of thinking is known as panpsychism, and it has seen something of a revival in recent years.[1] The argument for panpsychism has an appealing elegance. In Thomas Nagel's words, "it appears to follow from a few simple premises, each of which is more plausible than its denial, though not perhaps more plausible than the denial of panpsychism."[2] We begin with the premise that all actually existing objects are composed of the same subatomic particles and nothing else.[3] We further assume that at least some such objects are conscious. We add to these suppositions that properties of conscious experience can neither be reduced to unconscious physical relations nor somehow emerge from such relations. We're left with the conclusion that experiential or phenomenal properties abide with physical properties among the fundamental particles, forces, and laws of the universe. We don't have to explain how consciousness could emerge from unconscious stuff because there is no such stuff in the first place. Every concrete object has some trace of experiential being.

Recent advocates for panpsychism tend to insist that their view involves less a trippy sounding mysticism than a hard-nosed commitment to physical explanation. In a much-responded-to series of papers, for example, the philosopher Galen Strawson has argued that one cannot hold that everything is physical without also holding that everything is also experiential. "Physicalism entails panpsychism," as the subtitle of one paper puts it.[4] "*Emergence*

can't be brute," Strawson writes. "For any feature Y of anything that is correctly considered to be emergent from X, there must be something about X and X alone in virtue of which Y emerges and which is sufficient for Y." If phenomenal experience arises from physical stuff, that stuff "must already be somehow experiential in its essential and fundamental nature, however primitively or strangely or (to us) incomprehensibly." This view runs counter to the idea that consciousness happens only at the scale with which we are familiar or that it belongs only to us and other animals like us, but Strawson maintains that it does not "stand out as particularly strange against the background of present-day science."[5] Strawson has in mind the often-surprising manner in which physicists characterize the world, but panpsychism has also found an unlikely ally in neuroscientists working on the problem of consciousness. Christof Koch's widely influential effort to find the "neural correlates of consciousness" in the brain, for example, has led him to "an elaborate version of panpsychism" that sees "consciousness [as] a fundamental feature of the universe, rather than emerging out of simpler [nonconscious] elements."[6] Giulio Tononi's "integrated information theory" of consciousness similarly posits that "experience . . . is a fundamental quality, just as mass, charge, or energy are." It follows, Tononi concludes, that "consciousness is not an all or none property, but it is graded: to varying degrees it should exist in most natural (and artificial) systems."[7] The response to the dilemma of emergence in each case is to say that science permits only a sleek parsimony of like deriving from like, consciousness from consciousness.

The rigor of this view has its own aesthetics. Without emergent properties, one admits of nothing extra, as if one's metaphysics were white on white—spare, well-formed, and clean. This is Koch: "The hypothesis that all matter is sentient to some degree is terribly appealing for its elegance, simplicity, and logical coherence." At the same time, the idea seems also to cast warmth on the wider world, so that we "find ourselves in a cosmos in which any and all systems of interacting parts possess some measure of sentience" or discover that "we are surrounded and immersed in consciousness . . . in the air we breathe, the soil we tread on."[8] Despite the attractions of rigor and comfort, however, panpsychism is for many "more plausible" to deny than to admit.[9] (Conscious stones!) My goal here is to present two figures, separated widely in time, who are drawn to the idea that the fundamental constituents of the natural order must be experience bearing if not also experience having, and who attempt to draw out the plausibility of this view in literary writing. I'm going to focus first on Margaret Cavendish, writing in the 1660s, and then Marilynne Robinson, writing in the late twentieth century and present day. Putting these two figures side by side will of course reveal some ways that

conceptions of experience and the natural order have undergone considerable change over time. But I'm interested as well in what might be said about the similar situations in which the two writers found themselves. Both confront an intellectual culture newly transfixed by the physical explanation of previously mysterious phenomena, the so-called new science of Bacon and the Royal Society, in the case of Cavendish, and neuroscience and the so-called new atheism in the case of Robinson. And although both resist the idea that conventional notions of matter are sufficient to explain consciousness, neither responds with a dualist rendering of matter and spirit. Instead, each invests the physical world with sentient or protosentient properties. Each is an unlikely materialist and an unexpected panpsychist. For a writer friendly to this bewildering perspective, the work of literature might be to bring it in line with our naïve sense of the real and the ordinary. The idea would be not just to domesticate the notion that experience is everywhere part of the universe but also to coax our recognition that it is in every sense fundamental to the natural order: that points of view are plural and vary in scale. Or so I will now argue.

Blazing Matter

Margaret Cavendish's Restoration era writing poses in sharp and strange terms some of the fundamental concerns that come with thinking about the place of experience in a physical world. How does the mind fit into the world conceived in the new language of experimental science? What form of expression would best explain how things appear from a point of view? Like many of her time, Cavendish attempted to characterize nature as a whole, absent the direction and teleology said to have marred traditional Aristotelian metaphysics. She understood the natural world both to be material and to be the entire world. Unlike many of her time, however, she did not consider mind to be its own special thing or experience to be a property of a separate, immaterial substance. Her materialism extended all the way to perceptions, thoughts, and emotions. In so doing, it confronted how any individual part of the world could have experience or a point of view and whether there might be something that it is like to be a physical thing. Her answer stretches across different kinds of writing and invokes a novel understanding of scientific discovery. At the same time, it opposes any notion that experience is unique to humans. Cavendish does not just ask how we could be conscious; she wonders why we suppose that the rest of the world is not.[10]

At its foundation, the hard problem concerns how an objective physical process could give rise to phenomenal states and feelings. "It is widely agreed

that experience arises from a physical basis," as David Chalmers put it, "but we have no good explanation of why and how it so arises."[11] This is a problem, we may say, of emergence—of how sentience arises from insentient matter—and it identifies consciousness as an emergent property, something that unconscious matter creates. Cavendish's period of course defined the "physical basis" of things differently from the way ours does. Hers tended to view matter as particulate and governed by laws of motion, and motion as something transferred by contact from one atom to another. Ours tends to view fundamental physical entities in relation to each other and in terms of properties like spin and charge. Even so, there are suggestive affinities between the older emergence problem and ours, since in either case the question is how lower-level states create higher-level phenomena and whether the second can be deduced or inferred from conditions of the first. In her longest and most involved philosophical work, *Observations upon Experimental Philosophy* (1666), Cavendish addresses the kind of brute emergence that would describe conscious experience arising from unconscious matter with pronounced skepticism. "I shall never be able to conceive," she writes, "how senseless and irrational atoms can produce sense and reason, or a sensible and rational body."[12] The trouble lies in our conceptions of matter and causation, she thinks, as it is impossible to infer from the movement of senseless atoms something as novel as sense without it seeming like a kind of creation *ex nihilo*. Emergence this strong would grate against the fundamental structure of the world; for although "different effects may proceed from one cause or principle . . . no principle, which is senseless, can produce sensitive effects" (264–265). It is, in other words, impossible to conceive how one atom joining with another could *add up* to anything other than more atoms without sense.

This argument against emergence was itself common to philosophers and scientists of the period, but its typical use was to provide a defense against materialist theories of soul and mind. If the brute emergence of sentience from the motion of insentient atoms was inconceivable, so the argument went, then consciousness must be the property of an immaterial soul. Thus, for example, Ralph Cudworth: since "Life and Understanding are not Essential to Matter as such" and "can never possibly rise out of any Mixture or Modification of Dead and Stupid Matter," they must be "the very substance or essence of that which Thinketh."[13] Cavendish shares this conviction that nothing as important as sentience, reason, or life could emerge from dead and stupid matter, but she does not share the initial refusal to consider these properties as essential to matter as such. Although it is impossible to conceive that senseless atoms could give rise to sense merely by colliding with each other, that only serves to show how matter should not be thought of as senseless or atomic in the

first place. In other words, Cavendish believes our difficulty in understanding how matter alone could provide the basis of life and experience lies in our idea of matter, not in matter itself. Her endeavor is to recast what we understand matter to be and so also to change in a fundamental sense our view of nature and world.[14]

Cavendish asks us to change our view in several ways relevant to her place in the long history of consciousness talk: matter is continuous rather than divided into atoms; motion therefore is intrinsic and not something passed from one small thing to another; consequently, mental properties like sense, perception, and reason are fundamental to everything instead of emergent properties of some things.[15] All matter everywhere is experience bearing and experience having. Cavendish will set these ideas loose across different parts of her argument and in different kinds of writing. She arrives at them, however, by sticking to first principles, chief among which is a kind of monism as well as a kind of materialism. "Nature is but one body and has no sharer or co-partner," she writes in the opening chapter of the *Observations*; it is "entire and whole in itself, as not composed of several different parts or substances" (47). Cavendish's philosophy thus begins with the question of how to relate a part to its whole. At first glance, she appears here to dismiss the existence of parts at all, as nature's unity means that it must be without any individual constituents. Only a few words later, however, Cavendish writes that nature is "dividable and composable, according to the nature of a body" (47). So her view seems to be that there are parts to nature, just none so "different" from any other that they form completely separate objects. Nature is entire and whole in itself and at the same time has a kind of morphology. A table in one region of space and a flower in another are parts of the one body of nature in the same manner as my arm and nose are parts of me.

Cavendish establishes this view in contrast to the then-popular theory—of which she had earlier been fond—that nature was composed of simple atoms and the void between them.[16] "There is no vacuum in nature," she writes, "and neither can her parts start or remove from the infinite body of nature, so as to separate themselves from it" (48). "Although I am of the opinion that nature is . . . divisible into infinite parts," she continues, "yet I do not mean, that these parts are atoms; for there can be no atom, that is, an indivisible body in nature" (125). Rather, the parts of nature are "but parts of one continued body, only discernible from each other by their proper figures, caused by the changes of particular motions" (126). All parts of nature are segments of the whole with no spaces between them, and since nature is forever moving, each can always be further divided. Nature takes various forms but does not create objects that are entirely separate in space or kind. A table is not a collection of atoms that

makes a table; it is instead a part of the world that is table-y in a certain region for a certain period.[17] The same may be said for persons, flowers, rocks, and trees.

Cavendish believes that nature is a single thing with infinite and connected parts. At the same time, she believes that "[n]ature is purely corporeal or material" and that "spiritual beings, non-beings, mixt-beings, and whatsoever distinctions the learned do make, are no ways belonging to nature" (137). The argument against the view that nature consists of atoms remained committed to a version of materialism, therefore, although one unlike others of the time.[18] Nature was both one material and one whole body. The consequences of each as they join into a single metaphysics were considerable. Since there is no such thing as spiritual or mental substance, there must be some way that material objects and entities have properties like perception, life, and sentience. And since nature is all really one thing, there is no point in looking to see how some parts of the world support life or consciousness while others do not. Cavendish's materialism consists in her idea that everything is made "but out of one matter," and her monism consists in the idea that the whole of nature has priority over its parts, with no one part having any feature absent in the rest (67). Together they lead to the view that every part of the world bears life, experience, and perception. "Nature is a self-moving, and consequently self-living and self-knowing infinite body" (125). "Every part and particle has a particular and finite self-motion and self-knowledge, by which it knows itself and its own actions, and perceives also other parts and actions" (138). So while Cavendish objects to the view that mind and life are emergent properties of some material objects, that is because she believes that they are found everywhere and in everything.[19]

All fundamental properties on this view are properties of the entire world. "Knowledge and perception," for example, "are general and fundamental actions of nature" (139). Every form that nature takes knows what it does and is aware of where it is located. So there is no difficulty in seeing how life and consciousness can belong to matter when matter is living and thinking to begin with. Cavendish's solution to the consciousness problem of her time was therefore to accept the argument against emergence but to reject the substance dualism with which the argument was typically accompanied. The result was a dispersal of mental properties to the manifold. The extension of sentience to all matter and every entity explains how a purely material universe can bear conscious experience, but in so doing it raises further questions. Matter in motion composes entities of various kinds. These entities all have experiences. And yet what is it like to be a snail or a rock or, for that matter, a piece of string? "Sense and reason are the same in all creatures," she writes, "yet they

do not work in all parts of nature alike, but according as they are composed" (128). The subject of experience in each case has a different physical organization with a correspondingly distinct point of view. Every shape nature takes has a unique mode of perceiving the rest of the world. "When a man moves a string," for example, the string perceives the hand that moves it, but it does so "according to the nature of its own figure" (140). So while we may say that one kind of object perceives another, we might not be able to detect what some perception is like without having it ourselves, and that is true, Cavendish says, whether "we" are a piece of string, a person, or a tree.

Given her theory of matter, Cavendish can assume that a piece of string has experiences, but given the organization of her own perceptual system, she cannot say what these experiences are like *for* the string itself. Animal perception like ours consists in "patterning out exterior objects," but there is no reason to think "that all the perceptions of the infinitely various parts and figures of nature are all made after the same manner" (140). The common feature of all perception is merely sentient "commerce and intercourse between parts and parts" (140). Since our figures are different, we don't know what string experience is like even as we know that strings have experiences of a kind related to the physical, perceptual organization they take: "a piece of wood, stone, or metal, may have a perceptive knowledge of man, yet it hath not a man's perception; because it is a vegetable, or mineral, and cannot have an animal knowledge or perception, nor more than the eye patterning out a tree or stone, can be said to have a vegetable or mineral perception" (141). Each part of nature has its own point of view, as it has its own "particular figure," yet not every part perceives or senses or knows like the other (141). Differences in such figures only mean that there may be a limit to how successfully one kind of organism or entity can occupy the point of view of another.

There is no hope to be found in bringing the entities closer to view—in using microscopes and telescopes of the Boyle and Bacon variety—because that will merely show you the "exterior figure of a creature" without putting you in the position to be the subject of the creature's perception (141).[20] Matter in motion creates a variety of figures, and each figure grounds a point of view. One can never occupy the exact view of another, as "it is impossible that one figure should be another figure," but since some figures more closely resemble others, some forms of experience are more similar than others (142). One human's experience of a fly will likely be closer to another human's experience than to a frog's because, among other things, of the relative placement of each creature's eyes. "The perceptions of creatures of different sorts . . . are more different than the perception of particulars of one sort" because "as there is difference in their interior natures, so [there is] in their perceptions" (142). The

further away we move from our own figure-specific point of view, the more difficult it is to understand the point of view of anyone or anything else, no matter how closely we attend to the way it appears to us. "My eye may perceive the pattern of itself made in a looking glass, and yet be ignorant whether the glass do the like" (143). Every part of nature "judges of another's perception by its own," as when, for example, "one man perceives the actions of another man" and infers from his own "interior principle of self-knowledge" what the experience accompanying the outward behavior is like from a figure-specific point of view (144). Things just get increasingly strange the further the structure of one figure is from another.

Cavendish illustrates the abundance of point of view by multiplying her examples: people, trees, hands, pieces of string, mirrors, things very small and very large. Each has a point of view particular to the figure it takes. Her aim in doing so is at least in part to deny that experience should be a property unique to human persons. "If all other creatures cannot be denied to be material, they can neither be accounted irrational, insensible, or inanimate. . . . No particular creature," she concludes, "can claim a prerogative in this case" (220). With the language of prerogative, Cavendish adjusts the argument from mind to value, a move in keeping with the criticism of animal suffering espoused in some of her earlier poetry and suggesting of a kind of ethics behind the injunction to attend to the forms experience takes.[21] Every object or organism has experience and perception "according to the nature of its own figure." So while there is a limit to how closely one can approximate the experience of a figure different from one's own, there is at the same time a reason both to grant that other figures have experiences and to "fancy" what these experiences might be like.

The province of such fancy awaits Cavendish's *The Blazing World*, a quasi-novelistic work appended to the *Observations* as a means of working through some of its premises. The story concerns a woman shipwrecked at the far side of a portal between her world and a "blazing world" populated by multicolored, mixed-form creatures (bear-men, worm-men, fish-men, ape-men, lice-men, and so on). Crowned empress of the blazing world on her arrival, the woman spends the first third of the novel asking the creatures of this new world to tell her as much as they can about what they perceive and know. Her question turns into a series of "what is it like?" queries: "You have informed me . . . of the various sorts and productions of animal Creatures," she says to the assembly; "I desire you to tell me of what you have observed of their sensitive perceptions."[22] The response is prescient: "Your majesty puts a very hard question to us, and we shall hardly be able to give a satisfactory answer to it; for there are many different sorts of Creatures, which as they have all different perceptions, so they have also different organs, which our senses are

not able to discover" (177). Reading conscious experience from the shape of bodily organs is a hard thing to do. And yet that is what the empress continues to attempt as a way of understanding the blazing world over which she rules. Although the creatures routinely offer to show her objects made larger through microscopes or brought closer by telescopes, she routinely rejects the third-person, physical view for a view particular to each creature: fish-men tell her about the sea; bird-men about the air; and worm-men about the earth. Each does so in virtue of the shape or figure they possess. Fish-men sense the salinity of the ocean from the volatile motion of salt on their gills; bird-men sense the creation of snow from air, water, and the heat off their wings. Each has "some kind of sensitive perception that [is] serviceable to them" (179). The hard question is how to move from the kind of perception particular to one form over to that of another. How might the empress who has no gills understand what it is like to be a fish-man who has gills? How might she come to grasp what a fish-man knows? Like our world, the blazing world abounds in point of view, and there as well as here the goal is to make the view of another come into one's own. While taking on a different point of view is hard, Cavendish seems to think we move in that direction by changing our kind of writing.

The first view readers settle into is not so far from their own. We place ourselves in the sight line of the empress and adjust our view to fit her figure-specific vantage. Cavendish manages this adjustment through careful attention to perspective, as when she describes the lady's gliding by boat to the capital city whose empress she will soon be crowned:

> Coming in sight of it . . . the Lady at first could perceive nothing but high rocks, which seemed to touch the skies; and although they appeared not of an equal height, yet they seemed to be all one piece, without partitions; but at last drawing nearer she perceived a clift, which was a part of those rocks, out of which she spied coming forth a great number of boats, which afar off shewed like a company of ants, marching one after another. (130)

The passage closely follows the lady's line of sight as it moves on the sea's curve toward the mountains. We see the mountains first as a seamless block and then as a porous ridge, only to watch a string of boats that looks, still at a distance, like an army of ants. The shift from a blank, two-dimensional solidity to a textured three-dimensional crevice traces the arc of a single focal point occupied by a specific figure in motion. Cavendish instructs her reader to unfold the vision on a temporal scheme: this is what the lady would have seen "at first," when positioned just so; this is what the lady would have seen "at last," when moved closer. At the same time, the side-by-side presence of

wholly different bodies—bear-men, bird-men, fox-men, and worm-men—reinforces the sense that this is a view of the world held from one figure-specific vantage. A woman whose eyes face forward will see the mountains first as flat and then as open, the boats as ants and then as peopled, while bird-men in flight might see something else entirely, and worm-men might not see anything at all.

Cavendish's description of the lady's journey experiments with how to render the vivid stereoscopic experience of a moving human body, and it does so through an early turn on what will much later be a common type of focalization. Remaining within the grammatical third person, Cavendish moves to a time scheme and depth of field held from a perceptual first person: this is what it is like for the lady, not for anyone else, to see mountains at a distance or boats from afar. When the attention turns to other creatures, Cavendish's strategy adjusts with the view she attempts to evoke. Literary form follows somatic form, but with a predictable change. The perceptual mimesis of a boat approaching a cleft in the mountains depends on a reader who vicariously puts herself in the sight line of the lady, and for this to happen, the reader must be able to imagine what it is like to see objects in a certain way. Cavendish holds that every part of the world bears experience; so she can assume that there is something it is like to be a lice-man or a worm-man. She also assumes that the form an experience takes varies according to the figure that is its subject; so when she turns to more exotic creatures, she cannot fit the first-person view so easily into the third-person description. The result is a serial recourse to reported speech, precisely when the empress demands of the creatures what it is like to be them. One after another hybrid denizen of the blazing world translates his point of view to the empress's (and ours) by means of a kind of verbal bridge. When the empress asks the worm-men, for example, "whether by their sensitive perceptions they could observe the interior corporeal, figurative motions both of vegetables and minerals," they respond that "their senses could perceive them after they were produced, but not before" (150). And when she further probes whether the worm-men had any use for microscopes, they respond that they possess a kind of vision, just not one like hers. Cavendish accounts for the oddity of worm vision, however, by peeling away any figure-specific difficulty. The worm's-eye view shifts at once in mode to a verbal report and in person and tense to something gradually more abstract:

> The worm-men replied, that although they could not say much of refractions, reflections, inflections, and the like; yet were they not blind, even in the bowels of the earth, for they could see the several sorts of minerals, as also minute animals that lived there, which minute animal creatures were not blind neither, but

> had some kind of sensitive perception that was as serviceable to them, as sight, taste, smell, touch, hearing &c. was to other creatures: By which it is evident, that nature has been as bountiful to those creatures that live underground, or in bowels of the earth, as to those that live upon the surface of the earth. (150)

Although worm-men have a kind of sight that allows them to perceive objects in the darkness of mud, Cavendish doesn't encourage her reader to adopt this view, presumably because she thinks it is impossible to do so. So she renders the focal point in increasingly removed fashion: first translating the perceptual immediacy of the sight line to a verbal report; then turning the direct speech of the worm-men to the indirect account of the narrator; and concluding, finally, with an epigram that takes in the whole bounty of nature. Changes in person (*we* to *they*) and tense (*are* to *were*, *is* to *was*) render the experience increasingly less specific to any one point of view. At the same time, the subject matter of the story multiplies such points in location and kind: not only do worm-men have views different from our own, but so do the small life-forms they blindly see. The content of the fiction thus plays off against its form, as Cavendish's scientific commitment to point of view provokes an aesthetic flattening of perspective. She wants to show that the world abounds in points of view and at the same time believes that many such points are difficult for her readers to occupy. The sensitive perception serviceable to underworld dwellers may just not fit those who glide on the land.

The shift to "a work of fancy" or "fiction of the mind" at the end of the *Observations* thus allows greater flexibility to ask what it is like to have a point of view and to explore how the world may be understood from the vantage of its different creatures (150). Cavendish uses fiction to manipulate point of view while at the same time to inquire about the natural world itself (about snow and dirt and stars and colors, for example). Across the long arc of literary and intellectual history, Cavendish-style panpsychism doesn't go away. Rather, the idea that every part of the world bears experience reappears and transforms along with the rejection of the idea that experience emerges only in some kinds of objects.[23]

Enter the Cosmos

Few contemporary novelists talk in more fundamental terms than Marilynne Robinson. "Even as our capacity to describe the fabric of reality and the dimensions of it has undergone an astonishing deepening and expansion," she writes in her expository treatise *Absence of Mind* (2010), "we have turned away from the ancient intuition that we are part of it all."[24] We have turned,

that is, from understanding that we are nothing other—and nothing less—than complicated arrangements of the basic materials of the universe. These materials ought to hold our attention; after all, "it is not to be imagined that the character of matter would not profoundly affect the forms in which our reality has emerged" (*A*, xv). Robinson's preoccupation with the "character of matter" is surprising all the same because she made these statements as part of her ongoing quarrel, following the publication of the first two of her linked novels of Christian retrospection—*Gilead* (2004) and *Home* (2008)—with the "new atheism" of Daniel Dennett, Richard Dawkins, Samuel Harris, and the like. Where one might have expected her to invoke the immateriality of spirit and soul, instead she objects that the "self-declared champions of science, reason, and enlightenment" have a naïve and antiquated conception of the physical and therefore have failed to recognize "the pervasive importance to the deep structures of reality of something of a kind with consciousness" (*A*, xv, 36). The attempt to explain religious belief by locating its neural and evolutionary basis, Robinson says, fails to ground its account deeply enough in the "stuff and the matrix of our supposedly quotidian existence," deeply enough in whatever composes the universe of sentient and strange things (*A*, 126). New atheism's various efforts at reduction all come up short, on her view, because they attempt to reduce experience to the physical when the two (physical matter and phenomenal experience) are in actual fact the same thing. There is no getting past experience to some more substantial ground when experience is one aspect of this ground in the first place. Thus Robinson's panpsychism: "The physical and the spiritual," she writes, are "one dispensation."[25] "The old notion of dualism should be put aside now that we know a little about the uncanny properties of the finer textures of the physical" (*A*, 113). Seen one way, the universe amounts to the to-ing and fro-ing of elementary particles and the properties that define them; seen another, the universe has or gives rise to experience, in forms familiar to us or to bats or paramecia or space dust.

"The antidote to our gloom is to be found in contemporary science," Robinson writes in her most recent collection of essays, but then she locates that science at a scale far below and beyond the "arbitrarily reductionist" measure of the brain. "On scrutiny, the physical is as elusive as anything to which a name can be given."[26] So while Robinson worries that "the mind as felt experience [has] been excluded from important fields of modern thought," she places her hope in the "new and truly modern physics and cosmology" and the "strange ways of quarks and photons" they depict (*A*, 13, x, xiv). Robinson here makes a novel but not unprecedented move. In the standard language of the physical sciences, microphysical entities such as quarks and photons

are typically defined indirectly. A quark forms part of a hadron and has an up or down mass, but its intrinsic nature remains opaque.[27] Robinson has great fondness for the mysteries and puzzles that follow. On the large scale, for example, the gravitational distribution of stars in a galaxy and galaxies in a cluster reveals considerably more mass than we detect by measuring their aggregate of light. In fact, the light-to-mass ratio is off by tenfold, at least. So most of the matter of the universe is "dark" to us, present only in virtue of its measurable effects on stars and galaxies but so far stealthy and unknown.[28] On the small scale, were we to look very closely at even the more familiar bits of matter—photons, quarks, electrons, and the like—their behavior would seem very odd. When two particles interact and then separate, for example, they remain "entangled," so that the measurable state of the one will have an impact on that of the other at conceivably vast distances: a top-down spin in Geneva, Switzerland, could mean a bottom-up spin on the star Alpha Centauri.[29] "Perhaps then," Robinson concludes, "we cannot claim to know the nature of the physical" (*A*, 113). In contrast, phenomenal properties are arguably those whose intrinsic nature we know best.[30] They are what some experience is like. This is how the physics of panpsychism responds to the puzzle of intrinsic nature: as Chalmers has put it, "the intrinsic properties of the physical world are themselves phenomenal properties."[31] The attraction of this view for Robinson is clear. It offers a very close unity of the material and the experiential at the foundations of the universe. "The substance of which we are composed" has experiential as well as physical properties, each the echo of the other amid "the wild roar of the cosmos" (*W*, 10). Physical structure may be broken down to a relation among microphysical parts, the quanta whose properties constitute all macroscopic objects and events. Along similar lines, actually experienced phenomenal states may be broken down to *their* parts and processes, the microphenomenal constituents of experience, those that tell us "[s]omething is happening, it has a certain character" (*W*, 9). Such constituents are "of a kind with consciousness" and limn the being of physical entities as structure experienced from the inside.

This picture of things holds on to the distinctiveness of experience without keeping it separate from the rest of the world. There is no getting past experience to mere physical matter, but there is also no reason to seclude experience in the head. As we will see, Robinson's fiction encourages this view by paying close attention to the perspectival while also spreading perspective out as a feature of more than just individual psychology. Her theoretical writing finds a Koch-like comfort in this dispersal of point of view into the manifold. "There is dignity in the thought that we are of one substance with being itself,

there is drama in the sense that ultimate things are at stake in these acts of perception and decision" (*W*, 185). "We are right where we have always been, in time, in the cosmos, experiencing mind, which may well be an especially subtle and fluent quantum phenomenon" (*W*, 187). The first sentence joins conscious experience to the quantum phenomena arrived at in the second. Matter contains the mind that acts upon it; mind dissolves to the matter in which it abides.

In Robinson's fiction, the modifier "physical" typically takes the form of external environments, whether the natural world of trees and (especially) water or the built world of houses and artifacts. In her theoretical writing, as we've seen, "physical" refers to what we now call physics, the ultimate particles and properties of the universe: quarks, photons, and electrons; mass, charge, and spin. Sentences that make claims about our being one substance with the cosmos therefore bespeak Robinson's commitment not only to art and consciousness but also and after a fashion to a kind of materialism. Her theoretical writing thus moves between what and where are the ultimate structures of matter, on the one hand, and how and why to render phenomenal experience, on the other. When in a recent essay on her craft, for example, she writes that she advises her students to "forget definition, forget assumption, watch," she says she does so because "we inhabit, we are part of, a reality for which explanation is much too poor and small" and then adds "no physicist would dispute this [and] fiction that does not acknowledge this at least tacitly is not true" (*W*, 7). The writer of fiction should attend to the swirl of energy and motion and laws that make the universe, but she can do so only at the scale in which the universe becomes apparent to us. So the appeal to physics is at the same time an appeal to phenomenology, the stuff of the world the flipside to "the felt experience of thinking, with all its diverse . . . colorations" (*A*, 114).

Something happens. I glimpse sunlight through trees as I type, and what I see becomes part of the universe of physical things, the "one dispensation" that includes everything. "We abide with quarks and constellations" (*A*, 126). The work of literary form is just to worry, tweak, and pose the relation between the physical and the phenomenal in several different modes. "The locus of the human mystery is perception of this world. From it proceeds every thought, every art" (*W*, 9). Science should remember that the physical (whether conceived at the scale of particles or of neurons) includes sentience, and fiction should recognize the felt property of mind in physical matter. Writing and reading fiction thus have the effect of shape-shifting. "When a writer knows his character," she says, "he is writing to explore, to feel reality on a set of nerves somehow not quite his own" (*W*, 6). The feeling of reality on another nervous system is

nothing other than what it is like to be the subject of another's perception. In this respect, fiction as Robinson understands it fills in the experiential flipside to the cosmos left out even by point-by-point objective description.

Readers of Robinson's fiction will recognize this commitment to "felt experience" and to watching the world in motion from all four of her novels, but as one undertaken with particular attention in *Housekeeping* (1980), whose story of Ruth and her sister, Lucille, orphaned and for a time minded by their eccentric and transient aunt Sylvie in the northwestern town of Fingerbone, moves in small increments of described perception.[32] Although the novel is written in Ruth's grammatical first person, moreover, Ruth's psychological person appears on her own description to be "invisible—incompletely and minimally existent," to make "no impact on the world," so "that in exchange" she is "privileged to watch it unawares."[33] The effect of this shrinking is to tamp down singular features of personality while at the same time to open up a vantage onto the strange, aqueous world in which the novel is set: a town always at risk of flooding; a lake that drowns Ruth's mother and grandfather; a dampness that cannot be dried. Robinson's panpsychism insists at once on the irreducibility and ubiquity of experience; it says that experience cannot be reduced to something else (such as events in the brain) and that experience is a property of everything, whether clouds of gas or crowds of people. One form the incipient panpsychism takes in *Housekeeping* is a simultaneous attention to experience and disregard for the singularity of any character in whom such experience might reside. When the world becomes present here in vision or touch or sound, the line between objects and their images, "here and there, this and that," as Ruth puts it, can seem to be blurred or overcome (158). Ruth describes a "conspiracy of the senses with the world" in one moment and a "correspondence between the space within the circle of my skull and the space around me" in another, as if one's perceptual experience is not really one's own but rather lost among the rest of the world, here swallowed by there, this fading into that (131, 198). "What is thought, after all," she asks, "what is dreaming, but swim and flow, and the images they seem to animate?" (162). The question is one of ideas and doctrine, as if Ruth were working through a kind of theory. For the novel, if not exactly for Ruth, however, the way that an image can be animated by its object—their literal dwelling in the same stuff (water in this case)—turns on the way that point of view may be realized at the level of the sentence.

Here is one example. Ruth depicts her closely observed consciousness as a falling and swelling into things, a fate exemplified in the extreme by her mother and grandfather, for whom suicide and drowning finally unknit the distinction between the water of the world and the stuff of the self. But more

often the puzzle works itself out in comparatively plain acts of perception, such as the one Ruth imagines early on for her grandmother observing her daughters. She begins with a telling phrase:

> What was it like. One evening one summer she went out to the garden. The earth in the rows was light and soft as cinders, pale clay yellow, and the trees and plants were ripe, ordinary green, and full of comfortable rustlings. And above the pale earth and bright trees the sky was the dark blue of ashes. As she knelt in the rows she heard the hollyhocks thump against the shed wall. She felt the hair lifted from her neck by a swift, watery wind, and she saw the trees fill with wind and heard their trunks creak like masts. She burrowed her hand under a potato plant and felt gingerly for the new potatoes in their dry net of roots, smooth as eggs. She put them in her apron and walked back to the house thinking. What have I seen, what have I seen. The earth and the sky and the garden, not as they always are. And she saw her daughters' faces not as they always were, or as other people's were, and she was quiet and aloof and watchful, not to startle the strangeness away. (19)

The sentences move along a line of sight or sound or touch, with each one coaxing a distinct sensory mode in turn. Yet even as they proceed down the senses as a kind of list, they are preoccupied especially by touch, as if tactility were needed to make the merely imaginary seem like the genuinely substantive. The ground is light and soft before it is clay yellow; the watery wind moves through the hair on her head before it fills the trees whose limbs sound like creaking masts, and finally all of this is as yet thin and flat until the fingers pass over the eggshell surface of new potatoes. We are meant to feel reality on the nerves of Ruth's grandmother by following her hands into the world, even when the sensory mode is visual or auditory. And we are guided in doing so by a feint of Robinson's style. The passage concludes not with the touching and gathering of the potatoes but with an intriguingly unmarked question—"what have I seen"—that creates a kind of confusion between the focal point of the grandmother and the later perspective from which Ruth composes. Following the quotation of internal speech, Robinson strips the next sentence, "The earth and the sky and the garden, not as they always are," of a pronoun while sustaining its present tense. The effect is to blend Ruth's point of view with her grandmother's in such a way that broadens the perspective from the single focal point to a commentary on perceptual consciousness as a general feature of the world. The shape of the sentence in other words echoes and instantiates a set of nerves that belong to no one in particular. And yet as Robinson moves away from the perspectival first person, she sustains the sense of the "strange," the commitment to the earth and the sky and the garden and the daughters' faces "not as they always are" but rather as they are held from some point of

view, as achieved objects of perception. There are the earth and the sky, and there are faces. Then there are all these again, "not as they always are," each part of a real, or physical, world with no outside.

The idea is that perception is the very wonder of the physical, not its transcendence. There is a back side to the cosmos fastened to the weight and mass of the "merely given"; "the mind's eye is not entirely baffled by darkness" (166). Robinson works this difficulty out with point of view, as we have seen, but also with rhetorical figure. "Every spirit passing through the world," Ruth says, "fingers the tangible and mars the mutable" (73). The use of the tactile here is only the slimmest of metaphors. It is a figure to say that spirit "fingers" one thing, but is it a figure to say that it "mars" another? The figure puts in place the causal relation—one thing making contact with another—subsequently implied by the tearing or scratching of mutable things. So Robinson's language seems to bear the weight of a theory. There is something that approaches mind-body dualism in the conventional understanding of trope as a twinning of vehicle and tenor, a thing said and a thing conveyed. Yet the quick turn from the fingering to the marring indicates Robinson's reluctance to sever language in two. Spirit *does* finger the tangible, in the sense that Ruth's use of the metaphor leads us to imagine not only that all perception is like touch but also that spirit mars physical things and is therefore physical in one way or another. The figure comes along as if to coax spirit into the smooth lines of causation. So although "the spirit passes on," it does so "just as the wind in the orchard picks up the leaves from the ground, as if there were no other pleasure in the world but brown leaves, as if it would deck, clothe, flesh itself in flourishes of dusty brown apple leaves, and then drops them all in a heap at the side of the house and goes on" (73). Once again, but with the more dazzling acrobatics of a simile, the sentence teases a split between two parts of a figure only to hold them together. Spirit is like wind because it can wrap itself around and move things, and so is a fleshly thing, capable of movement and moving on. It is one thing seen two ways.

In her later theory, Robinson will connect this view to a physics that includes the phenomenal within its picture of the universe. Her habitual affection for quarks, photons, and the sundry puzzles of quantum theory is not meant to reduce or eliminate appearances but rather to fold them into what the world really is.[34] In the fiction this holding together of the perspectival with the objective works itself out often as the discovery of the strange within the ordinary: discarded shoes or cans or "dusty brown apple leaves" that become, in Ruth's words, "strangely transformed" into "fragments of the quotidian held up to our wondering attention" (73). There are leaves "as they always are," and there are leaves as we wondrously attend to them. Considered from

any point of view, chlorophyll drains out of leaves when sunlight dwindles, but only from some points of view are leaves brown or yellow or red when they are no longer green. Panpsychism proposes that every part of the universe has or bears some quanta of experience. The physical world on this account includes both the brownness of fallen leaves (a view from one perspective) *and* the process that empties them of chlorophyll (a view from no perspective). As a result, phenomenal experience seems at once to lace over every object and belong almost to no one. Ruth's first person at once expands in a watery thinness and mutes as it is no longer just hers. "In recollection," she writes of the summer before Lucille leaves home, "I feel no reluctance to speak of Lucille and myself almost as a single consciousness" (98).[35] Robinson presents the spreading of this consciousness stylistically in the blend of voice and perspective, or tenor and vehicle, and topically in the fear of or desire for drowning, for losing the "here" in one's head to the "there" of the watery expanse. So, for example, later in the novel during a nighttime excursion on the nearby lake with her transient yet seemingly present-in-everything aunt Sylvie, Ruth asks, what "if I miraculously, monstrously drank all the water into all my pores until the last black cranny of my brain was a trickle, a spillet"; what if thoughts "had weight and took up space," would they "sink or be carried away in the general flux," into "the brisk and ruinous energies of the world," or would they remain like reflections on water, suffering no "permanent displacement" (162–163)? Ruth wants thought to persist like a reflection on water rather than to be water itself, but she can't get away from the fact that the reflection simply is water, and so can't get away from her "mother's plan to rupture this bright surface, to sail beneath it into very blackness" (163). The earlier conspiracy of senses with the world here presents itself as a dissolving or dissolution, as if the indifference between one's own sentience and the sentience of everything else meant a kind of final and permanent unknitting of the person.

The novel stages this giving up as a loss of ego and solipsism and the attainment of a kind of grace, one understood as a minimal insistence on the private person and a residing among the rest of the world. Thus the titular act of housekeeping turns out to be a blurring of domestic and external debris: leaves scattered into corners, mingled with scraps of paper; a "plum colored davenport" wrestled outside to air on the front yard, "where it remained until it weathered pink" (86–87). In this way, Ruth says, "did our house become attuned to the orchard and to the particularities of weather" (86). And thus the act of Ruth's maturing becomes not the setting up of a house apart from the world but the joining with Sylvie in perpetual transience, an attunement through drift. The final conspiracy of the senses with the world is that everything is made of

the same, experiential stuff. So the giving up and letting go suggested by drowning merely fit the story about perception to a theory about matter.

In an essay on wilderness ecology published in the years between *Housekeeping* and what I've been calling the theoretical writing—the writing on mind and physics—Robinson recalls of her childhood, "My bond with my native landscape was an unnamable yearning, to be at home in it, to be chastened and acceptable, to be present in it as if I were not present at all."[36] This Ruth-like reduction of oneself in order to become like the rest of the world—an aesthetics in the fiction and a metaphysics in the theoretical writing—presents itself here as a kind of ethics. Robinson concludes by saying that "we are desperately in need of a new, chastened, self-distrusting vision of the world," one that "must surrender the idea of wilderness" as something outside of and acted upon by humanity and embrace instead a humbled indistinction between Ruth's "here and there," things as they are and things as they sometimes are, as a way to "invest our care and hope in civilization."[37] In the fiction as well as the philosophy, Robinson presents such humbling as a feature of the natural order itself. The presence of "something of a kind with consciousness" everywhere in the cosmos is just what it means for the universe to be composed of physical things.

From the lyrical heights of *Housekeeping* to the muted grounds of the Gilead novels there is a significant change in altitude. Even so, Robinson's recent fiction contributes in its own way to the panpsychism explored in the essays. Centered on the life and family circle of a midcentury Iowan, the Reverend John Ames, the Gilead novels attend once more to the presence of the miraculous in everyday environments—hollyhocks, pews, overgrown grass—but here the miraculous fact of perception, that there is something other to the cosmos than silent physical matter, both provokes and consists in a more gentle or dispersed "wondering" (to use Ruth's term). One important change to note is a certain moving away from figurative language. *Housekeeping* both tracks and gilds what things are like with an insistence on language's ability to provide a rhetorical likeness in its own material nature: "The shore was littered with driftwood. There were trunks with stiff tangles of roots, and logs all stripped of their bark and spindled tight like cable. In places they were heaped, one huge carcass on another, like ivory and bones" (112). The same cannot be said for the more insistently literal form of the recent fiction. This, for example, is a Depression era workers' camp from *Lila* (2014), also a novel about what it means for perception to subsist across habitual transience and physical movement: "There were campfires, and people drifting from one to another, laughing and talking, shaking hands and slapping backs, sharing their pickle and crackers and taffy, sometimes singing together a little, since there were banjos and mouth organs and a guitar and a fiddle scattered here and there among

the tents."[38] The perceptual lineaments of place stretch into deixis: there was this; that was here. If the figurative language of *Housekeeping* invites its reader to consider the metaphysics of tenor and vehicle—how a monism of physical substance might hold two properties in malleable and shifting balance—the turn to a more literal form in the Gilead novels looks for a more complete grounding. The experiential world is just the physical world, sans phrase.

So natural description contains likeness in single words, collapsing both parts of the simile into the sign. "Those first few days, clearing out the shack and washing at the river, finding dandelion greens and ferns still coming up and wild carrot, finding a rabbit burrow. Life is hard in the spring, and still it all felt like something she had died for the want of. She found a patch of violets blooming and lay down there, and ate every single flower, one by one, the way Mellie used to" (218). The traces of life returning are miracles of the fact of vernal Iowa, but the experience of them doesn't have a likeness to anything other than itself. Dandelion greens and ferns and wild carrot are just there. Much the same could be said for the lingering presence of winter. "There was snow on the ground when the baby came. It will snow in April sometimes, so there's nothing surprising about a blizzard or two in March. Still, it gave them a scare. One day they heard spring peepers, those same two notes, again and again, one higher, one lower. Then in the middle of the night it began to storm, and the next day they sat in the kitchen for the warmth and played gin rummy and listened to the wind howling" (232). Seasonal confusion manifests across perceptual modes, but things sound or look or feel like themselves. Spring peepers at night sound like spring peepers at night.

Sarah Blackwood has argued that *Lila* "closes the loop" between "the luminous feminine world" of *Housekeeping* and the modestly lit histories of the first two Gilead novels.[39] The emphasis on transient experiences and the strangeness of places called home certainly bears that out. Robinson's grounded and deictic language renders perception as just one more feature of what she calls the givenness of things. But the view from which all perception is held remains enigmatically dispersed. The arrival of spring sustains a consistent third-person turn on what Lila sees, feels, and tastes, but who, in the second passage, believes "it will snow in April sometimes, so there's nothing surprising about a blizzard or two in March"? The shift out of the past tense, from "there was snow" to "it will snow," introduces another perspective alongside Lila's, in a manner more dramatic than what is typically done by free indirect discourse alone. The effect is a kind wobbling and spreading of the first person as it mutates into a third, a turning out from the initial focal point, which stays within the immediacy of the scene. This feature of Robinson's style remains intermittently in place across the novel, sometimes noted in tense, sometimes in idiom or

other markings of language that multiply perspectives within a single picture of a described world. Any one experience might take more than one form at any one time. This is Lila walking into Ames's church for the first time: "The candles surprised her. It might all have seemed so beautiful because she'd been missing a few meals. That can make things brighter somehow. Brighter and further away" (11). And this is her discovering a small, abandoned cabin for a short stay on her arrival in Gilead: "Then she knew for sure it was abandoned because people had camped there and left clutter behind, and broken up the stoop for firewood, and no one had ever fixed any of it or cleared it away. The people who left the mess might come back and tell her it was their place—just look at the beer cans and the snoose tins, who do you think put them there? She had seen that happen before. You seen them spent cartridges out by the trees? You think it was squirrels dropped them? Nothing to do then but move on" (26). The first passage deepens the subjective view of the beauty by noting the hunger of the person who is seeing, but then multiplies that view by including the "might have seemed" querying and the "that can make" stating. Experience just crowds the scene, as Robinson's sentences keep several versions in play at once, each different in tense and modality. The second passage switches from the past ("she knew") to the immediacy of a moving now ("might come back and tell her") before it introduces seemingly unmarked dialogue, everything up to and including "You think it was squirrels dropped them?" said but not said by Lila or her caregiver Doll, in her mind or on the page. Experience multiplies without losing its footing. Where *Housekeeping* moves experience away from individuals to a kind of haunting, watery presence, in other words, *Lila* keeps experience both plural and grounded, in the here and there, this or that.

This variety of experience—sometimes simple, bare sentience—stretches across voice, person, grammatical mood, and point of view. It is just another way to present a given moment with "its own emotional coloration," the "part of what we have seen of the world" demanded of literature by physical science (*W*, 6–7). And so it is just another way for art of some kind to fill in what cannot be known about consciousness (how it arises from matter) and what cannot be known about matter (what its intrinsic properties are). For Robinson as for Cavendish, the experiential and the physical pose difficulties only for those committed to keeping them apart. So much is also maintained, as we've seen, by very recent advocates for panpsychism, even among the most philosophically and scientifically hard-nosed, for whom it is, in Philip Goff's words, "more simple, elegant, and parsimonious than its rivals." The rigorous thing to do is to complete the abstract picture of physical structure with the colors of its intrinsic nature. "The brains of organisms are colored in with

experience. How to color in the rest? The most elegant, simple, sensible option is to color in the rest of the world with the same pen."[40] Goff stops there, as do Strawson, Koch, and the rest. A pen with thin ink. How to color in the rest? Cavendish and Robinson both respond that you should turn to literary art. And why not? The exciting thing about panpsychism is that it puts experience into the building blocks of the universe. Writing amid the scientific upheaval of their times, Cavendish and Robinson say that's why literature should matter.

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Not a small amount of this book concerns the creation of places to live. *Paper Minds* is dedicated to Bliss Kern and our multispecies home, where it has been written with happiness and while surrounded by love.

*

I am grateful to the following publications for allowing me to work through some of the ideas in this book first in their pages. A shorter version of chapter 1 appeared as "The Interdisciplinary Fallacy" in *Representations* 140 (Fall 2017): 67–83. I have expanded it here to take up questions of method and reduction of broader concern for this book. Chapter 2, coauthored with Anahid Nersessian, appeared in *Critical Inquiry* 43, no. 3 (Spring 2017): 650–69.

Copyright © The University of Chicago. All rights reserved. The third chapter has been considerably revised and expanded from its initial appearance as "An Aesthetics and Ecology of Presence" in *European Romantic Review* 26, no. 3 (2015): 315–27. And the fifth chapter has had some of its initial enthusiasm trimmed from its publication in *The Eighteenth Century: Theory and Interpretation* 48, no. 3 (2007): 263–85. The rest are published for the first time in this book.

Notes

Paper Minds, an Introduction

1. Daniel Defoe, *Robinson Crusoe* (New York: Penguin, 2001), 56. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

2. For Defoe and craft, see Margaret Cohen, *The Novel and the Sea* (Princeton, NJ: Princeton University Press, 2010); and Ann Van Sant, "Crusoe's Hands," *Eighteenth-Century Life* 32, no. 2 (2008): 120–137.

3. For the use of "handsome," the *OED* dates both "Fit, suitable, convenient, handy" and "Of a thing: having an attractive form or appearance" to the early sixteenth century. *The Oxford English Dictionary*, 3rd ed., s.v. "Handsome, *a, adv,* and *n*"; *OED Online,* accessed June 2016, http://dictionary.oed.com/.

4. John Locke, *An Essay concerning Human Understanding*, ed. Peter Nidditch (Oxford: Oxford University Press, 1975), 2.1.19.

5. Evan Thompson, *Mind in Life: Biology, Phenomenology, and the Sciences of Mind* (Cambridge, MA: Harvard University Press, 2008), 33.

6. James J. Gibson's work is especially important to "Presence of Mind" (chap. 3) and "On Beauty and Being at Home" (chap. 4), but the influence may be felt across every essay here. Maurice Merleau-Ponty has seen the most concerted attention from the proponents of the "enactive" or "embodied" account of cognitive science, with which I'm interested. Martin Heidegger's work on dwelling and on ready-to-handness is important for the early essays in this book as well.

7. James J. Gibson, *The Ecological Approach to Visual Perception* (1979; New York: Taylor and Francis, 1986), 51, 65, passim; and Maurice Merleau-Ponty, *Phenomenology of Perception* (1945), trans. Colin Smith (New York: Routledge, 1958), 162.

8. Merleau-Ponty, *Phenomenology of Perception*, 5.

9. See Alva Noë and Evan Thompson, "Are There Neural Correlates of Consciousness?," *Journal of Consciousness Studies* 11, no. 1 (2004): 3–28. The examples include objects (tomatoes, cats, houses) that, they say, we experience as whole given minimal perceptual acquaintance by filling in skillfully the parts that are missing.

10. J. Kevin O'Regan, *Why Red Doesn't Sound like a Bell: Understanding the Feel of Consciousness* (Oxford: Oxford University Press, 2011), 41, 43.

11. Merleau-Ponty, *Phenomenology of Perception*, 243.

12. O'Regan, *Why Red Doesn't Sound like a Bell*, 115.

13. Alva Noë, *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness* (New York: Hill and Wang, 2009), 24, xii, 10.

14. See, e.g., O'Regan, *Why Red Doesn't Sound like a Bell*, 108–119.

15. See, e.g., Alva Noë, *Action in Perception* (Cambridge, MA: MIT Press, 2004), 194.

16. Cf. Merleau-Ponty: "In perception, we are given over to the object and we merge into this body which is better informed than we are about the world, and about the motives and the means at our disposal for synthesizing it" (*Phenomenology of Perception*, 277).

17. Two studies of the perceptual work of literary texts have been particularly helpful here: Elaine Scarry's *Dreaming by the Book* (Princeton, NJ: Princeton University Press, 1999); and Michael Clune's *Writing against Time* (Stanford, CA: Stanford University Press, 2013). Both are luminous, interdisciplinary accounts of the way mere marks on the page strive to create perceptual objects. Clune's perspective is closer to mine, since he understands the work of literature to add to or transform rather than reproduce the objects of perception.

18. Blakey Vermeule, "The New Unconscious: A Literary Guided Tour," in *The Oxford Handbook of Cognitive Literary Studies*, ed. Lisa Zunshine (Oxford: Oxford University Press, 2015), 468. See also N. Katherine Hayles, *Unthought: The Power of the Cognitive Nonconscious* (Chicago: University of Chicago Press, 2017).

19. Hayles, *Unthought*, 40.

20. I use the expression "theory of mind" in the technical sense that has now crossed over from psychology, cognitive neuroscience, and the philosophy of mind to literary studies, owing to the work of the scholars cited in the following note. The question for theory of mind is how and when does a developing mind form a theory of other minds (that they exist, that they have beliefs different from one's own, and the like)? For the relevant literature, see the notes to chapter 5 below.

21. See Alan Richardson, *The Neural Sublime: Cognitive Theories, Romantic Texts* (Baltimore: Johns Hopkins University Press, 2010), especially 79–86; Ellen Spolsky, *The Contracts of Fiction: Cognition, Culture, Community* (Oxford: Oxford University Press, 2015), 130–155; Blakey Vermeule, *Why Do We Care about Literary Characters?* (Baltimore: Johns Hopkins University Press, 2010); and Lisa Zunshine, *Why We Read Fiction: Theory of Mind and the Novel* (Columbus: Ohio State University Press, 2006).

22. This is soft-dualist because I don't mean to argue that any one of the writers I work on here holds that mind is its own separate substance, in the Cartesian sense. Nevertheless, the difference between those who emphasize the separateness of the mind from the rest of the world and those who don't is critical for every part of the book. On the long history of this dualist sorting, with a slant to its overcoming, I've read with interest Hubert Dreyfus and Charles Taylor's *Retrieving Realism* (Cambridge, MA: Harvard University Press, 2015).

23. For Gibson on direct perception, see "Notes on Direct Perception and Indirect Perception," in *Reasons for Realism: Selected Essays of James J. Gibson*, ed. Edward Reed and Rebecca Jones (Hillsdale, NJ: Erlbaum, 1982), 289–296; "A Theory of Direct Visual Perception," in *The Psychology of Knowing*, ed. J. R. Royce and W. W. Rozeboom (New York: Gordon and Breach, 1972), 215–227; and *The Ecological Approach to Visual Perception*, 147–168. Gibson's ecological approach and theory of direct perception have seen something of a revival in contemporary "enactive" or "sensorimotor" versions of cognitive science. See, inter alia, Noë, *Action in Perception;* and O'Regan, *Why Red Doesn't Sound like a Bell*. The direct view remains controversial and

opposed by various computational theories of perception, including those of David Marr, Zenon Pylyshyn, and Jerry Fodor, discussed in chapter 5.

24. David Fairer, " 'Where Fuming Trees Refresh the Thirsty Air': The World of Eco-Georgic," *Studies in Eighteenth-Century Culture* 40 (2011): 207, 209, 212.

25. Jonathan Culler, *The Pursuit of Signs: Semiotics, Literature, Deconstruction* (Ithaca, NY: Cornell University Press, 1981), 149–171. For a critique of Culler and the deconstructive tradition on apostrophe that is particularly relevant to my discussion in chapters 6 and 7, see Richardson, *Neural Sublime*, 58–78.

26. Gibson, *Ecological Approach to Visual Perception*, 1.

27. "Observers move about in the environment, and observation is typically made from a moving position. . . . The environment consists of the earth and the sky with objects *on* the earth and *in* the sky, of mountains and clouds, fires and sunsets, pebbles and stars. . . . The environment is all these various things—places, surfaces, layouts, motions, events, animals, people, and artifacts that structure the light at points of observation" (ibid., 66).

28. Gibson invented the word "affordance," and it will be important for much of this book. As I will discuss below, for Gibson, an affordance is a feature of the environment that shows up as a potential for action for a certain creature with a certain morphology and style of movement. The term later migrated over to design theory, owing to the use made of Gibson's work by Donald Norman (e.g., *The Design of Everyday Things* [New York: Basic Books, 1988]), where it named the aspect of any design that indicates action or use by human bodies (consider the height, placement, shape, and size of door handles, Norman asks). The term is now in wide use in computer science and the digital humanities, history of the book, and literary and cultural theory. For the latter, see Caroline Levine, *Forms: Whole, Rhythm, Hierarchy, Network* (Princeton, NJ: Princeton University Press, 2015).

29. Gibson, *Ecological Approach to Visual Perception*, 129.

30. *The Poems of William Cowper*, vol. 2, ed. John Baird and Charles Ryskamp (Oxford: Clarendon Press, 1995), book 1, line 1. Subsequent citations are to this edition, with book and line numbers given parenthetically in the text (e.g., 1.1).

31. Gibson, *Ecological Approach to Visual Perception*, 128.

32. The term "skilled coping" comes from Hubert Dreyfus, whose phenomenological take on cognitive work in philosophy and science is of interest for this part of the argument. See Dreyfus and Taylor, *Retrieving Realism*; and the essays collected in Hubert Dreyfus, *Skilled Coping: Essays on the Phenomenology of Everyday Perception and Action* (Oxford: Oxford University Press, 2014).

33. I make this argument in particular against self-styled "evolutionary" literary criticism in "Against Literary Darwinism," *Critical Inquiry* 37, no. 2 (2011): 315–347; and "Literary Study and Science: A Reply to My Critics," *Critical Inquiry* 38, no. 2 (2012): 431–460.

34. Note that Nersessian and I do not argue that the method of literary study (close reading and historical contextualization, say) is analogous to the method of the natural sciences (hypothesis generation and experimental confirmation). We argue that the status of explanatory terms is analogous. And we further argue that this use of such terms underlies the expertise specific to each discipline.

35. My sense of the relation between point of view in the philosophy of consciousness and in literary theory (especially narratology) uses the classic sense of point of view as focalization as described in, especially, Gérard Gennete, *Narrative Discourse: An Essay on Method*, trans. Jane E. Lewin (Ithaca, NY: Cornell University Press, 1983), 175 and passim; and Mieke Bal, *Narratology:*

Introduction to the Theory of Narrative (Toronto: University of Toronto Press, 1985), 148 and passim.

36. Ian McEwan, *Saturday* (New York: Random House, 2005), 5–6. My understanding of the importance of surgery as kinesthesis in the novel was enlivened by a discussion with Cat Prueitt after a presentation I gave at Cornell University's summer NEH Institute on Presupposition and Perception, July 2016.

Chapter One

1. On the uneven distribution of cultural capital between the humanistic disciplines and the social and natural sciences, see John Guillory's more-relevant-than-ever *Cultural Capital: The Problem of Literary Canon Formation* (Chicago: University of Chicago Press, 1993).

2. On propositions and critical fallacies, see William Wimsatt and Monroe Beardsley, "The Intentional Fallacy," *Sewanee Review* 54, no. 3 (1946): 468–488.

3. See, e.g., Alex Rosenberg, "Cura Te Ipsum," *3AM Magazine*, January 2014, accessed November 2016, http://www.3ammagazine.com/3am/cura-te-ipsum/.

4. See Rudolf Carnap, "Testability and Meaning," *Philosophy of Science* 3, no. 4 (1936): 419–471. This is the view dismissed with considerable influence by Quine as one of the two dogmas of empiricism, namely, "*reductionism*: the belief that each meaningful statement is equivalent to some logical construct upon terms which refer to immediate experience." See W. V. O. Quine, "Two Dogmas of Empiricism" (1951), in *From a Logical Point of View: Nine Logico-Philosophical Essays* (Cambridge, MA: Harvard University Press, 1953), 20.

5. See A. W. Carus, *Carnap and Twentieth Century Thought: Explication as Enlightenment* (Cambridge: Cambridge University Press, 2007), especially 161–184.

6. Joseph Carroll, Dan P. McAdams, and Edward O. Wilson, eds., *Darwin's Bridge: Uniting the Humanities and the Sciences* (Oxford: Oxford University Press, 2016), xx.

7. Edward O. Wilson, *Consilience: The Unity of Knowledge* (New York: Knopf, 1998), 3, 8. Hereafter, page numbers are given parenthetically in the text.

8. Edward Slingerland, *What Science Offers the Humanities* (Cambridge: Cambridge University Press, 2008), 9.

9. Ibid.

10. For a somewhat-tempered, "second wave consilience," see Edward Slingerland and Marc Collard, eds., *Creating Consilience: Integrating the Sciences and the Humanities* (Oxford: Oxford University Press, 2011), 3–37.

11. This is a mainstay of the philosophy of science. See Jerry Fodor, "Special Sciences (or the Disunity of Science as a Working Hypothesis)," *Synthese* 28, no. 2 (1974): 97–115; and John Dupré, *The Disorder of Things: Metaphysical Foundations of the Disunity of Science* (Cambridge, MA: Harvard University Press, 1993).

12. That is not to say that one cannot coordinate the analysis of form with an explanation that has recourse to psychology or even biology. The work of scholars such as Alan Richardson, Ellen Spolsky, G. Gabrielle Star, and Blakey Vermeule (and of course many others) does that all the time. In fact, the success of these scholars lies in the maintaining and coordinating of two levels of explanation, each with a proprietary language and disciplinary home.

13. Dupré, *Disorder of Things*, 3.

14. The problem of reduction in biology was canonically explored by Phillip Kitcher in "1953 and All That: A Tale of Two Sciences," *Philosophical Review* 93, no. 3 (1984): 335–373. Reductionism

remains unpopular although much discussed within up-to-date philosophy of science. For recent discussions within the philosophy of biology, see Ingo Brigant, "Explanation in Biology: Reduction, Pluralism, and Explanatory Aims," *Science and Education* 22 (2013): 69–91; and Anjan Chakravartty, "Scientific Realism and Ontological Relativity," *Monist* 94, no. 2 (2011): 157–180.

15. Fodor, "Special Sciences," 113. I have used the expression "natural and social sciences" rather than "special sciences" because it is in wider use outside philosophy. By "special sciences" Fodor means all the sciences that are not physics: that is, biology and chemistry paradigmatically but also geology, psychology, economics (his examples), and the rest.

16. Ibid.

17. This is the classical model of reduction as described by Ernst Nagel. See *The Structure of Science: Problems in the Logic of Scientific Explanation* (New York: Harcourt, 1961), 336–397.

18. Or strictly speaking, these things are kinds because they cannot be reduced out of their discipline.

19. Chakravartty, "Scientific Realism and Ontological Relativity," 161.

20. Ibid., 171.

21. Debates about reading (close or distant, surface or symptomatic) on this view have the intensity that they do because they are about the core method of the discipline.

22. See, for example, the essays collected in Carroll, McAdams, and Wilson, *Darwin's Bridge*. This is from the afterword: "*Darwin's Bridge* asks an audacious question: What if the borderline between the two cultures of the humanities and sciences has no substance? What if all that's stopping the free flow of concepts, information, and methods is mental and bureaucratic inertia?" (271).

23. Steven Pinker, "Science Is Not Your Enemy: An Impassioned Plea to Neglected Novelists, Embattled Professors, and Tenure-less Historians," *New Republic*, August 6, 2013, accessed July 2016, https://newrepublic.com/article/114127/science-not-enemy-humanities.

24. Ibid.

25. For analysis of this rhetoric, see Jill Lepore, "The Disruption Machine: What the Gospel of Innovation Gets Wrong," *New Yorker*, June 23, 2014, accessed August 2017, http://www.newyorker.com/magazine/2014/06/23/the-disruption-machine.

26. Pinker, "Science Is Not Your Enemy." Elsewhere, Pinker recognizes the problem of corporatization, even as he uses some of its language.

27. Gillian Tett, *The Silo Effect: The Peril of Expertise and the Promise of Breaking Down Barriers* (New York: Knopf, 2015), 13 and passim.

28. See Lawrence Quillan, "Curing 'Functional Silo Syndrome' with Logistics TCM," *CMA Magazine* 65, no. 9 (1991): 9–14.

29. Tett's example here is the workplace structure of Facebook, which routinely moves its engineers and coders from one team to another, in so-called "Hackamonths," and which continually updates and alters even its best-functioning product (like the Newsfeed) to outpace any future competitor. See Tett, *Silo Effect*, 164–191.

30. The corporatization of the twenty-first-century university has sponsored a vast literature. My interest here is merely to intimate the relation between that fact and the discourse of interdisciplinarity. For more on that relation, see Jerry A. Jacobs, *In Defense of Disciplines: Interdisciplinarity and Specialization in the Research University* (Chicago: University of Chicago Press, 2013). For the larger phenomenon, see, e.g., Christopher Newfield, *The Great Mistake: How We Wrecked Public Universities and How We Can Fix Them* (Baltimore: Johns Hopkins University Press, 2016).

31. Ranjay Gulati, "Silo Busting: How to Execute on the Promise of Customer Focus," *Harvard Business Review* 185 (May 2007): 104.

32. Peter Felton, John N. Gardner, Charles C. Schroeder, Leo M. Lambert, Betsy O. Barefoot, and Freeman A. Hrabowski, eds., *The Undergraduate Experience: Focusing Institutions on What Matters Most* (San Francisco: Wiley, 2016), 7.

33. See Gulati, "Silo Busting," 104–105. For the importance of systems thinking, see Peter M. Senge's blockbuster work of management theory, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday, 1990). Felton et al., *Undergraduate Experience,* borrow all this, including the exact phrase and logic of the "learning organization."

34. A university without departments is not just the fantasy structure of corporate-inspired interdisciplinary innovation. Witness, for example, the plan for Southern Illinois University as imagined by its chancellor, Carlo Montemagno: "The chancellor went on to say that the 'biggest limitation in our ability to change has been bureaucratic, artificial boundaries created by the way we count effort and resources.' The solution, he said, 'is to eliminate the primary obstacles for multidisciplinary interaction—the financial structure associated with departments. By eliminating departments, we coarsen the delivery of resources to support innovative thinking.' " Colleen Flaherty, "Doing Away with Departments," *Inside Higher Education*, November 17, 2017, accessed November 2017, https://www.insidehighered.com/news/2017/11/17/southern-illinois-u-carbondale-wants-dissolve-academic-departments-all-them?utm_content=buffer664eb&utm_medium=social&utm_source=facebook&utm_campaign=IHEbuffer.

35. For more on the background theory, and the case of "water" especially, see Manfred Max-Neef's widely cited paper "Foundations of Transdisciplinarity," *Ecological Economics* 53, no. 1 (2005): 5–16.

36. "Discovery Themes Initiative Takes Next Steps," accessed November 2016, https://discovery.osu.edu/about/news/discovery-themes-next-steps.html; and "Next Three Discovery Themes Initiatives," accessed November 2016, https://discovery.osu.edu/about/news/next-three-discovery-areas.html.

37. "Discovery Themes Initiative Takes Next Steps."

38. See, e.g., Maggie Berg and Barbara Seeber's short manifesto *The Slow Professor: Challenging the Culture of Speed in the Academy* (Toronto: University of Toronto Press, 2016). Modeled after the slow-food movement, slow academia will "alleviate work stress, preserve humanistic education, and resist the corporate university" (x). Meanwhile, as many readers will be well aware, "attentiveness" has been a keyword of the so-called descriptive or postcritical turn in literary studies.

39. Some "anectdata," for what it's worth: The five years I spent directing an interdisciplinary seminar on culture and cognition continually ran into this difference in sensibility, with the humanists interested in getting to a point where the problems could be stated and the social and natural scientists (and their fellow travelers in philosophy) wanting to solve problems once stated. This was met with good cheer.

40. Mary Poovey, *Genres of the Credit Economy: Mediating Value in Eighteenth- and Nineteenth-Century Britain* (Chicago: University of Chicago Press, 2008). Hereafter, page numbers are given parenthetically in the text. In what follows, I will accept for the sake of argument the content of the history. My interest will be instead in the derivation of an epistemic conclusion from that history, a version, I will argue, of the genetic fallacy. My own work on the history of English in these contexts can be found in Jonathan Kramnick, "Literary Criticism among the Disciplines," *Eighteenth-Century Studies* 35, no. 3 (2002): 343–360. To the degree to which my earlier essay succumbs to a genetic fallacy, it runs in the opposite direction from the historicism of the disciplines I discuss here.

41. Poovey's capitalization of "Literary studies" seems designed to point to the alleged sanctification of literature, as no longer literature but Literature. In keeping with both standard practice and the spirit of my argument, I'll use lowercase.

42. The genetic fallacy in epistemology occurs when "the source or origin of a proposition or theory is taken to be relevant to its evaluation"; Margaret Crouch, "A 'Limited' Defense of the Genetic Fallacy," *Metaphilosophy* 24, no. 3 (1993): 229. See also, for an exhaustive discussion, Roger White, "You Just Believe That Because . . . ," *Philosophical Perspectives* 24, no. 1 (2010): 573–615. In Korsgaard's succinct formulation, "showing that something is an invention is not a way of showing that it is not real." Christine Korsgaard, *The Sources of Normativity* (Cambridge: Cambridge University Press, 1996), 8.

43. "Historical description" is Poovey's alternative to "aesthetic formalism" and its associated practices of "textual interpretation" (337–352).

44. Clifford Siskin, *System: The Shaping of Modern Knowledge* (Cambridge, MA: MIT Press, 2016). Hereafter, page numbers are given parenthetically in the text.

45. On ibid., 5, 53, 56, 61, 67, 129, 164, and 205 (twice).

46. It is not my intention to contest the account of physics itself. In the spirit of explanatory pluralism, I would leave that to the physicists. I would note that Siskin relies here on trade expositions of computational applications of quantum theory, including notably Stephen Wolfram's *A New Kind of Science* (New York: Wolfram Media, 2002); and David Deutsch's *The Beginning of Infinity: Explanations That Transform the World* (London: Penguin, 2011). There's nothing wrong with that, of course. The final section of *System* (227–239) uses the computational account to ally itself with Wilsonian consilience: now that we know that the world is entirely made of information, we can come up with a single, discipline-less academy for its analysis.

47. See, e.g., Siskin, *System*, 67.

48. Angus Fletcher and John Monterosso, "The Science of Free-Indirect Discourse," *Narrative* 24, no. 1 (2016): 85.

49. See Edson Amaro Jr. and Gareth Barker, "Study Design in *f*MRI: Basic Principles," *Brain Cognition* 60, no. 3 (2006): 220–232; and G. Gabrielle Starr, *Feeling Beauty: The Neuroscience of Aesthetic Experience* (Cambridge, MA: MIT Press, 2013), 149–157.

50. For a background, see Alexander Bird, "What Is Scientific Progress?," *Nous* 41, no. 1 (2007): 64–89.

51. Michael Friedman, "Explanation and Scientific Understanding," *Journal of Philosophy* 71, no. 1 (1974): 7.

52. In much science, some sort of reduction is precisely involved with explanation and understanding. See, e.g., Friedman, "Explanation and Scientific Understanding," 6, 12–16. That sort of intradisciplinary, as opposed to interdisciplinary, reduction is a different sort from the eliminative reduction at issue here, in which the explained phenomenon gets reduced to something that no longer accounts for the phenomenon itself; see the examples in Jonathan Kramnick, "Literary Studies and Science," *Critical Inquiry* 38, no. 2 (2012): 447–448.

Chapter Two

1. René Wellek, "Concepts of Form and Structure in Twentieth-Century Criticism," in *Concepts of Criticism* (New Haven, CT: Yale University Press, 1963), 55.

2. Fredric Jameson, *The Political Unconscious: Narrative as a Socially Symbolic Act* (Ithaca, NY: Cornell University Press, 1982), 117.

3. Zenon W. Pylyshyn, *Computation and Cognition: Toward a Foundation for Cognitive Science* (Cambridge, MA: MIT Press, 1984), 2.

4. See Eve Kosofsky Sedgwick, "Paranoid Reading and Reparative Reading: Or, You're So Paranoid, You Probably Think This Essay Is about You," in *Touching Feeling: Affect, Pedagogy, Performativity* (Durham, NC: Duke University Press, 2003), 123–151.

5. Bruno Latour, "Why Has Critique Run Out of Steam?," *Critical Inquiry* 30, no. 2 (2004): 229. For a book-length treatment, see Rita Felski, *The Limits of Critique* (Chicago: University of Chicago Press, 2016).

6. Latour, "Why Has Critique Run Out of Steam?," 230; and Stephen Best and Sharon Marcus, "Surface Reading: An Introduction," *Representations* 108, no. 1 (2009): 2 (hereafter, abbreviated *SR* and page numbers given parenthetically in the text).

7. One could say that the appeal of the original essay on surface reading is due, at least in part, to the sensual appeal of "the slow pace, receptiveness and fixed attention" it imagines accompanying "the refus[al] to celebrate or condemn [our] objects of study" (SR, 18).

8. Heather Love, "Close but Not Deep: Literary Ethics and the Descriptive Turn," *New Literary History* 41, no. 2 (2010): 375, 387.

9. Francis Bacon, "Of Seeming Wise," in *Essays* (London: Penguin, 1985), 136.

10. Susan J. Wolfson, introduction to *Reading for Form*, ed. Susan J. Wolfson and Marshall Brown (Seattle: University of Washington Press, 2006), 4.

11. Caroline Levine, *Forms: Whole, Rhythm, Hierarchy, Network* (Princeton, NJ: Princeton University Press, 2015). Hereafter, abbreviated *F* and page numbers given parenthetically in the text.

12. Rudolf Carnap, *The Logical Structure of the World and Pseudoproblems in Philosophy* (1928), trans. Rolf A. George (Chicago: Open Court, 2003), 6.

13. Raphael van Riel and Robert Van Gulick, "Scientific Reduction," in *The Stanford Encyclopedia of Philosophy*, Fall 2015 ed., ed. Edward N. Zalta, http://plato.stanford.edu/archives/fall2015/entries/scientific-reduction/.

14. Sandra Macpherson, "A Little Formalism," *ELH* 82, no. 2 (2015): 385. Hereafter, abbreviated *LF* and page numbers given parenthetically in the text.

15. See Jonathan Schaffer, "On What Grounds What," in *MetaMetaphysics: New Essays on the Foundations of Ontology, ed. David J. Chalmers, David Manley, and Ryan Wasserman* (Oxford: Oxford University Press, 2009), 347–383.

16. See, e.g., John Crowe Ransom, "Wanted: An Ontological Critic," in *The New Criticism* (Norfolk, CT: New Directions, 1941), 279–336.

17. For the materialism, see *LF*, 387, 397–398, and passim.

18. Macpherson thus avoids the connection between formalism and any assertion of the autonomy of the work of art—the notion that intended art objects form a class of things distinct from rocks and bridges alike. Contrast the return to form in the recent work of Michaels, for whom "the simultaneous assertion of form and meaning" in a group of artists he finds compelling is an assertion of precisely the difference between aesthetic and other kinds of objects, "especially insofar as form might be thought to establish the work's autonomy, or meaning might be understood as a function of the artist's intentions." Walter Benn Michaels, *The Beauty of a Social Problem: Photography, Autonomy, Economy* (Chicago: University of Chicago Press, 2015), xi.

19. Marjorie Levinson, "What Is New Formalism?," *PMLA* 122, no. 2 (2007): 561. Hereafter, abbreviated *WNF* and page numbers given parenthetically in the text.

20. See Saul Kripke, *Naming and Necessity* (Cambridge, MA: Harvard University Press, 1980), 96.

21. G. E. M. Anscombe, *Causality and Determination: An Inaugural Lecture* (Cambridge, MA: Harvard University Press, 1971), 9.

22. Cleanth Brooks, "The Formalist Critics," *Kenyon Review* 13, no. 1 (1951): 72.

23. John Hollander, *Vision and Resonance: Two Senses of Poetic Form* (Oxford: Oxford University Press, 1975).

24. Hortense Spillers, *Black, White, and in Color: Essays on American Literature* (Chicago: University of Chicago Press, 2003), 139.

25. D. A. Miller, *Jane Austen, or The Secret of Style* (Princeton, NJ: Princeton University Press, 2003), 60.

26. Mark B. N. Hansen, *New Philosophy for New Media* (Cambridge, MA: Harvard University Press, 2004), 8–9.

27. Monique Allwaert, *Ariel's Ecology: Plantations, Personhood, and Colonialism in the American Tropics* (Minneapolis: University of Minnesota Press, 2013), 2.

28. Eleanor Johnson, *Practicing Literary Theory in the Middle Ages: Ethics and Mixed Form in Chaucer, Gower, Usk, and Hoccleve* (Chicago: University of Chicago Press, 2013), 12; and Michael Cohen, *The Social Lives of Poems in Nineteenth-Century America* (Philadelphia: University of Pennsylvania Press, 2015), 202.

29. Angela Leighton, *On Form: Poetry, Aestheticism, and the Legacy of a Word* (Oxford: Oxford University Press, 2007), 1.

30. Ned Block, "On a Confusion about a Function of Consciousness," in *The Nature of Consciousness: Philosophical Debates*, ed. Ned Block, Owen Flanigan, and Güven Güzeldere (Cambridge, MA: MIT Press, 1997), 375. Hereafter, abbreviated *CFC* and page numbers given parenthetically in the text.

31. See Kevin De Queiroz, "Species Concepts and Species Delimitation," *Systematic Biology* 56, no. 6 (2007): 879–886; and Sarah Werning, "How Species Are like Pornography: Species Concepts and the Fossil Record," April 1, 2013, accessed May 2016, http://blogs.plos.org/paleo/2013/04/01/how-species-are-like-pornography/. On "species" as a nonreferring term, see Brent D. Mishler, "Species Are Not Uniquely Real Biological Entities," in *Contemporary Debates in Philosophy of Biology*, ed. Francesco Ayela and Robert Arp (New York: Blackwell, 2010), 110–122. We would like to thank Stephanie Ranks for discussion on this point.

32. Carl Hempel, *Aspects of Scientific Explanation and Other Essays in the Philosophy of Science* (New York: Free Press, 1965), 140, 143.

33. Ibid., 143.

34. Philip Kitcher, "Species," *Philosophy of Science* 51, no. 2 (1984): 309. See also John Dupré, "Natural Kinds and Biological Taxa," *Philosophical Review* 90, no. 1 (1981): 66–90.

35. I. A. Richards, *Principles of Literary Criticism* (London: Routledge, 2004), 157.

36. Franco Moretti, *Graphs, Maps, Trees: Abstract Models for Literary History* (London: Verso, 2005), 91.

37. Ibid., 80–81 and passim.

38. This is so even without the disciplinary argument against close reading that took on special salience when the method joined up with the developments in the digital humanities. In fact, the explanatory procedure of taking a form and following it from space to space while studying its transformations relies on punctuated instances of (often virtuoso) close reading. In the case of the tree made by the development of free indirect style, the procedure needs to get right up next to modulations of voice in passages from Austen, Dostoyevsky, Zola, and Joyce before it puts them in evolutionary and cartographic relation to each other (*ibid*., 81–92). The argument therefore isn't

against reading such passages closely; the argument is that reading them closely doesn't produce an explanation until it is abstracted into the tree composed by their pathways across nations and historical time.

39. Roman Jakobson, "On Realism in Art," in *Readings in Russian Poetics: Formalist and Structuralist Views*, ed. Ladislav Matejka and Krystyna Pomorska (Cambridge, MA: MIT Press, 1971), 38.

40. Bas van Fraasen, *The Scientific Image* (Oxford: Oxford University Press, 1980), 156.

41. John Dupré, *The Disorder of Things: Metaphysical Foundations of the Disunity of Science* (Cambridge, MA: Harvard University Press, 1993), especially 37–59.

42. Frances Ferguson, "Jane Austen, *Emma*, and the Impact of Form," in Wolfson and Brown, *Reading for Form*, 233.

Chapter Three

1. By "presence," I mean simply the property of being here rather than not here, close rather than faraway, or as Gumbrecht puts it, "a spatial relation to the world and its objects . . . tangible to human hands." Hans Ulrich Gumbrecht, *Production of Presence: What Meaning Cannot Convey* (Stanford, CA: Stanford University Press, 2004), xiii. The word "presence" has religious and semantic connotations that I do not mean to suggest, as in the presence of the Lord in the Host or of meaning in the signifier (the "metaphysics of presence," so called). My use of the term also follows from Alva Noë's sense in *Varieties of Presence* (Cambridge, MA: Harvard University Press, 2012), discussed below.

2. I'm interested in particular in the line of thinking that descends from James J. Gibson's ecological theory of perception. See, e.g., Alva Noë, *Action in Perception* (Cambridge, MA: MIT Press, 2004); Anthony Chemero, *Radical Embodied Cognitive Science* (Cambridge, MA: MIT Press, 2009); and Daniel D. Hutto and Erik Myin, *Radicalizing Enactivism: Basic Minds without Content* (Cambridge, MA: MIT Press, 2013).

3. Thomas Hobbes, *Leviathan, or the Matter, Forme, & Power of a Common-Wealth Ecclesiasticall and Civill*, ed. Richard Tuck (Cambridge: Cambridge University Press, 1996), 13. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

4. John Locke, *An Essay concerning Human Understanding*, ed. Peter Nidditch (Oxford: Oxford University Press, 1975), 2.12.17.

5. David Hume, *A Treatise on Human Nature*, 2nd ed., ed. P. H. Nidditch and L. A. Selby-Bigge (Oxford: Oxford University Press, 1978), 2.1.6. I take Hume at face value here, as repeating the received wisdom of his time, not stating the skeptical conclusions he would draw from such wisdom. The representational stance may be necessary for Hume's skepticism (about, for example, what we may know about causal relations), but it is not sufficient for it. Reid will disagree.

6. David Hume, *An Enquiry concerning Human Understanding*, ed. Tom L. Beauchamp (Oxford: Oxford University Press, 1999), 2.12.9.

7. Ibid.

8. The sort of physical picture I refer to here does not require materialism or monism. The official position of someone like Boyle (and the Royal Society) confined itself to immaterial souls while maintaining that only the material world fell within the purview of science. I discuss some of the directions this position took in *Actions and Objects from Hobbes to Richardson* (Stanford, CA: Stanford University Press, 2010). The classic analysis is John W. Yolton, *Thinking Matter: Materialism in Eighteenth-Century Britain* (Minneapolis: University of Minnesota Press, 1984).

9. I explore this connection at greater length in chapter 5 below. For a discussion of the varied technical meanings of the word "representation" in cognitive science and the philosophy of perception, see Gary Hatfield, *Perception and Cognition: Essays in the Philosophy of Psychology* (Oxford: Oxford University Press, 2009), 43–123.

10. David Marr, *Vision: A Computational Investigation into the Human Representation and Processing of Visual Information* (San Francisco: Freeman, 1982), 3.

11. An antirepresentational view of perception may also be found in Heidegger, where it bears an interesting relation to the Gibsonian, enactive theory I'm interested in. "[The] perceptive retention of an assertion about something is itself a way of Being-in-the-world; it is not to be Interpreted as a 'procedure' by which a subject provides itself with representations [*Vortellungen*] of something which remain stored up 'inside' as having been thus appropriated, and with regard to which the question of how they 'agree' with actuality can occasionally arise." Martin Heidegger, *Being and Time* (1927), trans. John Macquarrie and Edward Robinson (New York: Harper and Row, 1962), 89.

12. James J. Gibson, "A Theory of Direct Visual Perception," in *The Psychology of Knowing*, ed. J. R. Royce and W. W. Rozeboom (New York: Gordon and Breach, 1972), 218.

13. See James J. Gibson, *The Ecological Approach to Visual Perception* (1979; New York: Taylor and Francis, 1986). The category of "dwelling" (of intermittent importance to this essay) descends from Heidegger (*wohnen*), especially the first division of *Being and Time* and the later essay "Building, Dwelling, Thinking" from *Poetry, Language, Thought*, trans. Albert Hofstader (New York: HarperCollins, 1975), 141–160. My use here is simply to provide a companion point to seeing the world as action potentials. One also perceives the world in terms of nested living, and living in terms of movement. See the discussion of dwelling by the contemporary Gibsonian Tim Ingold in *The Perception of the Environment: Essays on Livelihood, Dwelling, and Skill* (New York: Routledge, 2000), 153–287 and passim.

14. Noë, *Varieties of Presence*, 5.

15. Ibid., 2.

16. See the influential theory of affordances in Gibson, *Ecological Approach to Visual Perception*, 127–143.

17. George Berkeley, *An Essay towards a New Theory of Vision* (London, 1709), 1–2. Hereafter, page numbers are given parenthetically in the text.

18. Donald F. Bond, ed., *The Spectator*, 5 vols. (Oxford: Clarendon Press, 1965), 3:593.

19. Ibid., 536.

20. See, e.g., Ronald Paulson, *The Beautiful, Novel, and Strange: Aesthetics and Heterodoxy* (Baltimore: Johns Hopkins University Press, 1995).

21. Bond, *Spectator*, 3:544.

22. Whether there were perceptual features or properties special to each sense was a puzzle extending back to Aristotle and, for the eighteenth century, culminating in the Molyneux problem.

23. Mark Akenside, John Dyer, Robert Aris Willmott, and Myles Birket Foster, *The Poetical Works of Mark Akenside and John Dyer* (London: G. Routledge, 1855), lines 1, 59–60, 63–64, 69–74.

24. William Gilpin, *Observations on the River Wye; and Several Parts of South Wales &c., Relative Chiefly to Picturesque Beauty, Made in the Summer of the Year 1770* (London, 1782), 61.

25. On the single-point perspective in eighteenth-century painting and aesthetics, see Peter de Bolla, *The Education of the Eye: Painting, Landscape, and Architecture in Eighteenth-Century*

Britain (Stanford, CA: Stanford University Press, 2003); and Denis Cosgrove, *Social Formation and Symbolic Landscape* (Madison: University of Wisconsin Press, 1998), especially 13–39. For a Renaissance background, see James Elkins, *The Poetics of Perspective* (Ithaca, NY: Cornell University Press, 1994).

26. John Barrell, *The Idea of Landscape and the Sense of Place, 1730–1840: An Approach to the Poetry of John Clare* (Cambridge: Cambridge University Press, 1972), 21.

27. Kevis Goodman, *Georgic Modernity and British Romanticism: Poetry and the Mediation of History* (Cambridge: Cambridge University Press, 2004), 38–56; and Heather Keenleyside, "Personification for the People: On James Thomson's *The Seasons*," *ELH* 76, no. 2 (2009): 448, 466.

28. Barrell, *Idea of Landscape*, 21.

29. Barrell and Keenleyside make a good study in contrasts in this respect, the former remaining wary of what he understands to be Thomson's (Whig aristocratic) ideology and the latter attracted to what she presents as an extension of personhood to nonhuman animals.

30. James Thomson, "Summer," in *The Seasons*, ed. James Sambrook (Oxford: Clarendon Press, 1981), lines 250, 254. Subsequent citations are to this edition (based on the 1746 edition), with line numbers given parenthetically in the text, and the seasons abbreviated to *Su.*, *A.*, and so on.

31. For an account of such "kinetic occlusion" in the realist novel, see Elaine Scarry's *Dreaming by the Book* (Princeton, NJ: Princeton University Press, 1999), 10–31. Scarry considers such occlusion to be "reproducing the deep structure of perception" itself (9). My sense of causality is not so certain or so one-way. For an illuminating account of perception in Thomson with reference to the cognitive science of self-projection, see Elizabeth Oldfather, "'Snatched' into *The Seasons*: The Cognitive Roots of Loco-Descriptive Form," *Eighteenth Century: Theory and Interpretation* 56, no. 4 (2015): 445–465.

32. Svetlana Alpers, *The Vexations of Art: Velázquez and Others* (New Haven, CT: Yale University Press, 2005), 27.

33. For a discussion of "The Rape of the Lock" as a kind of still life, both an examination of set objects and a consideration of Belinda as a painter, see Jonathan Lamb's *The Things Things Say* (Princeton, NJ: Princeton University Press, 2011), 98–125.

34. Thomas Reid, *An Inquiry into the Human Mind on the Principles of Common Sense* (1764), ed. Derek R. Brookes (State College, PA: Penn State University Press, 1997), 74. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

35. Reid has been understood by some to have here anticipated non-Euclidean geometry. See, e.g., Norman Daniels, *Thomas Reid's Geometry of Visibles and the Case for Realism* (Stanford, CA: Stanford University Press, 1974), 1–24.

36. This conclusion is perhaps most curious when it is made with respect to the prototypically mental property of color, which Reid says is a property of bodies themselves: "By colour, all men, who have not been tutored by modern philosophy, understand not a sensation of the mind, which can have no existence when it is not perceived, but a quality or modification of bodies, which continues to be the same, whether it is seen or not. The scarlet-rose, which is before me, is still a scarlet-rose when I shut my eyes, and was so at midnight when no eye saw it" (85). Reid would take the rose for granted rather than doubt its properties. When we experience the rose as scarlet, we are merely grasping onto "a fixed and permanent quality of the body" (85). This is in strong contrast to the empiricist theory of color as a secondary quality, which moves from Boyle to Newton to Locke. Here is Addison summing up the conventional wisdom: "I have here supposed that my Reader is acquainted with that great Modern Discovery, which is at present

universally acknowledged by all the Enquirers into Natural Philosophy: Namely, that Light and Colours, as apprehended by the Imagination, are only Ideas in the Mind, and not Qualities that have any Existence in Matter" (Bond, *Spectator*, 3:552). Reid quotes and criticizes this sentence in particular.

37. In this respect, as Duncan has argued, "Reid himself was as much Hume's disciple as he was his adversary." See Ian Duncan, *Scott's Shadow: The Novel in Romantic Edinburgh* (Princeton, NJ: Princeton University Press, 2007), 127.

38. The argument for direct perception here gets close to that of the enactive theorists of contemporary embodied cognition, except that where Reid would look to Providence for why this all works so well, the embodied theorists would look to natural selection.

39. Henry Home, Lord Kames, *Elements of Criticism* (1762), ed. Peter Jones, 2 vols. (Indianapolis, IN: Liberty, 2005), 1:66. Hereafter, volume and page numbers are given parenthetically in the text.

40. Compare, for example, Samuel Johnson's remarks on theater in the preface to Shakespeare.

41. *The Poems of William Cowper*, vol. 2, ed. John Baird and Charles Ryskamp (Oxford: Clarendon Press, 1995), book 3, line 553.

42. Melvyn New and Peter de Voogd, eds., *The Florida Edition of the Works of Laurence Sterne*, 8 vols. (Gainesville: University Press of Florida, 2009), 7:9. The editors wonder about the provenance of the letter but seem not to notice the later citation in *Sentimental Journey*.

43. Jonathan Culler, *The Pursuit of Signs: Semiotics, Literature, Deconstruction* (Ithaca, NY: Cornell University Press, 1981), 139.

44. Laurence Sterne, *A Sentimental Journey through France and Italy by Mr. Yorick*, ed. Paul Goring (London: Penguin, 2001), 28. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

45. Virginia Woolf, *The Second Common Reader* (New York: Mariner Books, 2003), 82.

46. Thomas Reid, *The Philosophical Orations of Thomas Reid: Delivered at Graduation Ceremonies in King's College, Aberdeen, 1753, 1756, 1759, 1762*, ed. D. D. Todd (Carbondale: Southern Illinois University Press, 1989), 61.

47. James Chandler, *An Archaeology of Sympathy: The Sentimental Mode in Literature and Cinema* (Chicago: University of Chicago Press, 2013), 5–12 and passim.

48. Noë, *Action in Perception*, 130 and passim.

Chapter Four

1. Daniel Defoe, *Robinson Crusoe* (New York: Penguin, 2001), 56. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

2. For "handsome," see ibid., 31, 56, 86, 97, 101, 115, 147, 162, 179, 190, 219 (twice), and 226. For "beautiful," see 84. Although most attractive things are handy, not all handy things are attractive. The baskets Crusoe learns how to make were "not very handsome, yet they were such as were very handy and convenient for my laying things up in or fetching things home in" (115).

3. Francis Hutcheson, *An Inquiry into the Original of Our Ideas of Beauty and Virtue in Two Treatises* (1725), ed. Wolfgang Leidhold (Indianapolis: Liberty Fund, 2004), sec. 13 and passim. Kant's purposiveness without a purpose is opposed to utility; on the view of Guyer, however, Kant was not entirely opposed to joining beauty and use in a broader sense. For a compelling discussion of this issue across the period, see Paul Guyer, "Beauty and Utility in Eighteenth-Century Aesthetics," *Eighteenth-Century Studies* 35, no. 3 (2002): 439–453.

4. My interest here is with eighteenth-century and present-day theories of ecological perception, how the world shows up for a creature as one to build for dwelling. In this respect, one might go back to Heidegger: "The kind of dealing which is closest to us is as we have shown, not a bare perceptual cognition, but rather that kind of concern which manipulates things and puts them to use; and this has its own kind of 'knowledge.' The phenomenological question applies in the first instance to the Being of those entities which we encounter in such concern. . . . In the domain of the present analysis, the entities we shall take as our preliminary theme are those which show themselves in our concern with the environment. Such entities are not thereby objects for knowing the 'world' theoretically; they are simply what gets used, what gets produced, and so forth." "What we encounter as closest to us (though not as something taken as a theme) is the room; and we encounter it not as something 'between four walls' in a geometrical spatial sense, but as equipment for residing." Martin Heidegger, *Being and Time* (1927), trans. John Macquarrie and Edward Robinson (New York: Harper and Row, 1962), 95, 98.

5. "Ready at my hand" is Defoe's phrase but in the present context also recalls Heidegger's *Zuhandenheit*, that is, how things appear "when we deal with them by using them and manipulating them" (*Being and Time*, 98).

6. James J. Gibson, *The Ecological Approach to Visual Perception* (1979; New York: Taylor and Francis, 1986), 127.

7. James J. Gibson, "Notes on Affordances" (1967), in *Reasons for Realism: Selected Essays of James J. Gibson*, ed. Edward Reed and Rebecca Jones (Hillsdale, NJ: Erlbaum, 1982), 415.

8. Tim Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling, and Skill* (New York: Routledge, 2000), 354.

9. For discussion of the georgic as a broad mode of cultivation, labor, and working the earth rather than a delimited genre, see Anthony Low, *The Georgic Revolution* (Princeton, NJ: Princeton University Press, 1985); and David Fairer, "'Where Fuming Trees Refresh the Thirsty Air': The World of Eco-Georgic," *Studies in Eighteenth-Century Culture* 40 (2011): 201–218.

10. *The Poems of John Dryden*, vol. 2, ed. James Kinsley (Oxford: Clarendon, 1958), book 1, lines 1–6.

11. Ibid., 1.13; and Fairer, "'Where Fuming Trees Refresh the Thirsty Air.'"

12. Ann Van Sant, "Crusoe's Hands," *Eighteenth-Century Life* 32, no. 2 (2008): 121.

13. *The Poems of John Philips*, ed. M. G. Lloyd Thomas (Oxford: Basil Blackwell, 1928), book 1, lines 272–284.

14. Ibid., 1.312–314.

15. The political valence of splicing to the 1707 Act of Union has been of obvious interest to scholars of georgic interested in the political history of the genre. See Rachel Crawford, *Poetry, Enclosure, and the Vernacular Landscape* (Cambridge: Cambridge University Press, 2002), 114–137.

16. *Cooper's Hill* was published and revised for more than twenty years. I use here the final form of 1668 by critical convention. My edition is the one reprinted in Earl Wasserman, *The Subtler Language: Studies in Neoclassic and Romantic Poetry* (Baltimore: Johns Hopkins University Press, 1959). Hereafter, line numbers for *Cooper's Hill* are given parenthetically in the text. The identification of the poem with the tradition of locodescriptive (or prospect or topographical) poetry goes back at least as far as Samuel Johnson. I take a loose view of the genre as a genre, understanding it to evolve alongside georgic and pastoral during the period. Nothing for me hangs on the nomenclature.

17. See Denis Cosgrove, "The Idea of Landscape," in *Social Formation and Symbolic Landscape* (Madison: University of Wisconsin Press, 1984), 13–39.

18. Wasserman, *Subtler Language*, 54. He is quoting Diogenes Laertius rather than providing his own definition.

19. Ibid., 55.

20. Ibid., 58.

21. Ibid., 59.

22. Jonathan Culler, *The Pursuit of Signs* (Ithaca, NY: Cornell University Press, 1981), 143.

23. Ibid., 142.

24. "The apostrophizing poet identifies his universe as a world of sentient forces," and so "this figure which seems to establish relations between the self and the other can in fact be read as an act of radical interiorization and solipsism" (ibid., 139, 146).

25. For Pope, see "An Essay on Criticism," in *The Poems of Alexander Pope*, vol. 1, ed. John Butt (New Haven, CT: Yale University Press, 1963), 635–636. For Goldsmith, see "The Traveler," in *The Collected Works of Oliver Goldsmith*, ed. Arthur Friedman, 5 vols. (Oxford: Clarendon, 1966), 4:129. For Mason, see "To a Gravel Walk," in *The Works of William Mason*, 4 vols. (London: Cadell and Davies, 1811), 4:10.

26. Paul Alpers, "Apostrophe and the Rhetoric of Renaissance Lyric," *Representations* 122, no. 1 (2013): 14.

27. Alan Richardson, *The Neural Sublime: Cognitive Theories and Romantic Texts* (Baltimore: Johns Hopkins University Press, 2010), 67 and passim.

28. Giles Jacob, *An Historical Account of the Lives and Writings of Our most Considerable English Poets, whether Epick, Lyrick, Elegiack, Epigramatists, etc.* (London, 1719), 268.

29. *A New Miscellany of Original Poems on Several Occasions*, ed. Charles Gildon (London, 1701), 141. Hereafter, page numbers are given parenthetically in the text.

30. Aristotle, *Physics*, 1.9, in *The Basic Works of Aristotle,* trans. R. P. Hardie and R. K Gaye, ed. Richard McKeon (New York: Random House, 1941).

31. *The Poems of Jonathan Swift*, ed. Harold Williams (Oxford: Clarendon Press, 1958), 103. Subsequent citations are to this edition, with line numbers given parenthetically in the text.

32. Helen Deutsch, "Swift's Poetics of Friendship," in *Politics and Literature in the Age of Swift*, ed. Claude Rawson (Cambridge: Cambridge University Press, 2011), 157.

33. Sandra Macpherson, "A Little Formalism," *ELH* 82, no. 2 (2015): 389. This is to observe a connection between Macpherson's materialism and Swift's, one with which Macpherson would likely be happy.

34. For the craftwork tradition in European aesthetics—the aesthetics of making and technical know-how—see Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004).

35. See Felicity Nussbaum, *The Brink of All We Hate: English Satires on Women, 1660–1750* (Lexington: University of Kentucky Press, 1985); and Tita Chico, *Designing Women: The Dressing Room in Eighteenth-Century Literature and Culture* (Lewisburg, PA: Bucknell University Press, 2005).

36. Fairer, " 'Where Fuming Trees Refresh the Thirsty Air,' " 206.

37. Ibid., 212.

38. G. Gabrielle Starr, "Cavendish, Aesthetics, and the Anti-Platonic Line," *Eighteenth-Century Studies* 39, no. 3 (2006): 295; and Ronald Paulson, *The Beautiful, Novel, and Strange: Aesthetics and Heterodoxy* (Baltimore: Johns Hopkins University Press, 1995), 2–3.

39. Smith, *Body of the Artisan*, 6. For Hogarth's early experience in craft, see Jenny Uglow, *Hogarth: A Life and World* (New York: Farrar, Straus, and Giroux, 1997), 21–42.

40. Smith, *Body of the Artisan*, 6.

41. Jonathan Richardson, *An Essay on the Theory of Painting* (London, 1725), 24. Hereafter, page numbers are given parenthetically in the text.

42. Addison aligns himself with Locke in the first of the papers on the pleasures of the imagination in the *Spectator*; Donald F. Bond, ed., *The Spectator*, 5 vols. (Oxford: Clarendon Press, 1965), 3:538.

43. William Hogarth, *The Analysis of Beauty* (New Haven, CT: Yale University Press, 1997), 2. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

44. In thinking about Hogarth and the aesthetics of craft, I've benefited from sharing these pages with Ruth Mack and from reading her "Hogarth's Practical Aesthetics," in *Mind, Body, Motion, Matter: Eighteenth-Century French and British Literary Perspectives*, ed. Mary Helen McMurran and Alison Conway (Toronto: University of Toronto Press, 2016), 21–46.

45. Abigail Zitin, "Thinking like an Artist: Hogarth, Diderot, and the Aesthetics of Technique," *Eighteenth-Century Studies* 46, no. 4 (2013): 555–556.

46. Ibid., 550.

47. Bond, *Spectator*, 3:538.

48. See the discussion of Hutcheson, Kant, and utility in n. 3 above. Guyer ("Beauty and Utility," 446 and passim) argues that Kant reserves a kind of beauty—"adherent beauty"—for the concept of an object's use.

49. David Hume, *A Treatise of Human Nature*, ed. Peter Nidditch (Oxford: Oxford University Press, 1978), 577.

50. *Collected Works of Oliver Goldsmith*, 4:46–47; and *Works of William Mason*, 4:11.

51. *Works of William Mason*, 4:1, 2, 4, 9, 11.

52. Anahid Nersessian, *Utopia Limited: Romanticism and Adjustment* (Cambridge, MA: Harvard University Press, 2015), 13, 16.

53. Fairer, " 'Where Fuming Trees Refresh the Thirsty Air,' " 207, 209, 212.

54. John Dyer, *The Fleece: A Poem in Four Books*, ed. John Goodridge and Juan Christian Pellicer (Cheltenham: Cyder Press, 2007), book 1, line 69.

55. Fairer, " 'Where Fuming Trees Refresh the Thirsty Air,' " 207.

56. *The Poems of William Cowper*, vol. 2, ed. John D. Baird and Charles Ryskamp (Oxford: Clarendon Press, 1995), book 1, lines 109–113. Subsequent citations are to this edition, with book and line numbers given parenthetically in the text.

57. Culler, *Pursuit of Signs*, 137.

58. I want to thank Charles Rousseau for the conversation that led to this point.

59. *The Letters and Prose Writings of William Cowper*, ed. James King and Charles Ryskamp, vol. 5 (Oxford: Clarendon Press, 1986), 40–41.

Chapter Five

1. See, e.g., Kenneth MacLean, *John Locke and English Literature of the Eighteenth Century* (New Haven, CT: Yale University Press, 1936). For empiricism and the novel, see, inter alia, Ian Watt, *The Rise of the Novel* (Berkeley: University of California Press, 1957), 9–34; and Michael McKeon, *The Origins of the English Novel, 1600–1740* (Baltimore: Johns Hopkins University Press, 1987), 65–89. The particular question of mental architecture I discuss below is covered,

albeit in a slightly different context, by John Bender, *Imagining the Penitentiary: Fiction and the Architecture of the Mind in Eighteenth-Century England* (Chicago: University of Chicago Press, 1987), 11–42.

2. I concentrate here on the computational model of mind, according to which mental processes are operations on syntactically structured symbols. Computation is particularly interesting because it shares with mainstream empiricism a representational theory of mind while differing on both epistemological and semantic grounds about what representation entails. See, e.g., Jerry Fodor, *Psychosemantics: The Problem of Meaning in the Philosophy of Mind* (Cambridge, MA: MIT Press, 1987), especially 16–21. One opposed position is that perception provides direct access to the external world; another, perhaps more important for the current essay, would be "connectionism," which is in many respects a lineal descendant of empiricist associationism; see Gary Marcus, *The Algebraic Mind: Integrating Connectionism and Cognitive Science* (Cambridge, MA: MIT Press, 2001).

3. The "cognitive revolution" of the 1950s and 1960s was in large part a reintroduction of the representational theory of mind to counter the then-dominant schools of behaviorism. Whereas behaviorism (so the story goes) tended to reduce mental states to actions, and in fact to argue that mental states as such were inscrutable and irrelevant, the cognitive revolution attempted to reason past actions to their antecedent beginnings in the mind. While it is true that one can never see a mind at work, cognitivists argued, it is also true that actions cloak the mental states by which they are shaped or, as Block put it, that "intelligent behavior depends on the internal information processing that produces it"; see Ned Block, "Psychologism and Behaviorism," *Philosophical Review* 90, no. 1 (1981): 5–43. If the classic statement of logical behaviorism was Gilbert Ryle's *The Concept of Mind* (Chicago: University of Chicago Press, 1949), the classic statement of the cognitive revolution was Noam Chomsky's 1959 review of B. F. Skinner's *Verbal Behavior*: see Leon A. Jakobovits and Murray S. Miron, eds., *Readings in the Psychology of Language* (Englewood Cliffs, NJ: Prentice Hall, 1967), 142–155.

4. Thomas Hobbes, *Leviathan, or the Matter, Forme, & Power of a Common-Wealth Ecclesiasticall and Civill*, ed. Richard Tuck (Cambridge: Cambridge University Press, 1996), 13. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

5. Jerry Fodor, *The Mind Doesn't Work That Way: The Scope and Limits of Computational Psychology* (Cambridge, MA: MIT Press, 2001), 19. Fodor is particularly interesting for my current purposes because he is so involved with distinguishing computation from association and, as we will see, with establishing the relation between cognitive science and eighteenth-century philosophy.

6. Franz Brentano, *Psychology from an Empirical Standpoint* (1874; London: Routledge, 1995). For Brentano and subsequently for philosophy of mind, "intend" describes the mind's direction to an object and therefore marks the difference between mental and nonmental states. See Tim Crane, "Intentionality as the Mark of the Mental," in *Contemporary Issues in the Philosophy of Mind,* ed. Anthony O'Hear (Oxford: Oxford University Press, 1994), 1–17.

7. Locke's *Essay concerning Human Understanding*, for example, frequently reminds us that we have little access to the inner structure of things whose "nominal essence" we construct by reflecting on experience. "I shall not," he says, "set my self to enquire philosophically into the peculiar constitution of bodies, and the configuration of parts, whereby they have the power to produce in us ideas of their sensible qualities." Ideas represent objects. They are also "objectively in the mind." But they are not, Locke insists, identical with the "things the mind contemplates." John Locke, *An Essay concerning Human Understanding*, ed. Peter Nidditch (Oxford: Oxford

University Press, 1975), 2.21.75, dedication, 4.21.4). Hereafter, book, chapter, and section numbers are given parenthetically in the text.

8. I refer here to Fodor's "language of thought" hypothesis—that thinking happens in a non-natural language he dubbed "Mentalese." See, e.g., *The Language of Thought* (Cambridge, MA: Harvard University Press, 1975); and the very useful appendix to his *Psychosemantics,* 135–154.

9. See Jerry Fodor, "How the Mind Works: What We Still Don't Know," *Daedalus* 135, no. 3 (2006): 88.

10. See Zoltán Szabó, "Compositionality as Supervenience," *Linguistics and Philosophy* 23 (2000): 475–505.

11. Fodor, "How the Mind Works," 88.

12. Ibid., 87.

13. Thus, Fodor writes, "To a first approximation, then, the idea that there are mental representations is the idea that there are Ideas minus the idea that Ideas are images." Jerry Fodor, *Concepts: Where Cognitive Science Went Wrong* (Oxford: Oxford University Press, 1999), 8.

14. David Hume, *A Treatise of Human Nature*, ed. Peter Nidditch (Oxford: Oxford University Press, 1978), 10.

15. In addition to the chapter of the *Treatise* noted above, see David Hume, "On the Association of Ideas," in *An Enquiry concerning Human Understanding* (1748), sec. 3, ed. Tom L. Beauchamp (Oxford: Oxford University Press, 2000), 17–23.

16. Zenon Pylyshyn, *Seeing and Visualizing: It's Not What You Think* (Cambridge, MA: MIT Press, 2003), 330.

17. Ibid.

18. Jerry Fodor, *Hume Variations* (Oxford: Oxford University Press, 2003), 134.

19. Ibid.

20. "Hume was right about his most fundamental architectural claim: there must be simple concepts and there must be mechanisms . . . that are able to construct complex concepts from them" (ibid., 83).

21. Ibid., 95. The criticism of Hume's associationism recalls Kant, who argued that Hume "could not explain how it can be possible that the understanding must think concepts, which are not in themselves connected in the understanding, as being necessarily connected in the object, and since it never occurred to him that the understanding might itself, perhaps, through these concepts, be the author of the experience in which its objects are found, he was constrained to derive them from experience, namely, from a subjective necessity (that is from *custom*), which arises from repeated association in experience, and which comes mistakenly to be regarded as objective." Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith (New York: Macmillan, 1965), 127.

22. Fodor, *Hume Variations*, 97.

23. Ibid., 133.

24. Ibid., 144.

25. The contemporary philosophical literature on consciousness and qualia is considerable, to say the least. For a basic discussion of phenomenal consciousness, see Ned Block, "Some Concepts of Consciousness," in *Philosophy of Mind: Classical and Contemporary Readings*, ed. David Chalmers (Oxford: Oxford University Press, 2002).

26. For the debates over Locke's chapter on personal identity in early eighteenth-century literary intellectual culture, see Christopher Fox, *Locke among the Scriblerians: Identity and Consciousness in Early Eighteenth Century Britain* (Berkeley: University of California Press, 1989).

27. Material from the following several paragraphs appears in different form and in a different context in chapter 4 of my *Actions and Objects from Hobbes to Richardson* (Stanford, CA: Stanford University Press, 2010).

28. Catherine Trotter, *A Defence of Mr. Locke's Essay on the Human Understanding* (London, 1702), 29.

29. Ibid., 33–34.

30. This is the argument made most famously by Hume's "bundle" theory of identity in the *Treatise*.

31. Trotter's novel was first published in Samuel Briscoe, ed., *Letters of Love and Gallantry, and several other Subjects, All Written by Ladies*, vol. 1 (London, 1693). The passage here is from p. 63.

32. Ibid., 66.

33. The term "theory of mind" was coined by the primatologists David Premack and Guy Woodruff in their essay "Does a Chimpanzee Have a Theory of Mind?," *Behavioral and Brain Sciences* 1 (1978): 515–527, which discussed whether primates could attribute mental states to others (either primates or humans). The term then caught on among developmental cognitive psychologists and philosophers of mind, especially after Simon Baron-Cohen's popular crossover book, *Mindblindness: An Essay on Autism and Theory of Mind* (Cambridge, MA: MIT Press, 1995), which presented in well-sculpted prose a decade's worth of research connecting defective "mind reading" capacity to autism. "Theory of mind" now covers a lively debate about the nature of mind reading, especially whether the capacity works by theoretical inference (what is called somewhat inelegantly "theory-theory") or by simulational enactment ("simulation theory"). Along with the theory-theory and simulation theory debate is another about whether the capacity is domain general (in the whole mind) or domain specific (in a particular module). Baron-Cohen, for example, is a domain-specific theory theorist because he claims that mind-reading capacity works by a modular Theory of Mind Mechanism (ToMM), one that is informationally encapsulated (it receives no input from other parts of the mind, only outputs into the general processor), innate, and part of our evolutionary inheritance. ToMM comes "online" at roughly three or four years of age, at which point children begin to attribute mental states that are different from their own to others. For a discussion of the neuroscience of theory of mind, see Rebecca Saxe, "Why and How to Study Theory of Mind with fMRI," *Brain Research* 20 (2006): 57–65.

34. Alvin Goldman, *Simulating Minds: The Philosophy, Psychology, and Neuroscience of Mind-reading* (Oxford: Oxford University Press, 2006), 3.

35. Trotter, *Adventures of a Young Lady*, 19.

36. Fodor, *Psychosemantics*, 3. Even if Berontus were to say to her, "I am angry," Orinda would still be attributing a mental state of anger to him. She would be inferring that his statement that he is angry is in fact an indication of his having that feeling and not, for example, a lie or an accident.

37. Blakey Vermeule, *Why Do We Care about Literary Characters?* (Baltimore: Johns Hopkins University Press, 2010), 69, 99; and Lisa Zunshine, *Why We Read Fiction: Theory of Mind and the Novel* (Columbus: Ohio State University Press, 2006).

38. Daniel Defoe, *Roxana: The Fortunate Mistress* (1724), ed. John Mullan (Oxford: Oxford University Press, 1996), 82.

39. Zunshine, *Why We Read Fiction*, 16, 22.

40. Ibid., 82.

41. Ibid., 100.

42. Thus, the implicitly teleological form of the literary history: epistolarity, free indirect discourse, stream of consciousness.

43. For the larger enterprise of which Baron-Cohen's *Mindblindness* is an important contribution, see n. 33 above. Baron-Cohen's book is a popularization of an academic debate within which he represents one (modular and theoretical/inferential) but not the only position.

44. Zunshine, *Why We Read Fiction*, 7.

45. Baron-Cohen, *Mindblindness*, 12.

46. ToMM was coined by Alan Leslie; see his "Pretense and Representation: The Origin of 'Theory of Mind,'" *Psychology Review* 94 (1987): 412–426. Baron-Cohen adds an Intentionality Detector (ID), an Eye Detection Detector (EDD), and Shared Attention Mechanism (SAM) to the list of modules. For a helpful overview of the debate about levels of modularity, see H. Clark Barrett and Robert Kurzban, "Modularity in Cognition: Framing the Debate," *Psychological Review* 3 (2006): 628–647. For a looser version of the modular account of mind reading, see Shaun Nichols and Steven Stich, *Mindreading: An Integrated Account of Pretence, Self-Awareness, and Understanding Other Minds* (Oxford: Oxford University Press, 2003). Nichols and Stich prefer the language of boxes and mental workspaces in part because it provides a way of understanding how agents create imaginary and possible scenarios about the mental life of others.

47. Not all theory-theory is modular, however. For the "child scientist" perspective favored by Alice Gopnik, theory of mind is domain general and develops through a kind of naïve scientific method of experiment and failure in early psychogenesis. See, e.g., Alice Gopnik, *Words, Thoughts, and Theories* (Cambridge, MA: MIT Press, 1997).

48. Zunshine, *Why We Read Fiction*, 10.

49. Ibid., 153–155.

50. Ibid., 8.

51. Goldman, *Simulating Minds*, 4. See also Robert Gordon, "Folk Psychology as Simulation," *Mind and Language* 1 (1986): 158–171.

52. Goldman, *Simulating Minds*, 20.

53. Ibid., 151. For the discussion of modularity, see 95–112. Goldman suggests that although there may be modules for low-level mind reading of emotions, modularity has difficulty explaining the reading of propositional attitudes. Simulation theory has found support in the recent discovery of mirror neurons, so named because they reflect the activity of the neurons of targets. Agent P watches target S perform task T (typically a motion). When S performs T, the mirror neurons in P flash at the same brain location as they do in S even when P remains inactive. See ibid., 132–136, 202–220. Demasio and Demasio draw similar conclusions: "Explanations of the existence of mirror neurons have emphasized, quite appropriately, the role that mirror neurons can play in allowing us to understand the actions of others by placing us in a comparable body state. As we witness an action in another, our body-sensing brain adopts the body state we would have were we ourselves moving." Antonio Demasio and Hanna Demasio, "Minding the Body," *Daedalus* 135, no. 3 (2006): 18–25.

54. Adam Smith, *Theory of Moral Sentiments* (Bloomington: Liberty Fund, 1976), 9. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

55. Goldman (*Simulating Minds*, 113–146) would call this low-level mind reading—the attribution of emotional states—in order to distinguish it from the high-level attribution of propositional attitudes. Simulation theory, in his account, holds a distinctive advantage over theory-theory in its conceptualization of what occurs at this lower level.

56. Fodor discusses Hume's concept of the imagination along these lines in *Hume Variations*, 114–133, but not in terms of the latter's concept of sympathy.

57. Ibid., 130, 131.

Chapter Six

1. The use of the phrase "what it is like" as a way to refer quickly to conscious experience—there is "something that it is like" to see red, hear a lawn mower as one types a footnote, worry about one's syllabus, etc.—descends from Thomas Nagel's landmark essay (discussed below) "What Is It like to Be a Bat?" The phrase has now become a common shorthand.

2. The literature on consciousness and the hard problem has grown too vast to summarize. I'll stick here to the high notes and the particular contributions important for my argument. The phrase "hard problem of consciousness" was coined by David Chalmers. See his *The Conscious Mind: A Search for a Fundamental Theory* (Oxford: Oxford University Press, 1996). The term "phenomenal consciousness" to denote experience was coined by Ned Block. See his "On a Confusion about a Function of Consciousness," *Behavioral and Brain Sciences* 20 (1995): 227–247. Covering the exact same territory, "qualia" is the Latin plural of "quale"—what something is like, its quality. For an oft-used definition of this term of art, see Daniel Dennett's argument that qualia don't exist, in "Quining Qualia" (1988), reprinted in David Chalmers, ed., *The Philosophy of Mind: Classical and Contemporary Readings* (Oxford: Oxford University Press, 2002), 226–246. For Christof Koch, see his *Consciousness: Confessions of a Reluctant Reductionist* (Cambridge, MA: MIT Press, 2012), 1.

3. I mean the migration of the "hard problem" specifically, not just talk about neuroscience of the sort examined, say, in the fine group of essays published in *Modern Fiction Studies* 61, no. 2 (2015) in the special issue "Neuroscience and Modern Fiction." Particular as it is, this migration has been extensive, culminating arguably in Tom Stoppard's 2015 play *The Hard Problem*. But for an antic and amusing traveling between academic and literary versions of consciousness, see *At Last* (2011), the final of Edward St. Aubyn's Patrick Melrose novels. Here the protagonist begins to suspect that his wife, Mary, is having an affair with Erasmus Price, a philosopher whose latest book, *None the Wiser: Developments in the Philosophy of Consciousness*, he discovers on her bedside table. "You couldn't be reading that book unless you were having an affair with the author," Patrick says. "Believe me," Mary responds, "it's virtually impossible, even then." Patrick moves out of his home and reads up on Price's field of study, periodically returning to Mary "from his new blackout bedsit in order to lecture or interrogate her about consciousness studies." " 'The subject of consciousness, in order to enter the realm of science, must become the object of consciousness and that is precisely what it cannot do, for the eye cannot perceive itself, cannot vault from its socket fast enough to glimpse the lens. The language of experience and the language of experiment hang like oil and water in the same test tube.' " " 'Who will rid us of the Explanatory Gap?' he shouted, like Henry II requesting an assassin for his troublesome priest. 'And is that gap just a product of our misconstrued discourse?' " "Even 'fucking bitch' had a welcome directness after the twisted use he made of abstract phrases like 'property dualism.' " Edward St. Aubyn, *At Last* (New York: Farrar, Straus, and Giroux, 2011), 70–71.

4. Thomas Nagel, "What Is It like to Be a Bat?" (1974), reprinted in *Mortal Questions* (Cambridge: Cambridge University Press, 1979), 179. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

5. Nagel's argument against substance dualism may be found in the *View from Nowhere* (Oxford: Oxford University Press, 1986), 28–32, where he says it succumbs to the same problems as physicalism. The demurral on privacy is in "What Is It like to Be a Bat?," 171.

6. This part of the consciousness problem is taken up by Frank Jackson's equally famous thought experiment about Mary, the color scientist locked in her black-and-white room who later sees blue for the first time. See Frank Jackson, "Epiphenomenal Qualia," *Philosophical Quarterly* 32 (1982): 127–136. I discuss the Mary paper in connection to eighteenth-century ideas of consciousness, especially the Molyneux problem, in *Actions and Objects from Hobbes to Richardson* (Stanford, CA: Stanford University Press, 2010), 151–152.

7. Consciousness poses the problem of what something is like, whereas other aspects of cognitive science are said to remain within structural and functional analysis. For example, the "theory of mind" questions of much concern for recent cognitive literary studies do not entail that such "theory" is consciously available to agents. On this "mind-mind" problem, see David Chalmers's influential discussion in *Conscious Mind*, 3–31.

8. The expression first appears in David Chalmers's essay "Facing Up to the Problem of Consciousness," *Journal of Consciousness Studies* 2, no. 3 (1995): 200–219, followed a year later by the book-length elaboration in *Conscious Mind*.

9. David Chalmers, "Consciousness and Its Place in Nature" (1999), reprinted in *The Character of Consciousness* (Oxford: Oxford University Press, 2010), 112.

10. Christof Koch, *The Quest for Consciousness: A Neurobiological Approach* (Denver, CO: Roberts, 2004), xv. The epigraph for the first chapter of Koch's book is the first line of Nagel's essay.

11. Chalmers, *Character of Consciousness*, 112.

12. Koch, *Quest for Consciousness*, xv.

13. Candidates have ranged from 40-hertz oscillations in the cerebral cortex to N-*methyl*-D-*aspartate* receptors on excited synapses. The former candidate was proposed in the widely discussed early work of Koch and his colleague Francis Crick; the latter is discussed in Hans Flohr, "NMDA-Mediated Computational Processes and Phenomenal Consciousness," in *Neural Correlates of Consciousness: Empirical and Conceptual Questions*, ed. Thomas Metzinger (Cambridge, MA: MIT Press, 2000), 245–258.

14. "The characters of brain states and of phenomenal states appear too different to be completely reducible to each other. I suspect that their relationship is more complex than traditionally envisioned. For now, it is best to keep an open mind on this matter and to concentrate on identifying the correlates of consciousness in the brain" (Koch, *Quest for Consciousness*, 19).

15. See ibid. As O'Regan puts it, "Even discovering an isomorphism between perceptual judgments and certain associated brain states . . . is no help as an explanation of raw feel." Kevin O'Regan, *Why Red Doesn't Sound like a Bell: Understanding the Feel of Consciousness* (Oxford: Oxford University Press, 2011), 99.

16. Joseph Levine, "Materialism and Qualia: The Explanatory Gap," *Pacific Philosophical Quarterly* 64 (1983): 354–361.

17. For a helpful, if interested, summary of the various takes on the problem, see Chalmers, *Character of Consciousness*, especially 103–140.

18. Popular views of this sort include Stanislas Dehaene, *Consciousness and the Brain: Deciphering How the Brain Codes Our Thoughts* (New York: Viking, 2014); Daniel Dennett, *Consciousness Explained* (Boston: Little, Brown, 1991); and Paul Churchland, *Matter and Consciousness* (Cambridge, MA: MIT Press, 1984).

19. A prominent member of this group is David Chalmers himself, whose work has done much to popularize a nonreductive, property dualism of the experiential and physical. See his *Conscious Mind* and the essays collected in *Character of Consciousness*.

20. The panpsychists would include, among the philosophers, Chalmers in some of his moods and Galen Strawson and, among the neuroscientists, Christof Koch and Giulio Tononi. See the scholarship discussed in the next chapter.

21. See Jonathan Kramnick, "Against Literary Darwinism," *Critical Inquiry* 37, no. 2 (2011): 315–347, the subsequent responses, and the reply Jonathan Kramnick, "Literary Study and Science: A Reply to My Critics," *Critical Inquiry* 38, no. 2 (2012): 431–460.

22. Ian McEwan, "Literature, Science, and Human Nature," in *The Literary Animal: Evolution and the Nature of Narrative*, ed. Jonathan Gottschall and David Sloan Wilson (Evanston, IL: Northwestern University Press, 2004), 16.

23. See Chalmers, *Conscious Mind*, 120–121; and Steven Pinker, *How the Mind Works* (New York: Norton, 1997), 131–136.

24. McEwan, "Literature, Science, and Human Nature," 19.

25. Ibid., 16. Those familiar with literary Darwinism and second-wave sociobiology / early evolutionary psychology (Cosmides and Tooby, Pinker, E. O. Wilson) will find the essay very recognizable, down to its by-the-book critique of the so-called "Standard Social Science Research Model." To the degree to which academic criticism has noticed McEwan's commitment to these ideas or has sensed their appearance in his fiction, it has not been particularly welcoming. See, e.g., Elaine Hadley, "On a Darkling Plain: Victorian Liberalism and the Fantasy of Agency," *Victorian Studies* 48, no. 1 (2005): 92–102; and Laura Salisbury, "Narration and Neurology: Ian McEwan's Mother Tongue," *Textual Practice* 24, no. 5 (2010): 883–912. For a defense from the literary Darwinist camp, see Susan Green, "Consciousness and Ian McEwan's *Saturday*: 'What Henry Knows,'" *English Studies* 91, no. 1 (2010): 58–73. For a defense on formal and historical grounds, see Frances Ferguson, "The Way We Love Now: Ian McEwan, *Saturday*, and Personal Affection in the Information Age," *Representations* 100, no. 3 (2007): 42–52.

26. Ian McEwan, *Saturday* (New York: Random House, 2005), 262–263. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

27. The example of life and the analogy to older debates over vitalism is used most often by Dennett. See, e.g., Daniel Dennett, "Facing Backward on the Problem of Consciousness," *Journal of Consciousness Studies* 3 (1996): 4–6.

28. See Dennett, *Consciousness Explained*; and Dehaene, *Consciousnesss and the Brain*.

29. David Chalmers, "Moving Forward on the Problem of Consciousness" (1996), reprinted in *Character of Consciousness*, 29.

30. Richard Dawkins, *An Appetite for Wonder: The Making of a Scientist* (New York: HarperCollins, 2013). Dennett makes a similar point about wonder in his polemics about religion; see, e.g., *Breaking the Spell: Religion as a Natural Phenomenon* (New York: Penguin, 2007).

31. Ferguson, "The Way We Love Now," 44.

32. With respect to social information (not exactly phenomenal consciousness), see Blakey Vermeule's discussion of McEwan as a "God novelist" in *Why Do We Care about Literary Characters?* (Baltimore: Johns Hopkins University Press, 2010), 128–149.

33. Zadie Smith, "Two Paths for the Novel," *New York Review of Books*, November 20, 2008, 12.

34. McGurl argues that Smith "buries the lede" in her praise of McCarthy because she doesn't get the importance of how ordinary the narrator is, in comparison to the personified intellectual and novelist in McCarthy's latest novel, *Satin Island*. Mark McGurl, "The Novel's

Forking Path," April 1, 2015, accessed July 2017, http://www.publicbooks.org/fiction/the-novels-forking-path. See also Walter Benn Michaels, *The Beauty of a Social Problem: Photography, Autonomy, Economy* (Chicago: University of Chicago Press, 2015).

35. N. Katherine Hayles, *Unthought: The Power of the Cognitive Nonconscious* (Chicago: University of Chicago Press, 2017), 86.

36. Tom McCarthy, "Remember Freud," *Scotland on Sunday*, August 14, 2011, 13.

37. Ibid.

38. Ibid.

39. Tom McCarthy, "Stabbing the Olive," *London Review of Books* 32, no. 3 (2010), accessed July 2017, https://www.lrb.co.uk/v32/n03/tom-mccarthy/stabbing-the-olive.

40. Here especially I would depart from Hayles's recent reading of the novel as one concerned with unconscious states and the "cost" of consciousness. See Hayles, *Unthought*, 86–96.

41. On the connection between the novel and such trauma understood in terms of trauma theory, see Pieter Vermeulen, "The Critique of Trauma and the Afterlife of the Novel in Tom McCarthy's *Remainder*," *Modern Fiction Studies* 58, no. 3 (2012): 549–568.

42. The phrase pops up frequently in interviews and occasional writings. See Tom McCarthy and Simon Critchley, *The Mattering of Matter: Documents from the Archive of the International Necronautical Society* (Berlin: Sternberg Press, 2012).

43. Tom McCarthy, *Remainder* (New York: Vintage, 2005), 6. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

44. On the importance of prepositions for establishing a spatial syntax and a spatial phenomenology, see Max J. Creswell, "Prepositions and Point of View," *Linguistics and Philosophy* 2, no. 1 (1978): 1–41; and the various works of the cognitive scientists George Lakoff and Mark Johnson, e.g., "The Metaphorical Structure of the Human Conceptual System," *Cognitive Science* 4, no. 2 (1980): 195–208.

45. Francisco Varela, Evan Thompson, and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT Press, 1991), 173.

46. Evan Thompson, *Mind in Life: Biology, Phenomenology and the Sciences of Mind* (Cambridge, MA: Harvard University Press, 2007), 15.

47. Alva Noë, *Action in Perception* (Cambridge, MA: MIT Press, 2004), 1.

48. Ibid., 2.

49. There is no evidence, for example, that McCarthy spent more time reading Varela and his colleagues than the more familiar texts of literary theory. His avowed theoretical interests and influences are from the usual gamut of twentieth-century theory and philosophy: Freud, Barthes, and Derrida, for example, pop up in his theoretical writing. The latest novel, *Satin Island*, in fact contains lengthy discussions of Lévi-Strauss. But see also McCarthy's *Tintin and the Secret of Literature* (New York: Counterpoint, 2008). As befits his own practice, McCarthy is much more interesting on perception in the doing than in the abstract theorizing.

50. Walter Benn Michaels understands the commitment to reenactment as, in contrast to my reading, a commitment to representation and therefore to the artwork as it is theorized by Michael Fried. But the point of the immersive reenactments is steadily to erode the difference between the image and the thing, which explains the deadpan tone and in fact the brilliance of the novel. The reenactor's aesthetics is closer to McCarthy's own, to the so-called literalism that Michaels and Fried don't like. See Michaels, *Beauty of a Social Problem*, 71–75.

51. On the "modernist dissatisfaction with representation," see Todd Cronan, *Against Affective Formalism* (Princeton, NJ: Princeton University Press, 2013), x and passim.

52. See Clement Greenberg, "Modernist Painting" (1960), in *The Collected Essays and Criticism*, vol. 4, ed. John O'Brian (Chicago: University of Chicago Press, 1993), 85–93.

53. For Greenberg, flatness is a property of painting specifically, and the very importance of flatness comes hand in hand with a notion of medium specificity. The move away from this is typically understood to be one away from canonical modernism, which of course McCarthy would endorse.

Chapter Seven

1. Versions of panpsychism stretch back to antiquity. See David Skrbina, *Panpsychism in the West* (Cambridge, MA: MIT Press, 2007).

2. Thomas Nagel, "Panpsychism," in *Mortal Questions* (Cambridge: Cambridge University Press, 1991), 181.

3. That is, there is no "spiritual substance" apart from matter. Modern dualists like Chalmers are typically "property dualists" but not "substance dualists" in this regard.

4. This is the subtitle to Galen Strawson's essay "Realistic Monism: Why Physicalism Entails Panpsychism," *Journalism of Consciousness Studies* 13, nos. 10–11 (2006), reprinted with over twenty responses and a long rejoinder as *Consciousness and Its Place in Nature: Does Physicalism Entail Panpsychism?*, ed. Anthony Freeman (Exeter: Imprint Academic, 2006). Chalmers is also prominent among the contemporary partisans of panpsychism. See, e.g., David Chalmers, *The Character of Consciousness* (Oxford: Oxford University Press, 2010), 133–139.

5. Strawson, "Realistic Monism," 18, 24, 8.

6. Koch both invented the term "neural correlates of consciousness" (NCC) and, at Caltech, pioneered the research program to discover their location. See Christof Koch, *The Quest for Consciousness: A Neurobiological Approach (*Denver, CO: Roberts, 2004).

7. Giulio Tononi, "An Information Integration Theory of Consciousness," *BMC Neuroscience* 5, no. 42 (2004): 19. See also his *Phi: A Voyage from the Brain to the Soul* (New York: Pantheon, 2012).

8. Koch, *Quest for Consciousness*, 132.

9. "Utter balderdash" in the words of Colin McGinn in his otherwise-friendly reply (Freeman, *Consciousness and Its Place in Nature*, 93).

10. For a broad discussion of Cavendish's place in seventeenth-century science, see Lisa Sarahnson, *The Natural Philosophy of Margaret Cavendish: Reason and Fancy in the Scientific Revolution* (Baltimore: Johns Hopkins University Press, 2010). For the political context, see John Rogers, *The Matter of Revolution: Science, Poetry, and Politics in the Age of Milton* (Ithaca, NY: Cornell University Press, 1996), especially 177–211.

11. David Chalmers, "Facing Up to the Problem of Consciousness," *Journal of Consciousness Studies* 2, no. 3 (1995): 5.

12. Margaret Cavendish, *Observations upon Experimental Philosophy* (1666; Cambridge: Cambridge University Press, 2001), 264. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

13. Ralph Cudworth, *The True Intellectual System of the Universe* (London, 1678), 761, 831.

14. In looser talk, "nature" and "world" are often used interchangeably as terms for "what exists." For Cavendish, this meaning would attach to "nature," which includes everything, but not to "world," which is the part of nature we inhabit. There are, in her view, multiple worlds within nature.

15. The standard story is that Cavendish began as an atomist and then later turned to monist vitalism. For an account of Cavendish's materialism close to my own understanding, see Stewart Duncan, "Debating Materialism: Cavendish, Hobbes, and More," *History of Philosophy Quarterly* 29, no. 4 (2012): 391–411. Duncan argues that Cavendish "held onto materialism but adopted a non-Hobbesian picture of matter" (392). This point seems especially germane: "The terms of the debate were not stable. Individual participants had their own views of what the corporeal and the incorporeal were. Seemingly straightforward disagreements about whether incorporeal substances exist turn out to be complex ones in which the nature of those things is disputed at the same time as their existence" (392). For a revisionary account that Cavendish never really abandoned her earlier atomism, see Stephen Clucas, "The Atomism of the Cavendish Circle: A Reappraisal," *Seventeenth Century* 9 (1994): 247–273.

16. For Cavendish's earlier atomism, see *Poems and Fancies* (1653) and *Philosophical Fancies* (1653).

17. For more on this conception of monism, see Jonathan Schaffer, "Monism: The Priority of the Whole," *Philosophical Review* 119 (2010): 31–76.

18. See Duncan, "Debating Materialism"; and Karen Detlefsen, "Atomism, Monism, and Causation in the Natural Philosophy of Margaret Cavendish," *Oxford Studies in Early Modern Philosophy* 3 (2006): 199–240.

19. I will be concentrating on the argument about the ubiquity of experience and perception. For the ubiquity of life, see Cavendish, *Observations*, chap. 16. Both follow from the premise of self-motion.

20. Cavendish's criticism of the new philosophy and scientific observation as undertaken by the Royal Society has been covered extensively in the secondary scholarship, including most recently Sarahnson, *Natural Philosophy of Margaret Cavendish*.

21. See, e.g., "The Hunting of the Stag," in *Poems and Fancies* (1653).

22. Margaret Cavendish, *The Description of a New World Called The Blazing World* (1666), in *Paper Bodies: A Margaret Cavendish Reader*, ed. Sylvia Bowerbank and Sara Mendelson (Peterborough: Broadview, 2000), 177. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

23. Here is an example from the eighteenth century. Midway through Henry Brooke's widely popular and now-unread novel *The Fool of Quality* (1766–1770), one character decides to give another a lesson in ontology: "Every particle of matter, my lord, has a self, or distinct identity, inasmuch as it cannot be any other particle of matter. . . . It [also] has, however, a principle of attraction (analogous or answerable to desire in the mind), whereby it endeavours to derive to itself the powers and advantages of all other portions of matter." Earlier the "author" had asked, "What if this something, or this nothing, called matter, should be a shadow, a vacuum in respect of spirit, wholly resistless to it and pervadable by it?" Henry Brooke, *The Fool of Quality or the History of Henry Moreland,* vol. 1 of 4 (London, 1770), 124, 76.

24. Marilynne Robinson, *Absence of Mind*: *The Dispelling of Inwardness from the Ancient Myth of the Self* (New Haven, CT: Yale University Press, 2010), xv. Hereafter, abbreviated *A* and page numbers given parenthetically in the text.

25. Marilynne Robinson, *When I Was a Child I Read Books* (New York: Farrar, Straus, and Giroux, 2012), 10. Hereafter, abbreviated *W* and page numbers given parenthetically in the text.

26. Marilynne Robinson, *The Givenness of Things* (New York: Farrar, Straus, and Giroux, 2015), 4, 8.

27. The argument about consciousness, panpsychism, and intrinsic qualities in particular descends from Bertrand Russell. See his *The Analysis of Mind* (London: Allen and Unwin, 1921) and *The Analysis of Matter* (London: Allen and Unwin, 1924).

28. "The adjective 'dark' is now applied to most of it," she details, because "the presence of unanticipated forms of matter and energy can be discerned or inferred though not 'explained'" (*A*, 124).

29. Robinson writes about entanglement in all three of her recent books of theory, but especially in *Givenness*.

30. See David Chalmers's discussion of "Type F Monism" in *The Character of Consciousness* (Oxford: Oxford University Press, 2010), 133–135.

31. Ibid., 133.

32. The novel appeared about twenty years prior to her theoretical writing. It is nevertheless evident that she has already absorbed the beginnings of the debates (in Nagel, for example) that would preoccupy her later. I discuss the recent fiction, in particular *Lila*, below.

33. Marilynne Robinson, *Housekeeping* (New York: Picador, 1980), 105–106. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

34. Robinson's critics are therefore wrong, I think, to say that the point of such passages is to stress the difference between reality and appearance. Burke, for example, reads *Housekeeping* as a "primer on the mystical life" that would teach its reader that the "visible world falsely signifies reality" and that "[a]ppearance, because it constantly shifts, is too unstable in its forms to embody or reflect the real. Those who trust in the objects of sight as stable signifiers of reality are entrapped in the solipsistic boundaries of the senses." William Burke, "Border Crossings in Marilynne Robinson's *Housekeeping*," *Modern Fiction Studies* 37, no. 4 (1991): 717, 719, 720.

35. The term "consciousness" was evidently alive and meaningful for Robinson. In the manuscript copy of *Housekeeping* contained among her papers at Yale, this sentence first reads "I feel no reluctance to speak of Lucille and myself almost as a single person," with the last word struck out and replaced by "consciousness."

36. Marilynne Robinson, *The Death of Adam: Essays on Modern Thought* (New York: Picador, 1998), 252.

37. Ibid., 254.

38. Marilynne Robinson, *Lila* (New York: Farrar, Straus, and Giroux, 2014), 63. Subsequent citations are to this edition, with page numbers given parenthetically in the text.

39. Sarah Blackwood, "The Woman Wild," *Los Angeles Review of Books*, October 16, 2014, https://lareviewofbooks.org/article/woman-wild/.

40. Philip Goff, "Panpsychism Is Silly but It's Also Most Probably True," *Aeon*, March 2017, https://aeon.co/ideas/panpsychism-is-crazy-but-its-also-most-probably-true.

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