9 Plotting the Nonhuman

The Geometry of Desire in Contemporary “Lab Lit”

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In a well-known psychological study conducted by Fritz Heider and Marianne Simmel in the 1940s, participants were shown a short animated film with several geometrical shapes—two triangles, a circle, and a rectangle—moving against a white background. The study found that participants were quick to anthropomorphize the shapes’ interactions, ascribing agency and personality traits even as these geometrical figures did not display any overt human characteristics. The two triangles, for instance, were widely perceived as “fighting,” the circle was seen as a friend (or lover) of the small triangle; when the large triangle “threatens” the circle, the latter finds shelter inside a “building” (the rectangle). The experiment demonstrates how easy it is to interpret abstract visual properties—such as size or the pattern of movement—in terms of affective qualities of human experience, even without any explicit representation of the human body.

The phenomenon I will be investigating in this chapter is, in many ways, the diametrical opposite of Heider and Simmel’s film. I will address narratives, and more specifically novels, that focus on recognizable human characters engaging in recognizably human activities. And yet, I will argue that these works ask us to pay close attention to spatial patterns that are abstract and quasi-geometrical. Consider as a preliminary example of this narrative strategy of abstraction an excerpt from “Problems,” a short story by John Updike:

During the night, A, though sleeping with B, dreams of C. C stands at the farthest extremity or (if the image is considered two-dimensionally) the apogee of a curved driveway, perhaps a dream-refraction of the driveway of the house that had once been their shared home. Her figure, though small in the perspective, is vivid, clad in a tomato-red summer dress; her head is thrown back, her hands are on her hips, and her legs have taken a wide, confident stance. She is flaunting herself, perhaps laughing; his impression is of intense female vitality, his emotion is of longing. He awakes troubled. The sleep of B beside him is not disturbed; she rests in the certainty that A loves her. Indeed, he has left C for her, to prove it.

PROBLEM: Which has he more profoundly betrayed, B or C?

(Updike 1957–58)

Three characters are reduced to points in an abstract geometry presented in the language and form of a mathematic problem. The moral dilemma explored by Updike arises from the discrepancy between the space of the setting (where A is close to B and distant from C) and the characters' affective configuration (A's sexual desire for C). What comes to the fore is the emotional and narrative significance of the characters' spatial relations: readers are made aware of the abstract schema behind the plot.

A useful point of departure to understand this phenomenon is Alex Woloch's *The One Vs. the Many*, where Woloch introduces the notions of "character-space" and "character-system" to discuss how characters are situated within plot. Character-space is the semantic space occupied by each individual character, while character-system is the sum total of character-spaces. In Woloch's words, the character-system is "the arrangement of multiple and differentiated character-spaces—differentiated configurations and manipulations of the human figure—into a unified narrative structure" (14). Woloch lays out in a conceptual space the tension between individual consciousness, societal structures, and narrative demands, which he sees as central to the nineteenth-century novel. Moreover, the idea of character-space points to a formalist understanding of characters, as entities existing in an abstract space and dynamically interacting with each other, like the geometrical shapes of Heider and Simmel's film. The formalism of this approach is apparent in statements such as Woloch's claim that the

distribution of attention to different characters, unfolding only through the intersection and entwinement of story and discourse, always generates a rich double vision: we have two superimposed patterns or arrangements that will rarely overlap or coincide and will frequently, and to great effect, diverge significantly.

(40)

Interactions between characters are here abstracted—and therefore formalized—into Woloch's language of "patterns or arrangements," which builds on a geometrical understanding of plot structure.

This way of paraphrasing Woloch is reminiscent of Joseph Frank's influential concept of spatial form, by which he referred to the way in which modernist works foreground spatial patterns (through, for instance, strategic juxtapositions) at the expense of plot. But Woloch's approach allows us to appreciate how spatial form and plot are anything but opposed: on the contrary, the plot advances due to structural oppositions internal to the character-system. In a book on space and narrative, Ryan, Foote, and Azaryahu distance themselves from this formalist understanding of space:

When the notion of space refers to a formal pattern, it is taken in a metaphorical sense, since it is not a system of dimensions that determines

physical position but a network of analogical or oppositional relations perceived by the mind.

(5–6)

Yet one shouldn't be too hasty in dismissing Woloch's character-space and character-system as mere metaphors not relevant to a discussion of the spatial dimension of narrative; on the contrary, as both Heider and Simmel's experiment and Updike's short story show unambiguously, the character-system is not just a set of "analogical or oppositional relations perceived by the mind" but one that can become deeply bound up with the space of the setting.

Likewise, it is possible to see plot as deeply structured by spatial experience. Cognitive linguist Michael Kimmel discusses plot in terms of "image schemata," which are Gestalt-like templates derived from our embodied experience of space (see Hampe and Grady). Examples of image schemata are "balance" or "obstacle," two concepts that—while arising from people's negotiation of physical space—can be used to grasp non-physical scenarios (such as the "balance of power" between two nations or inadequate access to education as an "obstacle to equality"). Kimmel suggests that such image schemata also underlie readers' apprehension of plot, generating a "scaffold that lets us recognize the similarity to other scenes populated with agents, props and settings of different size, color, orientation and other details, but the same action logic" (171). My interest in this chapter is in how particular narratives may lay bare this abstract scaffolding of plot by highlighting the geometry of their character-systems. Both novels I will engage with, Jonathan Lethem's *As She Climbed Across the Table* and Jeanette Winterson's *Gut Symmetries*, explicitly draw attention to the spatial logic of the narrative progression via two spatial analogies: the chain, in Lethem's novel, and the triangle, in Winterson's. The metaphor of the character-space is thus not a theoretical construct, as in Woloch's model, but something that the narratives themselves thematize.

At the same time, I seek to go beyond Woloch's focus on the human figure. I will argue that, by way of spatial, formal patterns, Lethem's and Winterson's novels take us out of our anthropocentric comfort zone; they ask us to confront realities that are as far from the human form as Heider and Simmel's geometrical shapes—but also much more recalcitrant to an anthropomorphic understanding. My case studies achieve this critique of anthropomorphism in different ways: Lethem introduces within the character-system a physical anomaly akin to a black hole, an entity that is extraneous to human (and human-scale) interactions and yet, incongruously, destabilizes the narrator's marriage; Winterson uses the language of quantum physics to model intersubjective relations between human characters engaged in scientific research, so that sexual desire displaces epistemological curiosity.

These novels belong to the genre of “lab lit,” a term introduced by Jennifer Rohn (see Bouton) to account for fiction that focuses on the personal and professional lives of scientists in a realistic setting (unlike science fiction). Lab lit is closely affiliated with the so-called campus novel but places greater emphasis on how science interacts (and sometimes clashes) with scientists’ personal beliefs and experiences. Fiction of this kind becomes a way of enacting some of the intuitions of Bruno Latour’s actor-network theory, particularly its expanding the notion of “actant” to include technical machinery and scientific models (see, e.g., Latour). Examples of this genre include Ian McEwan’s *Solar* and Barbara Kingsolver’s *Flight Behavior*. My case studies offer an innovative take on the genre, bringing out the clash between scientific research and everyday experience—including the experience of sex and love—by drawing on the emotional registers of the absurd (in Lethem’s novel) or magical realism (in Winterson’s). More specifically, Lethem and Winterson explore the counterintuitive implications of contemporary physics, the same implications that Karen Barad discusses—in a scholarly mode—in *Meeting the Universe Halfway*. For Barad, “contemporary physics makes the inescapable entanglement of matters of being, knowing, and doing, of ontology, epistemology, and ethics, of fact and value, so tangible, so poignant” (3). Lethem’s and Winterson’s novels resonate with Barad’s quantum physics-inspired critique of distinctions between subject and object, agency and “mere” matter; they enact these distinctions through the narrative pattern created by their characters’ romantic and sexual ties: respectively, a chain of displaced desire initiated by a nonhuman entity (in Lethem) and a love triangle that mirrors the underlying structure of physical reality (in Winterson). While seemingly grounded in interactions between human bodies, sexual desire thus serves as a bridge toward the perplexing realities investigated by Barad. The foregrounding of character-space as a formal configuration that underlies the plot is what enables this “leap” from the human scale to the nonhuman. In the next section, before turning to my case studies, I will expand on the challenges involved in this leap. This will also enable me to contextualize my approach vis-à-vis contemporary discussions taking place under the heading of the “nonhuman turn” (see Grusin).

Metaphorical Bridges

A substantial body of work in ecocriticism has identified “scale” as perhaps the most significant challenge involved in representing nonhuman realities. This challenge works at multiple levels and applies to phenomena as diverse as geological history, the temporality of natural evolution, global warming, or globalization. These “hyperobjects,” to use Timothy Morton’s (*The Ecological Thought* 130–32; *Hyperobjects*) terminology, are distributed in time and space in a way that resists understanding, particularly the kind of understanding that is bound up with everyday experience and perception.

Put bluntly: we may be able to experience the *effects* of climate change, sometimes dramatically, but climate change per se is a reality that cannot be experienced directly, because it operates on a planetary scale. This is why we need scientific abstraction to generalize beyond the facts of experience. Once we have done so, we are left with the problem of closing the gap between an embodied, experiential understanding of the world and the more abstract scale at which scientific models tend to operate. Timothy Clark calls this challenge “scale framing,” noting that a

constitutive, unavoidable element of any representation, evaluation or literary reading is to presuppose or project a certain scale in space and time for its issues. A certain scale must make up the fundamental structure of any imaginable experience, or of any model of the world.

(73)

This point about the embeddedness of scale in any cultural representation resonates with arguments advanced by cognitive linguists working in the tradition of George Lakoff and Mark Johnson’s *Metaphors We Live By*. At the same time, work in this area suggests one way in which the gap between the human scale and more abstract phenomena (such as climate change) can be bridged. The point of departure of cognitive linguistics is “experientialism” (see Rohrer) or the notion that our conceptual apparatus is grounded in the human scale, which is in turn defined by the make-up and affordances of the human body. Even abstract concepts are never completely divorced from embodied experience, which is fundamentally spatial. As philosopher Peter Woelert puts it, “spatialization, particularly in the form of metaphoric structures, participates in the formation and functioning of human conceptual thinking in both a constructive and a restrictive sense” (123). This means that spatial experience is constrained by the link between our cognitive and our physical make-up (the “restrictive” element of spatialization), yet spatialization also offers invaluable resources for meaning-making (the “constructive” element), potentially helping us distance ourselves imaginatively from the human scale. As researchers in cognitive linguistics have persuasively argued, *metaphor* is the cognitive tool that allows humans to leverage embodiment toward more abstract forms of thinking.

Consider, for instance, a visual metaphor used by the World Wildlife Fund in a campaign for climate change designed by Belgian studio VVL BBDO: we see a cone topped by a scoop of melting ice cream that was digitally edited to look like the Earth. This is a version of the famous “blue marble” picture taken during the Apollo 17 mission in 1972—an image whose ideological implications and role in environmentalist discourse have been critiqued by, among others, Ursula Heise in *Sense of Place and Sense of Planet* (22–25). In this montage, the planet is turned into something as volatile as ice cream. The melting substance stands for our planet’s diminishing ice caps; the cone

is something that we can hold in our hand, yet the consequences of climate change are distributed in time and space. The visual metaphor, thus, reduces a nonhuman phenomenon occurring on a planetary scale to embodied interaction in human-scale space. There may be dangers involved in this metaphorical reduction, as Heise reminds us, since scientific models may be distorted and their complexity flattened to a relatively linear message, but, from the point of view of science communication, there is also a good deal of potential in that the metaphor affords insight into a global scale that we cannot, normally, experience directly. The conceptual insight into the more-than-human goes hand in hand with an affectively charged realization: comparing the Earth to a scoop of melting ice cream complicates and blurs boundaries between the human-made and the natural, the effects of human activities and climatological processes.

My case studies in this chapter also build on and extend metaphorical language to question the common-sense separation between human societies and nonhuman realities. Just like the melting ice cream metaphor, these novels use embodied experience as a bridge toward a phenomenon that resists human-scale imagination. But whereas the image of the ice cream foregrounds perception and physical action (grasping, eating), Lethem and Winterson explore the equally embodied experience of sexual desire; more specifically, they draw on sexual desire to gain purchase on the puzzling nonhuman (that is, nonhuman-scale) realities revealed by physics. Clearly, this use of sexuality resonates with a tradition of conceiving sex as an experience that takes us beyond ourselves, putting us in touch with otherness in ethical and even spiritual terms, as in many strands of mysticism (see Cornwall). But the otherness known through sex in these novels is radical, perhaps as radical as it gets. As Morton puts in *Humankind*, “What could be more nonhuman than a blackhole?” (*Humankind* 160). The notion of falling in love with something like a black hole—the premise of Lethem’s novel—involves a good deal of humorous incongruity. The stakes of such incongruity are high and raise fundamental questions about the interrelation between humans and realities beyond the human scale. Perhaps, and this is the core idea I am developing in this chapter, sexual desire can serve as a way of thinking—metaphorically—beyond the anthropocentric subject; it can pave the way for an embodied understanding of the co-constitution of human societies and cosmic, geological, or climatological phenomena beyond the human scale.

For this to happen, everyday notions of sexuality have to be transformed and defamiliarized. This defamiliarization follows the logic that I posited in a co-authored article on nonhuman characters in fiction (Bernaerts et al.): both Lethem and Winterson build on recognizably human experiences of sex and physical attraction, but the irruption of nonhuman elements into the narrative unsettles and transfigures these experiences, creating a sense of nonhuman alterity. In this process, the abstract and quasi-geometrical nature of the characters’ spatial arrangement is emphasized.

Put otherwise, the foregrounding of the character-system, in what is fundamentally a gesture of narrative *abstraction*, helps extract sexuality from its anthropocentric set-up. My approach thus revisits Luciana Parisi's notion of "abstract sex," which seeks to undermine dichotomies between nature and culture by seeing sex as something that affects "all levels of organization of a body—biological, cultural, economical [sic] and technological" (10). But here the abstraction is scaled up to the level of phenomena that are fundamentally extraneous to the human body and its technological augmentations. Further, it is abstraction realized in a particular narrative pattern, and the nature of this pattern is revealed to be deeply spatial and geometrical.

Becoming Lack

In addition to their generic affiliation with "lab lit," my case studies have two things in common: they were first published in 1997, and they have a scientist named, certainly not coincidentally, "Alice" among their main characters. In Lethem's *As She Climbed Across the Table*, Alice is the narrator's partner. She is a physicist working in a department that, as the narrator puts it, "specialized in the pursuit of tiny nothingness" (3). The physicists make a major breakthrough when they are able to generate and stabilize a bubble of nothingness, which—they speculate—could lead to another universe, although no one knows exactly what lies beyond it. As the narrator (who is an anthropologist) observes, various metaphors are deployed in an attempt to understand this physical anomaly, and they are all space-based metaphors: "I was liking the way it defied theory, the way it had the physicists scrambling. Breach, gap, gulf, hub—the lack was obviously an explosion of metaphor into a literal world" (26). The anomaly thus serves as a stand-in for the deeply perplexing realities explored by contemporary physics: it is fundamentally nonhuman, in that it defies anthropocentric conceptualization and opens the door to a reality not commensurable with human existence. It is only when rumors about the discovery begin spreading through campus that the metaphors stop spinning, and the physical anomaly receives the humorous nickname "Lack." From this point onward, Lack becomes a full-fledged character in Lethem's novel: it no longer only operates in the realm of the symbolic, as a paradoxical embodiment of the nonhuman, but it becomes central to the mechanics of the plot as well.

Lack is defined by its spatial form—it is a portal-like structure sitting, rather incongruously, on a table in a university lab. But the same spatial language is used by the narrator to refer to embodied intersubjectivity. This is, for instance, the description of an embrace between the narrator and Alice:

I crawled across the margin of floor and held her. I put my arms around her shoulders, my face in her hair. We cried together. Our bodies made

one perfect thing, a topological whole, immutable, complete, hollows turned to each other, hollows in alliance. We made a system, a universe. (86)

Sex itself is likened to an interaction between abstract spaces: “‘I feel an initial singularity,’ I whispered. ‘Pressed against your spherical symmetry.’ Nothing. She was deaf to me. ‘I want to adhere my Schwarzschild [sic] space to your De Sitter space,’ I said” (4). The characters’ bodies—and their somatic experience of sexual desire—are thus metaphorically blended with the theoretical entities of geometry (a “topological whole,” “spherical symmetry”) and physics itself (the “De Sitter space”).

“Blended” is here a technical term, referring to Gilles Fauconnier and Mark Turner’s account of “conceptual integration” or “blending” as an operation intrinsic to the workings of metaphor: for Fauconnier and Turner, metaphor creates an imaginative space—the blend—in which source and target of the metaphor (in this case, respectively, scientific language and human embodiment) converge and interact. But the directionality of Lethem’s metaphorical blending is particularly intriguing. One of the basic assumptions of cognitive metaphor theory, as we have seen above, is that metaphor tends to explain the abstract and intangible via the concrete (see, e.g., Semino 6). Understanding an abstract idea, for instance, is ordinarily referred to as “grasping” in English, with an extension of the bodily action of grasping a physical object. Thus, the experience of physical interaction in space is a crucial resource for metaphorical language, because it gives language users purchase on realities that *cannot* be experienced directly. This is precisely what happens in the case of the melting Earth visual metaphor discussed above. Lethem’s treatment of the human body works in the opposite way, which helps explain its counterintuitive nature: the characters’ bodies are defamiliarized by being compared to more abstract, mathematical realities.

But Lethem goes even farther than that. In fact, the conceit of *As She Climbed Across the Table* is that science is not just a *source* of metaphorical expressions for the human body; rather, the perplexing realities revealed by science become a literal object of sexual desire: Alice—the narrator’s partner—falls in love with Lack. She tries to enter Lack, in what is obviously a sexually loaded gesture, and is repeatedly rejected. Concurrently, a woman named Cynthia Jalter makes sexual advances toward the narrator, and he—still in love with Alice—cannot reciprocate. This is the basic structure, the character-system, at the heart of Lethem’s novel: the tensions it generates sustain the plot’s movement from the beginning to the end. The narrator explicitly calls attention to the spatial form of this system: “I was numb to Cynthia Jalter the way Alice was numb to me, the way Lack was numb to Alice. Were we links in a chain?” (107). The image of the chain ties the characters together, in an explicit spatialization of the novel’s character-system, but

Figure 9.1 The chain-like character-system of Jonathan Lethem's *As She Climbed Across the Table*. Author's creation, reprinted from Marco Caracciolo, *Narrating the Mesh: Form and Story in the Anthropocene*. University of Virginia Press, 2021.

it also suggests how the plot is set in motion by the irruption of Lack, a manifestation of the nonhuman in the human-scale world of a college campus. The “chain reaction” initiated by Lack is one where desire is continuously displaced, passed on to the next link without the possibility of reciprocation: Cynthia Jalter is in love with the narrator, who is still in love with his partner, Alice, who is in love with Lack (see Figure 9.1). The chain thus suggests unexpected linkage between levels of reality that both cognitive predispositions and culture present as separated by an unbridgeable gulf: namely, embodied experience, including the experience of sexuality, and the phenomena that fall within the scope of contemporary physics. Put otherwise, Lack brings together the human-scale and the nonhuman through the chain of embodied desire the character gives rise to.

It is perhaps not a coincidence that the novel ends when the narrator, an anthropologist, folds the chain back on itself. In his pursuit of Alice, he confronts Lack in the physics laboratory and eventually climbs onto a table next to it, in an attempt to enter Lack. The scene is narrated in explicitly sexual language: “I gripped the sides of the table and vaulted up, first on my knees, then flat on my stomach. Or almost flat. I had an erection. It was rock-hard and almost insensate. Some part of me had mistaken this for a sexual event” (174). That it is *not* a sexual event, at least not in the familiar sense, is shown by its result: the narrator emerges into a world that resembles the old one in its spatial layout, but whose appearance is greatly simplified—abstracted, one could say. One of the buildings on campus, for instance, “had been robbed of its color, texture, vitality. It looked like it had been reproduced in chewing gum” (175). The narrator’s intercourse with the nonhuman Lack destabilizes his experience of space, and causes the abstraction of the character-system to trickle down into the diegetic space of the storyworld. But this is only a first step. When the narrator attempts to enter Lack a second time, his experience of space collapses completely, and so does his embodied consciousness: “I *lacked*, as I completed a quick inventory, legs or arms to swim or struggle with, mouth

to scream with, nose, ears, etc.—i.e., the whole deal, works, caboodle. My body wasn't there" (186; emphasis added). The narrator merges with Lack, becomes himself a lack, a nothingness—and this is the only mode of being in which he can be reunited with Alice. In the final scene of the novel, Alice appears—literally out of nowhere—and steps onto the table facing Lack's "entrance": in the narrator's words, "I saw her eyes then, as she came across, and they were clear, and full of love" (192).

What just happened? Simply put, the human narrator and the nonhuman other, the Lack, converge into an experience of pure, abstract, and yet deeply affective pattern: this impression of abstraction is reinforced by the elusive movement of "coming across," which is an echo of the climbing in novel's title, of course. Space, embodiment, and quasi-geometrical abstraction: these are the conceptual domains brought together by Lethem's novel as it establishes connections between the quotidian and arcane physical models. These connections may be based on metaphors for human intersubjectivity, as we have seen, but they are more than just metaphorical; they are performed in the novel's plot through its chain-like structure.

Gut Thinking

If the spatial form underlying Lethem's narrative is a chain, Winterson's novel *Gut Symmetries* builds on the familiar image of a "love triangle." The protagonist, Alice, is again a physicist; she meets Jove, a famous physicist working at the Princeton Institute for Advanced Studies, and they start an extramarital relationship. Jove's wife, Stella, finds out about the affair, and decides to openly confront Alice. But when that happens, the unexpected ensues: Alice and Stella fall in love. Figure 9.2 is a visualization of this triangular narrative configuration, or character-system.

Figure 9.2 The symmetrical character-system of Jeanette Winterson's *Gut Symmetries*. Author's creation.

Just like Lethem's novel with the image of the chain, Winterson's narrative draws attention to the abstract, geometrical structure underpinning the plot:

If you want to know how a mistress marriage works, ask a triangle. In Euclidean geometry the angles of a triangle add up to 180 degrees and parallel lines never meet. Everyone knows the score, and the women are held in tension, away from one another. The shape is beguiling and it could be understood as a new geometry of family life.

(16)

This character-system is immediately absorbed into the work's thematic structure and justified at the level of the novel's engagement with contemporary physics: the narrator emphasizes the way in which this "new geometry of family life" mirrors the "symmetries of the three fundamental forces, weak force, strong force, electromagnetic force. Difficulties begin when these three separate forces are arbitrarily welded together. *His wife, his mistress, met*" (99). The concept of spatial symmetry is thus directly foregrounded, providing linkage between the embodied intersubjectivity of sexual attraction and the invisible fabric of physical reality. This conceptual blending, to use again Fauconnier and Turner's term, is facilitated by Winterson's adoption of a third kind of vocabulary in addition to love and science—namely, the premodern and prescientific discourse of alchemy.

We read at the beginning of the novel that the

mediaevals were entrail-minded and Paracelsus often delivered his lectures over a scalpelled corpse. This was not the nineteenth-century model of diagnosis by pathology. It was, if it was anything, diagnosis by cosmology. Paracelsus was a student of Correspondences: "As above, so below." The zodiac in the sky is imprinted in the body. "The galaxa goes through the belly."

(4)

The passage suggests a fundamental symmetry between the somatic and the cosmic, which in turn inflects and reinforces the parallel between human bodies, with their inevitable attractions, and the physical structure of reality. This parallel is captured by the pun in the novel's title: "gut" is, of course, the bodily organ, but it is also a reference to the grand unified theory (GUT in short) that is the Holy Grail of contemporary physics—a theory capable of uniting "the strong, weak, and electromagnetic quanta in a sympathetic symmetry that would include gravity," as the novel explains (99).

Both through its symmetrical character-system and through the conjoined discourses of physics and alchemy, the novel suggests that "human nature and the cosmos are patterned together" (100), another thematization of abstract pattern. Sexuality is, for Winterson, a way of sensing this

entanglement and metaphor is its stylistic manifestation. Consider the following passage:

What did we hope for, heating and re-heating ourselves to absurd temperatures? As matter heats up it is subject to demonstrable change. Boiling in our vessel, our water molecules would begin to break down, stripping us back to elemental hydrogen and oxygen gases. Would this help us to see ourselves as we really are?

Heated further, our atomic structure would be ripped apart. He and she as plasma again, the most common state of matter in the universe.

If we had the courage to cook ourselves to a quadrillion degrees, the splitting, the dividing, the ripping, the hurting, will be over. At this temperature, the weak force and the electromagnetic force are united. A little hotter, and the electroweak and the strong force move together as GUT symmetries appear.

And at last? When gravity and GUTs unite? Listen: one plays the lute and another the harp. The strings are vibrating and from the music of the spheres a perfect universe is formed. Lover and beloved pass into one another identified by sound.

(102–03)

This sexual encounter erases boundaries, first, between the subjects participating in it, and, second, between their bodies and the physical world, in a striking case of what Stacy Alaimo calls “transcorporeality”—the extension of human embodiment into the inanimate or natural world. Bodies function like particle accelerators, and in fact the extended metaphor underlying the passage compares sex to heating up matter in a physical experiment. This metaphorical process allows the lovers to descend into the atomic structure of reality, exposing the fundamental forces of physics and even sensing their coming together in a unified vision that physics itself has so far been unable to achieve. What is left, after this climax, is a sense of pure patterning, here captured in musical terms. This abstract rhythmicity—the “music of the spheres”—erases boundaries between embodied subjectivity and physical matter, thus performing a critique of dualistic thinking. The pivotal image of the “gut” corroborates this critique. Reminiscent of Elizabeth Wilson’s concept of “gut feminism,” the gut is—for Winterson—the organ in which the body embraces the outside world. Ordinary perception takes in the world from a distance, which can be more or less significant but always lends itself to a dualistic reading (“this is me,” “this is the world I perceive”). By contrast, the gut absorbs and incorporates in a way that leaves no doubt as to the biochemical continuity between our bodies and the supposedly “external” reality. Winterson seeks to elevate this organ to a mode of thinking: “This story is a journey through the thinking gut” (13).

The abstract notion of symmetry, encoded as it is in the novel’s character-system, is central to the materialist project of the thinking gut: the characters’ love triangle lays out in conceptual space the symmetry that, according

to Winterson, encapsulates the affective patterning of the physical world, as revealed by science. In this way, Winterson's narrative works toward a sense of intimate, and constitutive, interrelation between our embodied experience and physical levels of reality beyond the human scale.

Conclusion

In his seminal *Reading for the Plot*, Peter Brooks argued that "narratives portray the motors of desire that drive and consume their plots, and they also lay bare the nature of narration as a form of human desire" (61). Brooks thus draws attention to how desire, including sexual desire, is not just one of narrative's many thematic interests but a key factor in its progression: desire makes a series of events tellable; on the reception side of things, desire sustains an audience's emotional involvement and steers it, in anticipation, toward the narrative outcome. But desire, for Brooks and for virtually all other theorists of narrative, is "human desire," as this quote makes explicit.

My case studies explore the consequences of displacing desire through the language and models of physics. In these narratives, human desire embraces entities that are deeply and constitutively nonhuman: scientific abstractions—a black hole-like nothingness, the fundamental forces of physics—that not only fall outside of the scope of the human, or even the animate, but resist human perception and everyday experience. The main difference between the two novels is that, in Lethem's *As She Climbed Across the Table*, the nonhuman makes a direct intervention in the plot, becoming a full-fledged (if humorous) character; by contrast, in Winterson's *Gut Symmetries* the nonhuman is both a metaphorical frame superimposed on sexual desire and the paradoxical outcome of that desire: sex puts the characters in touch with the physical structure of reality.

Both Lethem and Winterson conflate sexual arousal, romantic attachment, and scientific curiosity, and in doing so they endow nonhuman realities with a degree of experiential substance. These novels thus participate in the project outlined by Kathryn Hume in a discussion of fiction's engagement with science: "we must augment the revelations of science if our view of the universe and of ourselves is to give us a sense of meaning. We need to experience the cosmos imaginatively as well as analytically" (47–48). In my two examples, this imaginative augmentation is incongruous in that it contradicts readers' basic ontology, a sense of separation—partly fostered by culture, partly grounded in evolutionary biases—between the animate and the inanimate, the subjective and the material.

Lethem's and Winterson's critique of dualism is articulated not just at the thematic level but through formal patterns that span the gap between literary devices and the formal abstraction involved in scientific models. The argument laid out in this chapter thus ties in with the recent reappraisal of form in literary studies, within the movement known as New Formalism (Levinson; Levine). But while scholars like Levine stress the continuity between literary form and

social and political formations, my specific interest was in how formal strategies at both the stylistic and the plot level can help literary fiction move beyond what Monika Fludernik calls narrative's "anthropomorphic bias" (13), incorporating scientific models. At the stylistic level, we have seen that both my case studies make use of metaphorical expressions bridging between the human, and in particular human embodiment, and the nonhuman objects of scientific investigation. These scientific realities are blended with the human scale, as when Lethem's style transfigures bodies into geometrical shapes or Winterson compares sex to the breakdown of matter at extremely high temperatures. This process of blending is counterintuitive, I have argued, because it renders the quotidian body in terms of puzzling and unfamiliar concepts—thus resisting and reversing a well-known tendency to use bodily metaphors to understand abstract ideas.

Working alongside metaphorical blending is the foregrounding of spatial patterns through the characters' configuration or the character-system in Woloch's terminology. In both novels, the patterning of human-nonhuman desire gives rise to a particular intersubjective constellation, which is explicitly named and thematized by the text: it takes the form of a chain in Lethem's narrative, a triangle in Winterson's. There is a mechanism of abstraction at work here, such that the novels expose the spatial logic of their own organization: how even the most sophisticated and intricate plots build on a quasi-geometrical arrangement of characters and situations. This move toward abstraction is diametrically opposite to the anthropomorphization of geometrical figures I have discussed at the beginning, via Heider and Simmel's study. Ultimately, what Lethem and Winterson attempt is much more defamiliarizing, insofar as their narratives seek to erase the distinction between human agents and nonhuman things and processes. Just as human characters fulfill a structural role in the narrative that exceeds their conscious intentions, nonhuman entities radically shape the plot. Through their extension of desire across the human-nonhuman divide, and through their strategic laying bare of the character-system as a conceptual space, these novels probe the deep interrelatedness of human and nonhuman realities.¹

Note

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