To the Graduate Council:

I am submitting herewith a dissertation written by Jessica Beth Weintraub entitled “The Theory Currently Known as M.” I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in English.

Michael Knight,
Major Professor

We have read this dissertation
And recommend its acceptance:

Allen Wier

Mary E. Papke

Jinx Watson

Accepted for the Council:

Carolyn R. Hodges
Vice Provost and
Dean of the Graduate School
The Theory Currently Known as M

A Dissertation
Presented for the
Doctor of Philosophy Degree
University of Tennessee, Knoxville

Jessica Beth Weintraub
May 2007
DEDICATION

To my parents and my sister
ACKNOWLEDGMENTS

I would like to extend my deepest gratitude to my dissertation committee, Dr. Jinx Watson, Dr. Mary Papke, Allen Wier, and most especially my Chair, Michael Knight.

Because I wrote about so many subjects in which I was not formally trained, I relied heavily on the generosity of others’ knowledge and time. Thanks to Dr. Orla Dermody for her friendship and for the tour of Oak Ridge National Labs. All of the ORNL scientists I met went out of their ways to be helpful; I especially appreciate Dr. Rich Norby for his time and genuine excitement about my project. Maggie Giddens and her parents in Tullahoma connected me with Mrs. Jane Greer Puckett, an early pioneer for women in mathematics who worked in 9731 during the early days of ORNL. Mrs. Puckett graciously spoke to me on the phone. Thanks to Dr. Karl Iagnemma, Pam Houston, Gary Snyder, and Maria Melendez for inspiration about science and nature writing. Dr. Greg Pasternack originally told me about the young women working in Oak Ridge during WWII. Dax Cole introduced me to Dr. John Rehder, a UT professor and the author of Appalachian Folkways. Dancing Nia with Sara Ridner, Helen Morrow, Elizabeth Cole, Karen NOLT, Sarah Downey, and, in NYC, Kari Etter – as well as having my spirit administered to by the amazing Sara Griscom – has been and continues to be a gift. Meeting Trena Paulus and Joanna Stieber, and through them, Dorothy Stulberg helped me to better understand the class and racial divides in early ORNL.

I am fortunate to have many loving friends and family members who offered support throughout the process. For their outstandingly generous friendship and unrelenting writing encouragement, I want to thank Silvia Schultermandl, Leigh Morgan, Katherine Stephan, Heidi Miller, Sarah and Mike McCollum, and Diane Yentel. Thanks to Susanna Haddon for numerous trans-Atlantic phone calls and the magical concept of “beat the clock.” And overwhelming gratitude goes to my inspiring writer-friends, Kate Williams and Laura Hoffer.
The Theory Currently Known as M is a creative dissertation for an English doctoral degree. Recent works in contemporary literature explore connections between scientific theories and the human emotions: Venn diagrams, botanical entries, and mathematical equations are numerous in theatrical successes such as David Auburn’s Proof and Michael Frayn’s Copenhagen, collections of short stories such as Karl Iagnemma’s On the Nature of Human Romantic Interaction, Anthony Doerr’s The Shell Collectors, and Andrea Barrett’s Ship Fever and Servants of the Map, and novels such as Charles Baxter’s First Light. Writers, always searching for fresh forms of phrasing, syntax, and metaphor, find fresh ways to describe love and desire, discord and estrangement by borrowing from science.

Metaphors derived from scientific inquiries emerge as a way to specify the mysterious entity of “place” and dovetail with current critical and literary meditations on land and location. The role of gender and history in discussions of place cannot be ignored, especially if place is defined as Eudora Welty does in her treatise, Place in Fiction, and, more recently as Minrose Gwin describes it, as “space”: place as container and conduit, an impetus for all that fiction can do, acting alternatively and simultaneously as point of view, character, setting, history, and culture; a full-to-bursting vessel housing the narratives swirling within, under and above the land itself.

The novel merges scientific language and Appalachian history, creating a helicoidal text. It contains two narratives, one that takes place in 2004, one that unfolds during WWII. Both storylines alternate between Knoxville and Oak Ridge, Tennessee. The female narrator, Elizabeth works at the recently built Oak Ridge National Laboratory. In 2004, Conway is a failed scientist obsessed with his past and superstring theory. He is searching for a unifying theory of love and loss.
PREFACE

Before string theory, the most popular unified theory was an eleven-dimensional theory of supergravity – the ten dimensions of supersymmetry combined with gravity. Duality relations between superstring theories attempt to relate Relativity and Quantum Mechanics, equate large distance with small distance, and exchange strong coupling with weak coupling. Qubits or Quantum bits are fundamental units of information in a quantum computer, capable of existing in two states, 0 or 1, simultaneously or at a different time.

Since it is suspected that all string theories are merely different limits of some more fundamental theory, then perhaps that more fundamental theory exists in eleven spacetime dimensions. “M theory,” a term coined by Dr. Ed Witten, is the unknown eleven-dimensional theory whose low energy limit is the supergravity theory in eleven dimensions. M theory can be used to label the unknown, although there is still much to discover about M theory itself.

Judging from its perceived dimensional energy relationships, string theory must be a theory where distance scales, coupling strengths, and the number of dimensions in spacetime, are not fixed concepts but fluid entities that shift with our point of view.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Introduction</td>
<td>1</td>
</tr>
<tr>
<td>The Theory Currently Known as M: A Novel</td>
<td>31</td>
</tr>
<tr>
<td>Sources</td>
<td>348</td>
</tr>
<tr>
<td>Vita</td>
<td>352</td>
</tr>
</tbody>
</table>
CRITICAL INTRODUCTION

1. Critical Introduction and Overview

This critical introduction will present an overview and discuss key influences that helped to shape my creative dissertation, a novel called *The Theory Currently Known as M*. With its two interwoven narratives, the novel is a kind of twinned text. One narrative should serve as a mirror to the other, and the answers to lingering questions in one story will be intimated in the other. Its interwoven shape derives from both string theory, which posits that the universe exists in eleven dimensions (what was originally conceived of as ten spacetime dimensions is now thought of by some theoretical physicists as a supergravity theory with eleven spacetime dimensions), as well as DNA’s double helix. Each narrative has eleven chapters, one for each of the dimensions. The novel’s title is lifted from Dr. Edward Witten, who coined the term “The Theory Currently Known as M” in order to unify the five competing string theories vying for prominence in the mid-1990s. “M Theory” denotes a mysterious eleventh dimension that some physicists believe forms when the ten-dimension strings vibrate. Witten, when pushed, has admitted that “‘M’ stands for magic, mystery, or matrix, according to taste” (Greene 311). In writing this novel, I hope to give “a local habitation and a name” – as well as a narrative arc – to this branch of physics, an area of study that suffers from an aridity of narrative and an almost pathological placelessness.

The novel pivots around both literal and theoretical inquiries of place, using the sciences as entries into the emotional landscape of narratives: specialized language derived or stolen from the sciences is used to describe geophysical landscapes as well as
interpersonal and place-personal emotional trajectories. Although science merges with
history, politics, culture and landscape, inquiries into and metaphors from science
predominate. Science, especially botany and physics, is the main tool that creates
“place.”

*Place*, an expanded, more encompassing idea of Setting, is perceived here as a
caracter in its own right with motivations and emotions of its own, is a buzzword in
writing today, both an obsession of the people writing new fiction and poetry, and of
critics attempting to understand, interpret, and discuss a work. The perspective that I will
explore throughout the novel will encompass the varied (and variable) voices enfolded in
a particular landscape, in this case the area that is now Oak Ridge, one of the three main
sites for The Manhattan Project under the auspices of J. Robert Oppenheimer and General
Leslie Groves.

In Charles Baxter’s novel *First Light*, one of the characters, Carlo, expresses his
obsession with Oppenheimer by devoting an entire room in his house to the man. Carlo
believes that Oppenheimer is the only American scientist worth studying, the only one in
whose life science, poetry, and history collided: “First, science defeated poetry, then
science defeated history. Then history defeated Oppenheimer” (Baxter 73). While
Oppenheimer will not be a main character in my novel, his shadowy presence and his
ambivalence about the project will be expressed through the two narrators, Elizabeth and
Conway, and through the East Tennessee landscape.

Conway, a failed physicist, narrates the first chapter of the novel and then every
other chapter under the heading “Qubits.” A qubit is a unit of quantum information. The
term was invented, supposedly in jest, by Benjamin Schumacher. It is a binary, read as
either a 0 or a 1, off or on. The difference is that whereas a bit must be either 0 or 1, a qubit can be 0, 1, or a superposition of both. Conway, who is on the verge of turning thirty-six, has returned to East Tennessee after failing out of a Masters program in physics more than a decade earlier, and is obsessed with his failure to reconcile opposites in his own psyche and in his relationships. His sister died of an expanding heart four years earlier and he is still distraught; she was the person closest to him, and he has a “string” of failed romances dragging in his wake. He lives half in his grandmother’s house in Oak Ridge while she is undergoing hospice care after a stroke and half in a grungy apartment in downtown Knoxville: he is house-sitting both places and does not have a place of his own. The novel opens with him in a downtown Knoxville apartment. His first night in the apartment, he locks himself out of it and meets two girls in the parking lot. He starts a relationship with one of them, Mauna, a doctoral candidate in Cultural Studies at UT, and the following interweaving chapters (chapters three, five, seven, etc.) chronicle their ten dates. Conway and Mauna converse about their mutual obsessions: their previous relationships, the 2004 Presidential Election, historical and current tensions between the North and South, science, and women in science.

One of those “women in science” narrates the second text called “Daisy Chains” (a reference to the series of circular implosions that must all go off in succession to create a nuclear explosion) starting with chapter two and alternating with the Conway chapters. Elizabeth is fascinated with science. She attends botany lectures at Harvard and Radcliffe and is drawn to the physics scribbles only half-erased on the chalkboard. Elizabeth’s parents are dead. Her brother, Reed, introduces her to a classmate of his at a dance in downtown Boston. Her brother’s friend, Carter, is from Anderson County,
Tennessee, and soon after Elizabeth and Carter are married, she accompanies him back to East Tennessee. They arrive right before the rural farmland of Anderson and Roane counties is transformed into Oak Ridge.

The idea of giving voices to nonhuman entities is something I stole from poets: Pattiann Rodgers, Sandra MacPherson, Maria Melendez, Mary Oliver and, especially Louise Gluck are key models for animating and anthropomorphizing the green world while respecting its secrets and mysteries. I lifted a line from one of Maria Melendez’s poems, “The Unformed Heart” because there was no more beautiful way for Elizabeth to sense the romantic recognition with the calutron than: “Oh you again/Aren’t we beautiful?”


I don’t need your praise
to survive. I was here first,
before you were here, before
you ever planted a garden
and I’ll be here when only the sun and the moon
are left, and the sea, and the wide field.
I will constitute the field. (22)

Elizabeth starts working on the calutrons – the uranium isolating machines – at 9731, the plant at the newly-built Oak Ridge National Laboratories. She is suffering from trauma and is finely attuned not to her husband or the people around her but to the vegetal and machinist worlds. She dreams about giving birth to extinct plant species – an
idea I borrowed from some of the poems in Maria Melendez’s books, *Base Pairs* and *How Long She’ll Last in This World*. Elizabeth even more pressingly feels an emotional (romantic) bond to the calutron on which she works.

A natural force that certainly has domain over the human is the flooded Mississippi River in Faulkner’s *If I Forget Thee Jerusalem*. In the Editor’s Note at the end of the novel, we are told that Faulkner “invented the story of the ‘tall’ convict as a counterpoint to the story between Harry and Charlotte, in an effort to maintain the intensity of the later story without allowing it to become shrill” (290). My aim is that the oscillating between two narratives will work similarly in my novel so that elements in each narrative can inform the other. By my employing Faulkner’s style of counterpointing, hopefully the reader will not be bogged down by either Conway’s indecision and angst or Elizabeth’s inability to connect to people in her life, and the twin novellas will entwine to form a somewhat cohesive whole – a novel rather than a collection of linked stories.

II. Place for you, my Love: Place as a Function of Desire

In Eudora Welty’s short story “No Place For You, My Love,” the central conflict between the married man from Syracuse and the Midwestern woman is expressed through a series of binaries, starting with the North-South tension and extending to the heterogeneous urbanity of New Orleans versus the teeming, overstuffed “animal world” of the bayou. While cityscapes and urban settings can be often just as magical as the green world, many discussions of place tend to focus on prairie and bog, forest and glen.
With a pastoral tradition as a scaffold to climb or deconstruct, contemporary writers have gleaned meaning from the interstices of rural spaces and manmade plinths, such as can be found in the two-pronged history of Oak Ridge. Focusing still closer, and often drawing on scientific leanings and/or actual degrees and professions in the sciences, writers have looked to the minute and intricate workings of physics and ecology, hydrology and chemistry for inspiration and for ways of communicating human emotions and relationships. If, as Darwin surmised, love and the distinct emotion of sympathy are examples of “moral qualities” that nonhuman animals can possess, then why not extend, at least as metaphor, those feelings to nonhuman, non-animal living things – trees, flowers, moss – and even further to inanimate objects such as rocks and stones, fence posts, barbed wire, bridges, and calutrons?

Bobbie Ann Mason states that she has been formed by her landscape. Although most of my previous fiction is thematically, figuratively, and scientifically concerned with water, the predominant natural state in Oak Ridge during and just after its construction is, by all accounts, red Tennessee mud. I was curious how mud, the sum of water+dirt would complicate and expand my usual modes of fiction writing, how this landscape would create characters in unexpected and innovative ways. The eco-critical response to Mason, espoused by Rick Bass and perhaps Don Delillo, might be that Mason and her family have, for generations, shaped the land in far more discernible ways with often far more dire effects.

While eco-critical arguments of this ilk are depressingly compelling, Eudora Welty’s focus on place as a shaper of character – both the ‘character’ of the writer and the characters created by a particular writer – is more prismatic and mysterious, and
therefore more helpful to me as a writer. Both Welty’s *Place in Fiction*, written in 1954, and O’Connor’s *Mystery and Manners* have references to the atomic bomb that had been dropped a decade before. And Mason herself has a new novel, *An Atomic Romance: A Novel*, that takes place at a uranium enrichment plant in Western Kentucky. In *Place in Fiction*, after the litany of powers ascribed to place – that place determines a writer’s roots, reference point, perspective (or point of view) – Welty conflates place with “valor, memory, history, endeavor” as well as all “attributes of love” (her words), a “secret language” of “naming” (Welty 14) that can provide the expressions for both passionate creation and dissolution of cultural landscape. The bomb is important for Welty because so much is “bound” up in place, and she believes that destroyed places cause “attributes of love” to be irretrievably lost. It is a brilliant, chillingly prescient, and quite postmodern thought that memory and valor leaked out of bombed parts of the world. The positive attributes of love were decimated by the scientific endeavors, which share the less positive but perhaps more intensive attributes of love: the obsessive desire for something that eclipses or tries to supersede human-land connections and/or consequences.

But, are places destroyed – along with their secret languages and best abstract qualities – only through actual bombings? Of course not. Any tyranny or act of oppression will do, and it is strange that neither Welty nor O’Connor emphasizes slavery as similarly shaping southern character (as Faulkner seems to argue through his fiction, especially, *Absalom, Absalom!* in their manuals/manifestos. The effects of the destruction of land, as explicated by SueEllen Campbell in “The Land and Language of Desire,” are difficult to theorize because a thorough investigation requires one to
maintain a distanced perspective while simultaneously immersing oneself in the landscape and culture of a particular place. Karl Iagnemma and Andrea Barrett attempt to encompass a larger vision of Place by writing in historical mode (or a combination of historical and contemporary within one story or within one collection). Another strategy, described by Minrose Gwin in her introduction to *The Woman in the Red Dress*, is to recognize the innate metaphor-making in the concept of place (which she calls “space”); that is, space is not empty but laden with abstract tensions, intuitions, nostalgia (which she explicitly cautions against), memory, and desire. Place is “always-already” metaphor. Our minds, whether contemplating region, town, distant mountains, or the very ground under our feet, must make figurative comparisons and connections for us to enter into or simply live in a place at all. We catalogue, we order, and we condense the world to survive.

Gwin speaks of “space” as both a solid and a liquid, mobile and tethered to our individual imaginings of it. She writes of the “swirl” of history and magic and memory that comprise place. Drawing from her definitions, as well as those of Welty and O’Connor – and keeping theorist Marcel Lefebvre’s admonishment that space is “never innocent” (Gwin 28) but endowed with subtle power in the forefront of our minds – it is appropriate to speak of Faulkner’s *Absalom, Absalom!*, Welty’s *No Place For You, My Love*, and McCarthy’s *Suttree* in terms of their most predominant qualities: the use of place and point of view (often conflated into a powerful whole number) “as” character.
III. “Quantum Relativity” and the Quest for Narrative Form

In exploring politics, science and history – all subjects that intrigue me, none of which I am an expert, I wanted to somehow incorporate elements from the forms I am more familiar with – poetry and short fiction – into a “story” I believe is best served and explored through a more elastic medium such as the novel. Although I know that novels can be “too poetic” – usually too amorphous or nebulous in terms of an overriding structure – an attention to language is paramount to me. I hope that a hyper-awareness of the sounds and senses of words does not obscure overall meaning but deepens that meaning by specifying it through word choice, rhythm, and order. I am especially interested, like Conway (as someone who writes lyrics for music he composes) and Elizabeth (as a person who speaks several languages and is constantly in the process of learning the native tongue of her new land), in the multiple meanings of words, and I find this obsession with variegation is helpful when I read scientific documentation. If I read botanical descriptions on the lookout for language that can be used in a different (that is, fictional) context to illuminate the mechanisms and expressions of desire or other types of human interaction, the words spike out into the “indescribable” in all sorts of excitingly metaphorical ways.

If weighted, imagistic, figurative languages (with their implied, curled up metaphoric possibilities, much like the depiction of superstrings curled up at the intersections on a graph) reflect my initial training in poetics, techniques for formal arrangements and organization structure, practiced most thoroughly in writing short fiction, is just as essential. Metaphors untethered to form are often painfully irrelevant.
Out of context beauty rarely sticks in the reader’s mind unless one is reading a purely lyrical poem. And there, too, the form grounds the lyricism because we are given the formal indicators of a lyric: short lines, line breaks, and one keystone image. Short fiction, with its privileging of figurative language over explication and image/character/place as plot and somewhat confined space, boasts the best elements of poetry (language, image) and fiction (prose, prevalent dialogue, more space).

Each of the twenty-two chapters of *The Theory Currently Known as M* (eleven dimensions of spacetime times two) should be able to stand alone as a piece of short fiction, hopefully without any undue repetition or forced constraint, as well as a successive bead strung around the wrist of the novel form. I used some tried and true (arguably gimmicky) techniques for drawing attention to the “short story” as novel chapters. Each chapter narrated by Conway plays itself out in a pattern composed of similar setting and similar arc with only slight variations: Mauna’s dance class, a short scene in one or both of their apartments, one of several Knoxville bars. The last two Conway chapters break the pattern by starting in a bar and then, on the same night, traveling to Conway’s grandmother’s house. I chose this split to mimic the controversy over whether the universe has ten dimensions (nine of space, one of time) or eleven (the same arrangement with the dimension of gravity added). Many of my chapters end with a line of dialogue, following Flannery O’Connor’s example, notably in “A Good Man is Hard to Find” which ends with the enigmatic line of dialogue spoken by the Misfit, “‘Shut up, Bobby Lee. It’s no real pleasure in life’” (259). By copying O’Connor, I hope to sum up a “moment” – still unreconciled but experienced by Mauna and Conway as they dance around each other – before changing scenes historically in the next chapter. I
want to crack open the door for both the next chapter in sequence and the next chapter in terms of the following page, which plunges the reader into a different time period with different characters talking to each other.

Dialogue is the craft point I admire most after metaphor, and I strive to balance musicality and realness in fictional speech. It was challenging for me to write so much from a male perspective, so I used predominantly dialogue in the contemporary sections to denote Conway’s character. After I got to “know” him better, I felt more comfortable delving into his thoughts and narrating his own secret history (in the words/novel title of Paul Theroux) through exposition: while he was driving to Knoxville and from Oak Ridge, working in the music store, alone in Brian’s bleak apartment, and even in fits and starts in his interactions with Mauna.

If I was uneasy about spending so long in a male perspective, I was that much more worried about writing from the point of view of someone who was born in 1920 and in another country. Elizabeth is such an insular, private, and secretly troubled character (versus Conway’s postmodern performative angst and tribulations) that I decided not to give her very much dialogue. My unfamiliarity and confidence-deficit with Appalachian culture and dialect in the 1940s contributed to my decision. If Conway and Elizabeth represent the two prevailing but as yet un-unified theories of the universe, then I wanted to underscore their contrast further by making the contemporary sections reflect the cacophony of modern life and the literally hushed up anticipation and fear in the wartime sections. I wanted the historical to be quiet and contemplative, even as the work in Oak Ridge was frenzied and nonstop so that these sections would be informed by Elizabeth’s fearful musings and feelings of disconnection: airless and arid, deathly quiet, the calm
before the storm of the inception of the twentieth century and its concordant bomb-blasts.

Since I do not have a strong educational background in the sciences, it is perhaps surprising that I would use science as an organizing principle for my novel. Then again, I have never written a novel before and had no idea how to go about it. I had what I can only call an inkling because it was an unformulated-but-compelling topic that spun itself into two related narratives. One story is historical in the sense that it is set in a non-delineated period in the past – the arc that starts a year after Pearl Harbor, December 7, 1941, and reaches toward the day the first bomb was dropped, August 6, 1945 (although the “Elizabeth” sections end the August before the bombs were dropped). And the other is a “contemporary” plot set in October and November of 2004, another highly-charged political period of the most recent Presidential election.

This project’s inception was an article read to me over the phone by a hydrologist friend of mine that has, in a mysterious fashion appropriate to artistic conception, “disappeared.” The article posited that the work of the young women culled from small East Tennessee towns in Anderson and Roane counties where Oak Ridge now stands was crucial to the creation of the atomic bomb. The uranium these young women extracted to be sent to Los Alamos and made into the atomic bombs dropped over Hiroshima and Nagasaki was essential to the outcome: all the formulae in the world could not produce the raw “stuff” needed to create a “successful” bomb. The women were randomly “chosen” by the decision to build a nuclear facility in the Cumberland valley, and because this transformation of landscape and the obliteration of farmland necessitated a new kind of work and all were seemingly unaware of the portentous nature of their day-to-day tasks. It is my fervent belief that the large sweeping movements called History
with their attendant and implied gravitas are the smoothed-out arc of millions of tiny, chaotic gestures, coincidences, impetuous decisions, “second string” emotions like vengeance, jealousy, cowardice, codes – all the machinations stacked up under the category of personal interaction and relationships. What I call a “smoothed out arc” of narrative, physicists call a Unified Theory. And one of the most prevalent, although still unproven, unified theories is string theory.

String theory arose out of the troubling dis-unity of Quantum Mechanics and Relativity. Both scientific systems are provable (that is, observable and testable, the very definition of “true science”); in fact, neither has even been proven wrong in any experiment or observation. Neither have mathematical anomalies, and Relativity is one of the cleanest and most elegant equations made that much more dazzling by the largeness and complexity of what it represents and explains. However, the gorgeous math completely breaks down and becomes unruly and contradictory in efforts to mesh the two systems. Since the atoms described by Quantum Mechanics can be seen as a microcosm of planets (each with a blurred halo of electrons/moons encircling them), and because matter composes both planetary and atomic systems, one can imagine scientists’ frustration and their desire to find a unifying theory.

Using scientific models as a narrative structure, the idea and the goals of Oak Ridge National Laboratory and the surrounding town of Oak Ridge can be seen as “Relativity” with its order and gravitas. And quantum mechanics best expresses the daily shutterings and gropings that define human interactive existence. Within the hastily constructed Oak Ridge, inside the whirring labs, alphabetized cemesto houses, cramped dormitories and slave quarter-like hutments, the jittery human minutiae is dependent and
determined wholly on chance, with the elegant swoops of Relativity are hoped for, but can only be glimpsed as an aftereffect, blurry or squinted at or even fantasized into a kind of generalized “existence.” An ability to computate or cogitate anything depends on acts of generalization, clumping details under a few headings, skimming over some sensory information while focusing on others – often randomly chosen and certainly varying from individual to individual. An enduring deference to Relativity owes as much to its romantic association with Einstein, a genius who escaped the Nazis (what could be more romantic and compelling in the Modern Era?), as to its elegance and “perfect,” observable mathematical phenomena. Relativity cannot be done away with because it encompasses our human desire for universal order. We might not believe it is ever possible, but we hold out hope for it as passionately as if it is, in “the best of all possible worlds,” a utopia Mauna and Conway alternatively long for and mock. I was aware that I chose the names of my four main characters (Conway, Mauna, Elizabeth and Carter/Carl/calutron) to represent the E=mc² (that is, Elizabeth equals Mauna and Conway, and Carter/Carl/calutron) and the four fundamental forces of nature (gravity, electromagnetism, strong nuclear forces and weak nuclear forces). I take the equation one dimension further, since there are three C’s, so my narrative equation is E=mc³.

To me, the disparity and dis-unity of the two systems makes sense, but perhaps if I understood the math of the equations, I would not be so blithe. It seems easier to account for breakdowns when systems are stretched to such apolar scales (one so tiny, the other so huge). Scale often wrecks havoc on any mathematical equation, any fixed idea. The other element that is always missing in these equations is what Quantum Theory gestures towards but never seems to proclaim outright. With all of its insistence on
chance and disorder, that the only salve or tool in a quest for outcomes is probability, Quantum Mechanics or any of the theories it has since spawned never claims that emotion and human interaction might account for the mathematical and theoretical breakdowns. Perhaps because emotion is nearly impossible to codify, it seems truly “beyond measure.” For instance, while a search for “Greek letter for Eros” does tell me that that letter is Zeta, I doubt that the letter is used in serious mathematical equations to signify love.

In the novel, I have struggled with a way to unify the two mathematically proven and perfect systems, Relativity and Quantum Mechanics. I use narrative and add in what I believe is the missing ingredient in the equation, love and emotion. I am not sure how odd an undertaking this struggle is. On the one hand, I do not have any math skills beyond trigonometry, last grappled with in high school, where I also last encountered physics. All I remember of that class is my frustrated teacher asking the class, “Does $\mu$ [sounds like miue] bother you?” I know I chiefly remember that sentence because of the rhyme. However, the more I try to prove my own theory of coherence in this introduction, the further away I get. I can only see that, besides my own limits in talent and understanding, the reason for the elusiveness is that something must want to remain hidden. Like precious metals, gems or oil buried under landscape, a unified theory gives only hints of itself. Certain topographical features – sand eddies, the swell and swirl of soil, the flintiness of peaks – are indicators that there is something worth drilling below. Various observations on the dynamics of spiral galaxies like the Milky Way indicate that the observed stars, dust, and gases cannot be their only constituents. More than half of their mass is hidden although it can be seen indirectly through the way it affects the
rotation velocity distribution of the visible components. This dark component seems to form a spherical halo, which extends much further outside the galaxy. Similar conclusions are reached from the study of the dynamics of satellites of our Galaxy, such as dwarf galaxies like the Magellanic Clouds or distant globular clusters. This hidden matter, the so-called “dark matter,” may be more or less exotic, and it is actively being researched in several experiments.

A kind of dark matter in the extreme, a black hole is the scientific phenomena in the crosshatch of the x/y axis of Relativity and Quantum Mechanics. Scientists grapple with which formulaic tools they should use to measure with the greatest exactitude: Quantum Mechanics because black holes are incredibly tiny, or Relativity because they are incredibly heavy? If Quantum Mechanics characterizes the contemporary section of my novel with its frenzied dance of hazardous (in both senses of the word) chemical reactions and non-teleological circuitous trajectories, counterpointed with specific calendar dates (privileging Time) and Relativity gives an Einsteinian thrust to the historical chapters with its broad swoops of “textbook history” and a sense of “dislocation in time” rather than timelessness, the goal is that a braiding should produce a kind of narrative unified theory. Since both Relativity and Quantum Theory do already perfectly exist, side by side if not enmeshed, then a unified theory already exists. It resides in the charged place between the two formulae, the vast space between atoms and planets. It is our landscape and our shared emotional terrain. It is place; it is as Gertrude Stein proclaimed (and as Conway quotes to Mauna) the “there there.”
IV. “Places in the World a Woman Could Walk”: Gender and Place

In *Their Place in the Sun: Women of the Manhattan Project*, Ellen Weaver writes, “When I read the personal reminiscences of men who were nuclear pioneers, I’m struck by the…often intense interactions among them, which led to major insights in both theory and practice of science….Women did not share in that give and take” (xi). I chose a Northern woman to infiltrate a Southern/Appalachian place to explore what Michael Kreyling argues in *Inventing Southern Literature*: that *Absalom* can be viewed through the lens of Shreve and Quentin, that it is, in effect, the Northern gaze (that of Shreve) that defines the South and provides a particular form of give-and-take that constructs narrative. Because my novel has a Northern infiltrator as a main character, I find this argument particularly useful. Anthropologists have long argued that it is the Other that creates a culture, or, more precisely, out of the act of othering arises a culture. Perhaps it is the observational other who creates place as well as the raced/classed Others inhabiting the place. It is important to remember Shreve is not an isolated other: he is “there” (in the Steinian sense); he is incorporated. Further, he has heard the story before; he is asking for clarification, or re-clarification. And he is also requesting – or forcing – a hand in the telling; he clearly wants – or feels compelled – to be part of the construction of place.

The binary relationship epitomized by Shreve and Quentin becomes multifaceted when it is expressed through landscape. The wind that originates in Alberta and slides down the “geologic umbilical” to the Continental Drift to be “tempered” by Mississippi mugginess, wafting over jasmine and “starry” flowers in Sutpen’s garden (129), where
Sutpen paces and Judith waits for destiny to unfold, suggests in striking ways the fluidity of landscape, its potential to move us in literal/figurative ways.

The binary relationships between women and men, secrets and formulae, human and machine, discovery and destruction, landscape and manmade structure, hoe and spectrometer in my novel exist in similarly symbiotic relationships. Elizabeth marries an Appalachian man who, almost directly after the marriage, is drafted into the military to train as a pilot, thus abandoning her in “his” place. The place itself is in the midst of transition: stolen land plowed under at the command of government secrecy, a traditional way of life exposed and made obsolete in one fell swoop. Her voice is disembodied, much like Suttree’s is in the beginning of Cormac McCarthy’s novel, as she descends into the unknown environment, and it will become gradually more “filled” with the substances of the relationships, landscape, and the presence of other inhabitants who filter through her consciousness. The narrative structure will start out fractured and somewhat fragmented, and then will become more linear and cohesive as Elizabeth melts into her surroundings, as the boundaries between binaries blurs. The main catalyst of the blending of opposites will be expressed through the science of the lab where Elizabeth works with other young women and the evolution of the landscape as it is transformed from Cumberland Valley to Oak Ridge.

Enfolding “real” historical narratives into my work of fiction was be a challenge. I believe that imagistic language and a focus on human relationships and relationships between humans and machines and landscape helped transform such information into novelistic narrative. Poetic inquiries into specific scientific modalities also aided me in these transfigurations.
IV. Theoretical and Applied: Science as Metaphor for Love and Desire

My novel gestures towards science as a medium for romantic interactions. Since science is simultaneously practical and mysterious, half-known and unknown, quotidian and mythic, the narrative will explicate desire and agenda already present in cells (through biology, chemistry, physics), in landscape (through geology, ecology), and in terms of the human, conflating all three. As Paul Shepard explains, “skin is ecologically like a pond surface or forest soil, not a shell as much as a delicate interpenetration” (136). All interactions contain these emotions and are in constant motion, colliding with the likenesses and others in their midst. Place seen through a finely-honed lens that relies on the scientific seems to be about mathematic relationships between people and between people and landscape, but that equal sign is like the sword between Lancelot and Guinevere. The more I learn, the more possible connections I can make in my own novel.

Writers have used science as inspiration long before the last decade, although this recent work is where from I draw most of my knowledge and inspiration. The inspiration for Goethe’s drama Faust written in 1808 was the alchemist Georg Faust (1480-1540). What could be more chillingly scientific that the words of the protagonist: “So that I may perceive whatever holds the world together in its inmost folds”? Alan Lightman, a scientist at MIT, wrote a novella entitled Einstein’s Dreams that imagined Einstein as a man contemplating love while simultaneously devising his famous formula; the National Book Award this year went to Richard Powers for The Echo Maker. Because I wanted to keep as close as possible to the chapter-as-short-story, I was helped most by the scientific
metaphors in the stories of Andrea Barrett, Karl Iagnemma, and Anthony Doerr who taught me about the myriad of narratives made possible by shuttling between the apposite poles of art and science. These authors negotiations between the language of science and the intention of art is so seamless that scientific language becomes shimmering universal metaphors, even if these configurations are housed in complex diagrams and formulae.

By building story around science, the process used by deadly cone shell snails in Doerr’s “The Shell Collector” becomes part of an ongoing discussion about “human interaction” (Iagnemma) that takes on new, radiant resonance. Barrett is an especially good model for me because her focus is on historical science, science that is either outdated or fanciful (and Iagnemma also does this in stories such as “The Phrenologist’s Dream”). Although the science I will be most concerned with – nuclear physics, spectroscopy, ecology – is still under investigation, the historical perspective predominant in the title story of Barrett’s Servants of the Map is essential to my project. A sort of “retroactive” innocence is required when speaking of past scientific discoveries and experiments; the impulse is to condescend to earlier ideas about the universe now that we know for sure what works and what does not scientifically, but hubris is as destructive to the natural world as it is in relationships. The fact that the title story is about a botanist in the Himalayas in the nineteenth century reminds me that all science is exploration – frightening, lonely, and decidedly uncertain. It requires not only “whimsy and precision” (Iagnemma) but courage, obsession, and that certain “stupidity” for which Welty advocates in Place in Fiction: the (dis)ability to not see clearly at first glance so that, in staring, the surface is surpassed and undercurrents reveal themselves. The title story of “On the Nature of Human Romantic Interaction” and Barrett’s “Theories of
“Rain” are powerful examples of desire shown through the chiffon of a highly detailed sense of place - desire and place coalesced – as well as through the scientific lens used to elucidate and re-figure love and desire. Doerr reminds me of the possibilities inherent in the specific details of landscape and the animals that/who inhabit it – the way a shell can be described to a reader with its Latin name, incomprehensible to me until I looked it up in a dictionary, or a descriptor such as “finger bone” coral that immediately resonates with the reader.

By building up theory through assumptions, scientific vision necessarily gives us different points of view. That is, we see things differently when circumstances vary: the way a leaf looks on a tree is vastly different from the way it looks at a cellular level. Science for Iagnemma, Barrett, Doerr, and others is a method of looking deeper and deeper into a thing and into an emotion. A microscope is not only a tool to peel away layers that perhaps hide if not “the truth,” then the shadowy core of a thing; it is a perspective. Using this apparatus, one descends into information about the “thing within the thing” to get closer to the core, even if this is an imaginary core. Science is concerned with finding rules that can be cross-fertilized so that we may better understand a variety of mysteries. One doesn’t just look down and into the leaf just to look at molecules and not note the fact that certain ones want to be closer to each other.

Iagnemma’s stories, which take place in the same location but often in different historical time periods, explore similar relationships and cycles of hope, betrayal, and failure. It is a case of “same obscurity,” different time period. There is a real sense of observation, which acts as and nearly becomes a character: Iagnemma is always somewhat present as a scientist in his stories. We are aware that he is mixing ingredients,
a postmodern, contemporary cultural aesthetic and audience. Part of what is lost in Iagnemma’s method is a working suspension of belief; the stories’ apparatuses are apparent. However, what is gained is the insiderness and a kind of science-driven self-awareness which lends his stories a seductive gloss. As with Raymond Carver, we are aware of the writing in terms of his creating a world that is tangential to ours and therefore painfully recognizable. Even if we are aware of the writing, we forgive the bald view of the apparatus because the writer is building something beautiful out of scientific desire and unrequitedness. Iagnemma’s relationships are Carver-like as well: there’s little natural gravity to them which makes them feel somewhat contrived. For instance, in the title story, we are not shown what brought Joseph and Alexandra together, and yet, at the same time, or maybe because of this, relationships like theirs seem overly determined and smack of some falsity. It is as if the author is saying, “I’m not going to go into detail to show why these people care about each other; I’m simply going to show them making rash gestures.” Iagnemma also calls attention to heightened, eroticized language that readers can easily translate into human terms. And yet he is not writing Barbara Kingsolver’s *Prodigal Summer*, which often reads like a Harlequin romance that just happens to take place in a nature reserve. Iagnemma uses the necessary language of science to explain a scientific phenomena or process. This language is both exact in scientific terms and slippery enough to be co-opted by a poetic lens; he is again wearing two hats. As his character Kaye Lindermann tells us in “Kingdom, Order, Species,” “This is what I admire: the admixture of whimsy and precision” (117).

Although Iagnemma does, quoting Kaye again, “enjoy things inexplicably,” he also enjoys figuring out why things happen the way they do, not simply on the surface of
why and how but on the molecular level. There is little discussion of the basic questions of what brings people together, but it is fascinating to watch how they collide and wrench apart once they are in the Petri dish of a specific circumstance or location. Kaye says that she “ignored forestry’s mundane reality and instead focused on its romantic abstractions: the complex marriage of species and habitat; the mysterious beauty of Linnaean taxonomy.” Elizabeth, in turn, will focus on the unfamiliar surrounding landscape and the mysteries of the calutron she works on in an attempt to counteract her fears and trauma, and underscores her longing for a life of science and for intimate connections. The culture of Oak Ridge secrecy will both silence and excite her; she will begin to question this partway through the narrative but will do so subversively and indirectly, and almost subconsciously.

Iagnemma speaks as well to the mundane drudgery that science demands, as well as to its more mystical aspects. By acknowledging both parts, the necessary or empirical and the poetic, and by choosing to see the empirical as whimsical, his stories seem somewhat contrived but admirable, reminiscent of the way a deft DJ would contrive his own performance: he is a master mix-master. In this way he keeps his fingers on the pulse of a kind of overriding cultural desire: that to know and to know precisely in this pastiche-like way. Through this propulsion of life forms and numbers, sex and change, teleological desire rollicks in his stories. His characters are trying to figure out this continual motion machine of the world through generating equations, through sputterings of love and sex and groping with numbers. This way of looking at something deliberately out of context in its pieces is how Iagnemma wants us to look at relationships, love, sex through the different lenses of fluctuating historical time periods.
Iagnemma includes current science in stories like “On the Nature of Human Romantic Interaction,” “Kingdom, Order, Species,” and “Zilkowski’s Theorem” and past scientific theories in stories as diverse as “The Phrenologist’s Dream,” “The Ore Miner’s Wife,” and “Children of Hunger.” The stories that pivot on “old fashioned science,” like phrenology, link them to the historical mode. One of the alluring attributes of science is that it includes its own history: there is the science we are utterly dependent on in our everyday lives and the now defunct and disproved phrenology. Iagnemma’s stories remind us that this sort of groping inquiry has been going on since the beginning – it’s not that science started in year X when we started not being foolish. So, human vulnerability is nestled into the idea of science. Like Iagnemma and Barrett, I am interested in the relationships between the historical and contemporary perspectives of science as well as both the “pure” ideas of science and history. Iagnemma, in particular, highlights the tiring, inevitable, failed aspects of any human endeavor, scientific, romantic and/or historical. The fact that he can highlight the struggle of trying to make something work and be sympathetic to it, and to ourselves, is a relief. “On the Nature of” specifically contains many resonating images of, in his words, “hunger, numbness, fatigue, yearning, anger.” Here we are shown the underbelly of the glamorous research institute: the restlessness, fruitlessness, and boredom of the all-night shifts at a mundane job in the TechInfo Office, being up at 4 a.m. and receiving calls of desperation, mixed with images of a flailing, failing relationship: the cold and snow that both – frighteningly – shuts the campus off from the world and protects its inhabitants when they jump off buildings in frustration – usually, the narrator tells us, having “something to do with love:
false love, failed love, mistimed or misunderstood or miscarried love.” The paragraph that begins with the narrator telling us that he “used to be a PhD student” ends with these chilling lines: “This is an indisputable fact: there are many, many people around here who love things that will never love them back.”

However, science in Iagnemma can be a salve as well. In “The Ore Miner’s Wife,” geometry stands in for and enables sympathy and communion: “Milla felt her heart welling up with hope and despair – an astonishing, unbearable fullness – and she moved toward her husband, and saw in an instant the grace of his bent arms, his neck, the line of his chin” (179). The “planes” have been transfigured through math to go beyond desire, to gesture towards a fuller intimacy: “A perfect form, eternal, as if chiseled from stone” (179). This “admixture” is perhaps the most inclusive and best way to see ourselves as lovable and ridiculous and heroic and fallible. It reminds us that we all have this sci-poetical eye. In this story, science dissolves into love defined as grace, and there is hope for the relationship; here mathematics can be the road lovers travel to each other, a language and perspective they can if not always share, then at least reference.

Moveable symbols take center stage and act very much like variables throughout the collection. In “On the Nature of Human Romantic Interaction,” peaches are a symbol of false hope, stinginess in love, and disconnection. When Alexandra throws a small white bundle from the train, we are devastated to learn that it contained not only a “peach pit” but, unfortunately, “nothing more.” In “The Ore Miner’s Wife,” peaches are a genuine gesture of love and also compensation for or bribe in exchange for a small lie. These movable symbols throughout the collection reflect the contemporary world rubbing up against the scientific and historical world in dangerous ways, this danger often
encapsulated in one image or even one sentence. For instance in “On the Nature of Human Interaction,” the characters “live in a cabin next to the Owahee River and the Institute’s research-grade nuclear power plant.” Iagnemma’s world is two-fold: there is the modern or post-modern academic world and the 19th and early 20th century world, extrapolated through diary entries in “On the Nature” and “The Indian Agent” which – ironically, perhaps – feel less frightening than the cutthroat, chaotic, precarious academic world. In a way, what the diary entries in “On the Nature” and “Agent” represent, as well as the narratives of “Ore” and “The Phrenologist’s Dream,” is the blind struggle of nation-building, the idea that individual choices and endeavors accumulated and continue to accumulate to form an American identity. One of the most overt examples of this kind of choice is the decision of the Indian Agent to remain at his post even after hearing the news of a horrific massacre of natives that he had desperately attempted to forestall. The story ends with these lines: “I must face his wrath with strength and dignity. I must.”

“Must” is, in a word, the theme of this collection; whether by desire, compulsion, or as a gesture towards compassion, people are compelled to perform scary, thankless tasks, often anonymously, sometime selflessly. And yet, because we know more than these historical characters, we can honor their work: we are asked to observe them and draw conclusions and see how like them we are.

Since I am interested in fictionalizing the failures of Oak Ridge, Iagnemma’s skill in subtly attacking what he loves is a helpful modeling device. We don’t know how success works or how failure works either. We’re too close to it. Part of what Iagnemma does as a scientist is give us perspective on the workings of success and failure. The collection dazzles with specificity. Iagnemma unleashes a deluge of knowingness; we
are beaten down into believing. That is, he is overly convincing in his metaphors and science in general. For instance, in “The Ore Miner’s Wife,” love/science is conflated; both become the characters’ salvation. However, Iagnemma also reminds us that most of science has nothing do with collective knowledge-building or nation-building. His characters are some of the unrecognizable people contributing to something that did and didn’t work, much like the hundreds of nameless women who extracted the uranium that created Little Boy and Fat Man. Striving after ideas is exhaustingly essential but, more often that not, rendered inconsequential by the next achievement or discovery which overturns the old and makes it obsolete.

By writing about and often blending the old with the new, Iagnemma captures the glory cut with the anonymity and constant sense of failure. We are all “blots on a chalky sky, a singularity” (24), but each of us, in our way, is “shivering with possibility” (23) like the erstwhile lovers in “On the Nature of Human Romantic Interaction” and each of us is striving to embody that singularity. Joseph, the narrator of the title story says, “My ex-advisor says that men never dig for iron or copper or coal; secretly, in their heart’s heart, they’re digging for gold” (21). He also illustrates the sense of exhaustion, which permeates and ripples throughout the collection, the drudgery that is not being saved by its relation to science and yet like love, scientific inquiry helps us be part of something bigger, enables us to make a contribution to a cause, however, as in the case of Oak Ridge, ambivalent and dangerously triumphant even within failure or vast human costs.
In the mid-1990s, I lived in the Northwest U.S. at a key juncture in the environmentalist movement: the ozone hole was in the process of actually repairing itself by dint of the human contingent making merely a few changes in our emissions, the rampant shrinkage of the Rainforest was publicly bemoaned, and clean water initiatives and the “organic” movement in food gained momentum. All good changes. However, the lack of understandable knowledge was in short supply, and there was a spate of intentionality towards moving into an ecologically sensitive lifestyle without a lot of informed choices. Another blind grope. I use Mauna as a vehicle to expose the complexities and privilege inherent in an “organic” lifestyle. Perhaps having Conway challenge her on some of the less attractive and less scientifically sound, perhaps, elements of being, as she calls herself, “the Original Organic Girl,” helped me define and better inform myself about the nature of this movement.

Loss and recovery seen through the lenses of art-science combinations is the other half of my narrative inquiry into human relationships and ecology/physics. As seamlessly as desire can be read into landscape, so, too, can loss and recovery. In fact, one does not need a metaphoric lens to witness loss in landscape – it is present in the “scalped” mountains Rick Bass mourns for in his essay “The Value of Place,” in the ocean debris in Doerr’s “The Shell Collector,” in the nuclear plant next to the Owanee River in Iagnemma’s title story, as well as outside of the narratives that bear witness to it, unprotected by book covers, heart-splintering, evocative images, or “hope” (Iagnemma). *First Light* by Charles Baxter handles restoration using a specific scientific-artistic
schema. By beginning the novel at the end of the narrative and working backwards in
time, through the characters’ lives, Baxter maps out the ebbing connection between, most
movingly, the pair of siblings at the heart of the novel. When we are first introduced to
Hugh and Dorsey in the most contemporary scene Baxter shares with us, they seem both
disconnected from themselves and each other, products of their own (apparently wrong)
choices, drained of their own historical motivations and moments. As a reader, I felt
unmoored in the narrative until about the halfway point; after that point, however, I was
thoroughly engaged. I cannot copy Baxter’s structure wholesale, but I can enfold parts of
it into my structure. I do not want my novel to depend on a “what happens” plot-graph
because every reader already knows the endpoint in advance: the bomb was dropped. A
fragmentary, nonlinear form will better serve the narrative and more closely reflect a
postmodern take on historical events. Since neither scientific discovery nor any life
process proceeds neatly from origin to conclusion (and since any “closure” in one
narrative opens into another pre-origin narrative), Baxter’s style does not allow his
readers to fool themselves, lulled by an artificial orientation, in making sense of an
ordered world. By the final chapter, when Hugh and Dorsey meet as five-year-old and
newborn, the connection drained over the course of the book is somehow made whole.

However, the work Baxter’s novel demands is a complex restoration, since
readers cannot forget that in “real narrative time” the relationship has unraveled to the
point that the siblings are almost strangers. And yet, Baxter does console us by
reminding us of our original intimacies and bonds. We just need – in a very Bassian
primordial sense – to scramble our way back to them. In Bass’ title story from The Sky,
The Stars, The Wilderness, a grandfather tells his granddaughter that Texas will be
obliterated by “generalities.” The only recovery possible for landscape and the human nature it reflects and absorbs is, according to Bass, through art and advocacy. I believe that if art is successful in the prismatic way to which it aspires, it contains its own inherent advocacy; it helps all of us do the work of loving the world. If place disappears and history devours us without leaving shimmering imprints, as perhaps it did to Quentin as well as the thousands of Oak Ridge workers and uncountable people devastated by the bombs created there, we will lose our valor and our humanity. For now, we must collect scraps and remnants of history, landscape, and science, and plunder them for their connections to each other and for their specifics. It is perhaps only specifics of place and human interaction that can soothe us and aid in our collective recovery, and I devoted myself through *The Theory Currently Known as M* to this noble process of naming loss and endeavoring to construct some kind of recovery.
Conway had locked himself out.

The October evening was still light, the setting sun mixing with the pinkish brick of the building. Upstairs were some little-known apartments and a dance studio tucked into the back corner of the second floor. Downstairs, a few junk shops with *Antiques* written on their signs, a defunct Mission, and a pawn shop that was indistinguishable from the junk shops. The building had a grungy charm; one of the places slated for gentrification in the Olde City, but still a long way from that.

He panicked. It was his first night house-sitting for Brian, someone he’d known in college light-years ago, but who he didn’t know all that well anymore. All Conway had to do while Brian was in Myrtle Beach – the last place on earth Conway would ever want to vacation – was water the plants, and Conway had locked himself out already.

Conway tipped his head back, the late afternoon light brushing across his face, and judged how far up the windows were. High, a good fourteen feet. There was some construction work in progress nearby, and he found a ladder lying in the dirt. The ground was serrated. It dried in grooves from the pounding rain the night before and whatever heavy equipment had been dragged over it today. He had done his share of construction work, but he couldn’t see what was being worked on or improved.

As he walked back towards the building with a ladder under his arm – it was lightweight aluminum and he hoped it would hold his weight – a silver Civic pulled
into the pitted parking lot, and turned off the engine. He leaned the ladder against the building; it reached just shy of the tiny window. He passed several feet in front of the car with the too-short ladder, and then re-crossed the same space a few minutes later with a second ladder he’d found, tangled among some fence palings, that he hoped would be tall enough to reach, and glanced in the direction of the car. Two girls. At first their heads (one long-haired, one short-haired) bent over some papers, then they half-turned toward each other, and began talking, gesturing with their hands. He didn’t know why, but he knew that these were smart girls, college girls, grad school girls. What they were doing parked here he had no idea.

The car was pointed toward him, and the girls looked out through the windshield and watched his movements. He felt like he was on TV. It unnerved him, but he hadn’t caught them looking at him yet. He placed the longer ladder, wood and even ricketier than the aluminum one, against the brick. It would just barely reach. He put one foot on the bottom rung, but there was no other option, so without testing it to see if it would hold him, he climbed up.

When he got to the window, he spent some terrifying seconds balanced on his pelvis while he pushed the glass up and open with both hands, and then, one-handed, moved each of the tiny cactus plants that lined the sill out of the way. Then he hauled himself in headfirst.

The key ring was glittering against the sassafras-brown couch, halfway caught between the cushions. There were four keys on it. The antique-looking one, the one that seemed to come from another era or a pirate’s chest, was his grandmother’s key. Conway had been living in his grandmother’s house, the ancestral seat of his fractured
family in Oak Ridge, while his she was in a nursing home recovering from a stroke. The house was stately but old and needed repair, and his mother had asked him to fix some floorboards and faucets in return for the free rent. It was temporary, for both of them. His mother was convinced that his grandmother would come back hale and independent, the way she always had been. And she frequently expressed her certainty that Conway, her only son, her only living child, would land on his feet again. She wasn’t aware of Heisenberg.

It was fitting for Conway to be living in his grandmother’s house, even if some of his cousins grumbled about him being the favorite. Conway and his grandmother (she herself had the stately name of Sapphira) had always had a connection that he thought of as distinctly Indian; she was half-Cherokee and he had her face. He had been inordinately pleased when, at the celebration for her 95th birthday, his aunt had looked from his face to his grandmother’s and back to his and said, “Why you two look exactly alike.” He was relieved that there wasn’t too much of his dad in his face, rounding and puffing it out, although he had his dad’s hair, thick, yellow and wavy as a girl’s. When he let too much time go by without a haircut, he looked even more feminine. Some girl he’d known in high school used to tease him by telling him he had the hairdo of a 40’s housewife. Marcelle waves.

Below the hair that he tried to keep cut as close to his skull as possible without looking like an army recruit, was that Cherokee face: cheekbones you could cut a log with, deep-set eyes like chunks of broken sky burrowed in the cramped space between under eye hollows and jutting brow, the wide-slashed mouth, dentist-free but perfect teeth; the faint, almost imperceptible lines that ran down the sides of his jaws.
Someone would have to be centimeters away from his face in bright light to discern them. He made sure that few ever were.

There were only three other keys on the ring: the all-important key to the borrowed apartment, his car key, and the key to the music store where he worked. The store key only locked the doors. He could close the shop at the end of the day but not open it, as if he could be only partway trusted. Illogical, since it was easier to steal at night.

He picked up his guitar flung across the futon mattress on the floor. The mattress was so flimsy he’d had to bolster it up with the scratchy cushions from the couch. He replaced the cushions one by one in the morning so he would have at least one semi-comfortable place to sit when he returned from work. He cased the room again, to make sure he hadn’t forgotten something else. Also wedged between the cushions, just its sharp corner poking up, were the liner notes to Peter Gabriel’s album, released just that day. Shall We Dance? with its mournful cover of The Magnetic Fields’ song, “Book of Love” from the 1999 album 69 Love Songs. 1999, his last year of what? The last year he’d had a true ally.

Part of the reason he loved that box set was the book that came along with it, Magnetic Fields’ 69 Love Songs: A Field Guide (33 1/3). A nice merging of the two predominant meanings of “field”: one suggesting cows and buttercups or crops, pinned to the terrestrial by gravity, one that was expressed through the other determinant force in the universe: electricity, or magnetic intensity. An unmoored region of space near a magnet, electric current, or moving charged particle where a magnetic force acts on any other moving charged particle. Or it could be thought of as lines of force surrounding a
moving charged particle, or that part of the magnetic induction that is determined at any point in space by the current density and displacement current at that point independently of the magnetic or other physical properties of the surrounding medium. The symbol illustrated it perfectly: $H$.

He’d been so distracted lately, untethered, neon-colored strings dancing just along the edge of his vision. He shut the door behind him and bounded downstairs. He vaguely wondered if the girls were still there, couldn’t decide if he wanted them to be or not.

They were. Their heads like twin flames drawn by a child with crayons, framed by the windshield. As he was passing in front of the car to put the ladder back where he had found it in the deserted lot, he heard the short-haired one say, “He’s cute. Your type.”

The long-haired one said, “Mmm, maybe. A shorter and stockier version of my type, I guess.”

That pissed him off. He was 6’4” and tended toward skinny.

He grabbed his guitar case from where he’d left it propped up against the building, and had to pass again in front of the girls’ car. The short-haired one rolled down her window and the long-haired one leaned across the gear shift and spoke to him. She said, “Hey, did you just break in?” She managed to look both worried and amused.

“No,” he said, keeping the edge in his voice. “I’m house-sitting and I forgot the keys. This is my guitar,” he said, managing to shake it proprietarily in her direction. It was too heavy for him to raise it as high as he had intended to, but he thought it underscored his irritation well enough.

He continued, “I’m going to my Jazz guitar lesson. You’ll see me back here in an
hour, if you don’t believe me. Thanks for all the help with the ladder, by the way.” He was mostly talking to the short-haired one, since it was her window that was down. Tan and freckled, no makeup, watery brown eyes, nice regional cheekbones. Her hair was dyed magenta, spikes of silver showing through around the jagged part. When she smiled: big teeth and a wide tongue.

He stooped down a little further and glanced into the car where the other one was. With the light at a different slant, he noticed that her hair was naturally brown, spooled with red. Light could never be trusted. “Anyway, I’m not hanging out in an empty parking lot.”

She giggled. A throaty, appreciative giggle. Said something about dance class. The short-haired one talked over her, and he didn’t much care; he had to go. Since he’d moved back to East Tennessee in September, the guitar lesson was the one thing that he did just for himself all week.

Conway had taught himself to play guitar during his fraught tenure at the University of Tennessee. A time that now seemed like half a century ago. Half-life. Even at the time he knew that he was reinforcing the stereotype: brooding guy trying to appear soulful when really he’s just trying to get laid. But it helped chill him out after hours of solving, or attempting to solve, mostly failing at solving, equations. That was way back in the olden days, when he had been a physics major, following in his old man’s footsteps, the one time in his life when his dad seemed to actually like him. His dad had stopped liking him, and supporting him, when he failed out of the physics department as a promising Master’s student. Hadn’t given him a dime since. Hadn’t, he
came to think of it, even shaken his hand, even at his cousin’s wedding three years before. The wedding that his dad had paid for, the marriage that had already busted up. That’s what they all were, all his dad’s progeny, nieces and nephews included, he thinks, progeny in the Appalachian sense when one son does well and takes care of (or tries to) all the others. Bust-ups. Except. No, he didn’t want to think about his sister. Even though he had known her best.

The first and last time knowing someone best had resulted in loving them best. But he had already thought about her too much today, if he kept this up, it would send him back to the apartment, aching back against the concrete floor, the swirled-putty ceiling like a paste made of blended stars, a curdled Milky Way. The Benadryl bottle and empty beer cans collecting under the crook of his knees.

But guitar. His physics professor Dr. Moreland had looked out over the Intro class, panting from the rigors of calculus and differential equations and Euclidean geometry and spring hormones, and lifted his eyebrows.

“All right all you troubadours,” he had said, gazing out over the lecture hall into their horny, unformed faces. “String theory. Think of a guitar string. A sinew, a piece of animal gut. Of course it’s still alive. Not was alive, is alive. And kicking. If particle physics has taught the world anything, it’s taught us about matter, the energy given off by and retained, traded with other objects, vibrating with its secret life. Matter and anti-matter, dark matter…but that’s a lecture for another day. But don’t ever,” his thin eyebrows knit together, “confuse anti-matter with ‘don’t matter.’ In physics, as in life, everything does. We, as well as all of the objects we see and all the energy that we don’t, get recycled and re-engineered. Re-imagined, endlessly re-imagined.”
He shook himself out of a reverie. Most of the class was spellbound, the stuffiness of the lecture hall and the copious promises of springtime beckoning just outside the heavy doors contributing to the languor. Plus, everything the Prof was saying could be easily, without any all-nighters, carpal tunnel syndrome, and splitting-atom headaches, translate into sex.

Or guitar. Which some might say was only separated from sex by the sheerest of divisions. Conway’s mind rubber-banded back to the lecture.

“So, as you know, when you’re under her window,” here he paused for laughter, “or hanging out, because I guess that the Romeo analogy doesn’t play as well in these cynical, overly technological days. In any case, now or then, where exactly on the string you pluck and how much of the nervous tension you allow, to show this girl that she’s…peachy, results in different pitches, tones and notes. A man more eloquent than I would use the word ‘expression,’ but I’m not artsy-fartsy like that.” He had stopped short and pulled at his chin sheepishly. He was aware that he had lost them again.

“Forgive my dramatics. Just remember that it’s better than throwing up imperfect equations on the board and expecting you to know what all the symbols mean without a bit of the story. This is heady stuff, and it’s not completely worked out yet.”

Although no one had said anything, Moreland – or Doc, as Conway came to call him, gave the class a wide-eyed stare. “Really,” he said. “No – or, to be fair – hardly any equations support this. It’s one of the few instances in modern science that’s almost purely intuitive. And intuition is almost like magic, mystery. Too close to the feminine. This conclusion, that ‘science’ and ‘female’ are mutually exclusive except in rare instances is ill-founded, especially when we think of all the women who have vastly
contributed to scientific endeavors and discoveries, starting with Pythagoras’ wife, Theano. You do realize that Pythagoras is known to have said, ‘All is Number’ and, as Aristotle reports, that Pythagoras was a binary guy from way back. He considered odd numbers male and even numbers female. Yin and yang.”

“So, from women to string theory, a natural segue. Because the theory is beautiful, people want to believe in it, that's what beauty does: it makes us want to believe. In anything, or in something. Shakespeare, as well as many other men and women who came after him, ‘proved’ through poetry, that form and meaning, or what science would call function, have to conflate, collapse into each other’s arms. Form, beauty, is a component of utility. A divided structure, whether molecular or steel, which is molecular of course as well, will always fall, fail. So string theory, like a beautiful woman, gets away with a lot, because most of science has been built on the ugliest, messiest scrawls you’ve ever seen – well, I've seen them in your homework assignments.” There was a collective guffaw. “Relativity perfectly merges form and function, elegance and equations. String theory’s goal is to emulate it, and expand it to include not only the extremely large and heavy, which Relativity does so elegantly, or just the smallest subatomics, which quantum mechanics expresses perfectly, but the whole enchilada. After all, both planets and atoms are the same, not only made of the same building materials, but think about it: a planet with its orbital moons and atoms with its swirling electrons. Same exact model, vastly different scale. String theory is trying to figure out how to unify what is, actually, already unified in logic but breaks down mathematically as opposing forces.”

His shook his head like a dog, “So, okay, back to the guitar analogy. A slew or
stew of musical notes will be created by your action on the string. We physicists call these musical notes ‘excitation modes,’” he paused again to accommodate a few snickers, “a state I’m well aware you are familiar with.”

There were a few girls, the smart-cheerleader type, mixed in with the male and female geeks. But the class was huge, and there were no clear conduits for speaking with a particular girl, except in organized group study sessions, which he hated. He was either shy or felt too country or just not smart enough to drop in on them.

Moreland again: “Just like a hoard of horny undergraduates, the elementary particles we observe – you’ll work with them in lab in particle accelerators – are the ‘musical notes’ or excitation modes of strings. In string theory, as in guitar playing, the string must be stretched, or under tension, in order to become excited. Just. Like. You.”

He waved his hands in the air to quell the murmurs on that one. “Now remember, the strings in string theory are floating in spacetime, they aren’t tied down to a guitar. Nonetheless, they have tension. The string tension in string theory is denoted by the quantity $1/(2 \alpha')$, where $\alpha'$ is pronounced “alpha prime” – just like you all see yourselves as – and is equal to the square of the string length scale....”

Conway figured on never seeing the girls again, but when he pulled back in to the now dark lot after his lesson, they were in the same spot, bent over a piece of typing paper.

He ambled up to the driver’s side.

The long-haired one, her hair now up and her face flushed, was hurriedly
writing something in green ink. “Talk. I’ll be done in a sec.”

“Have you two been here the whole time?”

The long-haired one laughed again. “No! I went to dance class, and it just let out and Kel just pulled in. See my hair’s all sweaty.” She grabbed her bun. The short-haired one, in a voice that seemed to be several registers above her natural speaking voice – it had some South in it – said, “We felt bad not holding the ladder and just watching you do that scary climb, so we wrote you a poem for an apology.”

This was unexpected, cute. “Well, let’s have it then.”

“Wait, it’s messy so I’m recopying it.”

“Let me see the draft.”

On the back of the email they had most likely been discussing was a page worth of silly heroic couplets. He skipped down to the last two lines: *Sorry we just watched while you climbed/Can we buy you a beer at Barley’s around nine?*

He folded it over a few times and slid it in his back pocket. “Are you guys seriously going out for a beer?”

“Yes,” they said, almost in unison. Their voices were both very sweet, young-sounding, and it was almost a trill.

He went up and showered, changed into his favorite tee shirt with the 70’s bluebird decal. He didn’t want to go. It was only four months since he’d returned from London and Lucy, his last romantic disappointment. But he was a sucker for smart girls, and he was lonely. He realized that Lucy was still his reference point for most everything. When he read the word “ladder” in the poem, he’d first thought of Lucy complaining about the “ladders” in her nearly new tights. He liked that better than
“runs.” He thought it either ironic or sweet that Brits said “stroke” and Americans called the same punctuation a “slash.” His favorite mark, the punctuation of either/or, indecision, overstuffed, exuberant and wary. Acknowledging that two things are equally valid at once, whether they’re synonyms or contradictions, equating all shades of likenesses and differences.

When he came into the bar, he was accosted by a long low table covered with what looked like ballot boxes. “Vote Kerry!” enthused a banner draped across it, making the table appear to have a wide, fake smile. “Let America be America again!”

A mop-haired guy in a Clash tee shirt asked him if he wanted to donate a dollar to the campaign. “What campaign?” Conway said. He couldn’t get behind any group, had to mock them for their conclusiveness, as if anyone had the goods on anything or anyone, ever. He wanted to ask the guy, Did they ask you to wear that shirt? Did you know that misguided slogan was taken from a Langston Hughes poem, and that Hughes meant it ironically?

But before the guy could start in on him, proselytizing, he dropped a dollar in the slot, waved away the proffered button stamped with Kerry's hawk-like, thoughtful face, and walked around the booth, muttering under his breath, “It never was America to me.”

The long-haired girl was sitting facing the door, and she moved further into the booth to make room for him. He sat next to her. She smiled at him, a secret smile, as if she already knew him.

“What’s your name?”
“Conway.”

“That’s a neat name. I’m Mauna.”

“Mona?”

“Yeah, but it's spelled M-a-u-n-a. After the Mauna Kea observatory. My parents went there on their honeymoon. And yes, my middle name is actually Kea.”

She seemed to be wearing the same clothes as before, sort of black exercise-wear, but her hair was down, curled from sweat. She radiated body warmth, but there was something old-fashioned about her: dimpled cheeks, a full mouth that rarely closed over her overlapped front teeth, her sleeved pushed up to reveal flat forearms, bony wrists, somewhat dirty hands with short nails, mostly peeled off red polish leaving a Rorschach blot in the middle of each nail. He liked that word. Raw shock.

As soon as he sat down, Kel said, “My husband, James, will be joining us, he’s just getting out of his class. He’s a musician, too.” He was surprised; Kel had seemed to be flirting with him.

He was right: they were over-educated girls. Kel and Mauna said that they were graduate students in Cultural Studies. He wondered how they felt about being the scourge of academia, not to mention the butt of jokes. He had almost enough credits for a Philosophy major, which most people found intimidating, so he trotted it out. “Do you think the Deconstructionists will endure even though Papa Derrida’s dead?”

Neither of them knew that the philosopher had just died. “When?”

“Three days ago.” He felt himself warming up; he knew things they didn’t.

Dr. Moreland's voice bounced into his head, trailing snippets of a lecture:
“Theoretical physicists use mathematics to describe Nature. Newton was the first theoretical physicist, although in his own time his profession was called ‘natural philosophy.’ The so-called ‘Newton’s Laws of Motion’ are not abstract laws that Nature is somehow forced to obey, but the observed behavior of Nature that is described in the language of mathematics. Think of them as choices that matter makes, expressed in the speech or arguments of wave and particle, and more accurately, in our time, as vibrating strings. In Newton’s time, theory and experiment went together. Faith and reason, entwined like the snakes of the caduceus. A good portion of the scientific community worries that because string theory can’t be tested in experiment or observed, it isn’t science, it’s only theology or philosophy. Now we make philosophers do a lot of theological and ethical work for us, but in Newton’s time, science and philosophy were almost always intertwined. I believe that we have to learn to live with ambiguity and uncertainty in our mission to describe Nature.”

Conway wished that he had quoted Moreland to dad to explain his decision to trade hard science for philosophy. His dad had asked, “Couldn’t you have at least gone pre-med?”

Conway turned toward the girls. “So what camp do you guys fall into: Derrida the nihilist or ‘no single meaning does not mean there is no meaning?’”

Mauna ducked her head, but not before he caught a paring of her smile, and then looked up, opened her mouth to speak. Kel sniffed, “I study constructions of Whiteness, which has its own set of theorists.”

Mauna winced, and the silence lasted a few beats longer than it should have. When James, a rugged-looking guy with a mountain beard, came in and sat down next to
his wife, across from him and Mauna. Mauna thrust out her hand towards James: “Hi, I’m Mauna, nice to meet you.”

“You don’t know each other?” Conway asked.

She unsmilingly looked him full in the face, it was almost a challenge: “He’s one of my best friends.” It was as if she saw through to his unfathomable loneliness. This was someone who had always had a lot of friends, and he never had been one of those people. Then again, weren’t the great scientists and artists loners, even outcasts? How else to observe unless from a perch, unless detached? “There is no one single meaning,” Mauna said.

Something shifted in him, a rearrangement of organs, space enough for a wave of light to pass through.

And then closed quickly, dissolved into bright orange particles, when Kel asked him where he worked.

He tried to inject insouciance into his tone. “Ray’s Sound and Music. It’s temporary, until I can figure out what I’m doing.”

Mauna actually clapped her hands together. “That’s down the street from where we live!”

Kel said, “Mauna always calls it ‘The Sound and the Fury’ or ‘The Sound of Music.’”

He couldn't tell if Kel was trying to put Mauna down or pushing Mauna towards him. “We?” Was there an invisible boyfriend?

Mauna ducked her head, again, chuckling. “Gosh, that sounds risqué. I'll be clearer. I rent a little...house from them,” her wrist flapped toward Kel and James.
“My doorway is like ten...cartwheels from theirs.”

“Oh yeah?” Conway said. He felt his face stretch into a grin; it had been so long since he smiled that genuinely. “Is this a guesstimate or have you actually experimented to get the number ten?” They both exploded into giggles, bent at the waist, their heads almost butting, Mauna’s smooth, cool arms – bare from fingertips to shoulder - sliding along his, flattered the sleeve of his tee shirt back like Origami. “Maybe eleven,” she said.

He liked James, liked him even better when he found out he was a musician and taught a class on Contemporary Classical music at the local community college. Conway wanted to get into a discussion with him, but the girls didn’t know anything about it and James hadn’t heard of his current favorite, Costin Miereanu. Kel said, “James is just being modest, he knows more than he lets on,” but James said, irritated, “No, Kelsey, Conway knows much more about this kind of music than me.”

“Contemporary classical,” Conway smirked. “Sounds like a contradiction.” Classical music – the music of hot-headed rebels that had somehow been coopted by the old, rich, smug yawning bourgeoisie.

“Paradox,” Mauna said quietly. There was not one hint of superiority in her voice. If there had been he would have bolted. Lucy had had enough high-handedness to last him a lifetime, and he planned on never speaking to her again. The respect was gone, the desire would wane. She lived in London for Godssakes. He would be fine, very, very soon.

The four of them moved to an upstairs booth, and he sat next to Mauna again.
When they stood up he noticed she was wearing a flowered dance skirt and was probably a foot shorter than him. He made sure to stand close to her so she could tell how tall he was, and he thought he heard her breath get caught halfway through her exhale.

She didn’t say much upstairs, dominated by Kel’s attractively pushy ways and his own steering of the conversation. It had been a long time since he’d been able to talk to people like this.

“What are you doing in Knoxville? Are you from here?” Kel asked. She was from that kind of Southern stock, he realized, nosy and small-ish. She revealed that she was from Jupiter, North Carolina, the town that was more like a neighborhood when he was growing up, and was now enjoying the overflow from nearby Asheville. He wished that his mom still lived in Asheville. And his sister, of course. But no matter where he went, she wouldn’t be there.

“Working retail,” he said to embarrass Kel. She was a rich Southern girl. And then, because he didn’t want to come off as a total asshole, he added, “I just got back from London, I was living there for six months.”

“That’s funny,” Kel said, the corners around her nose caved in. “Mauna lived in England for a while. Two years ago, right?” She said, looking pointedly at Mauna.


Kel elbowed her way through the small silence. “His name was Nigel, can you believe it?”

Mauna’s face was hard to read. Conway said, “My ex is English, too.
“Did your English ex play squash, too?” Mauna asked.

“Uh, no.” Conway said. “Why?”

She fastened her gaze to the dartboard. “Smashing things is never a good thing to practice perfecting.”

“No,” he said, leaning just a fraction closer to her arm. “It isn’t. Unless they’re atoms, he added.”

Mauna beamed back at him. “Right.”

Kel and James were whispering on their side of the table. Conway cleared his throat. “She was actually Scottish, but was living in London, in Clapham. Yuppy central.”

Mauna looked at him. “If I lived there, I would live near Battersea Park. The name makes me happy. But, I don’t think I’ll ever live there, now.”

“Why would you want to?” Conway said, more brusquely than he meant to. He was annoyed: Kel and James were clearly talking about them. He didn’t think they would have the guts to say anything stupid if he called them out on it. Or, at least Conway trusted James not to, and maybe James’ reticence would temper Kel. “What are you two whispering about?”

Kel fluffed up the back of her hair. It stood up like a crown: a rooster’s or a queen’s. “We were whispering,” she said, an exaggerated drawl in her voice, “about how cute you two are, canoodling in the booth.”

He wasn’t going to look at Mauna, so he appealed to James.

“Canoodling?” He asked, putting as much spin on the word as he could to diffuse it, to
break its atoms apart like walnuts and sprinkle the bitter meat all over the bar. He shouldn’t be drinking so much; it made him moody and ill-tempered, a Bacchus encouraging wild and savage behavior in women, on the lookout for sacrifice. Conway wanted to leave that part of himself far behind. He thought it was strange and somehow hopeful that Bacchus’ symbol was the asphodel, the most innocuous of flowers.

James shrugged. Kel radiated triumph.

There was a tolerable local band playing up here, and there were more people milling around. A girl passed wearing jeans and a tight shirt that showed cleavage and a moon-sliver of belly. He said, “I hate when girls over-share like that.” He didn’t know if he said that because Mauna was practically swaddled in clothes: yoga pants under the short skirt. She was wearing a leotard, but kept zipping up her fleece over it. Why were girls always so cold-natured?

“I like her shirt,” Kel said.

“Me too,” Mauna piped in. She shrugged out of her jacket again. “It’s hot up here.”

Conway turned to Mauna. Now every time he moved, his arm touched that skin, soft and glowing weirdly, wonderfully, like a radioactive pearl. “I thought girls didn’t like other girls to dress like that.”

“No, that’s just what guys like to believe,” Mauna said. “I like seeing beauty too, I mean, we’re all part of the beauty-quilt.” He raised his eyebrows. “The quilt of beauty.” She furrowed her brow, looked at the table. “There’s room for all of us.”
There was something warming about her, sitting or standing next to her, the delicious tangent points on elbow edges and the merest graze of shoulder like an auxiliary law of thermodynamics. A kind of pale fire.

When they were leaving, he asked for their numbers, and Mauna wrote both numbers down on the back of her Food Co-Op receipt. Messy handwriting, the same green pen as on the poem, the one that he had still, folded neatly in his jeans’ back right pocket. “Maybe we could do something on Saturday,” he said.

All three of them said, “Yes,” almost in unison, like a postmodern chord. He felt like he had won something precious and undeserved, with a tendency to burst surreptitiously into flames.
They meet at a dance.

Elizabeth loves to dance. That sway, that grafting of rooted onto windblown. What she does not enjoy is the preparation for a prescribed Function, that word that she can only think of as the symbol, \( f \). The necessary vanity and attenuation to minuscule details. The only way that she can fool herself into thinking that what she is doing is not completely ridiculous is to think of herself as something that she deems worthy of that kind of scrutiny, that attention, that lovingly described, that perilously observed: a plant, a flower on a stalk.

It is a college function, and she is a college student. Or almost: she is allowed to take classes in botany at Radcliffe with (mostly male) Harvard professors. Perhaps they are actually lectures, perhaps there are no real exams, but she studies as assiduously as if there are. Many of her classes are held in the Botanical Museum, one of the creamy stone buildings in the Harvard Museum of Natural History. The Botanical display is one of the most unique in the world, consisting entirely of stunningly lifelike glass flowers. In the late nineteenth century, Harvard commissioned two glass artisans, Leopold Blaschka and his son Rudolph, who, over fifty years, produced 3,000 glass specimens. Art achieved through scientific accuracy. Stamens and pistils, clots of pollen clinging to the antennae-like antlers of lilies, delphinium trailing their delicate, translucent root systems like an elaborate wedding dress train.

Elizabeth spends hours in the museum, before and after the lectures, on days that they are not held at all. Looking. She wishes that she could touch the models,
it is hard for her to see and not to touch because she knows she learns best through doing, information enters her through her fingertips. But she can caress with her sight. And, on her way to the museum from Dorchester, on her walk to the T from Winter Street to Andrew Square, she passes her palms over the tops of bushes, turns the faces of flowers toward her and breathes into their starry tunnels. Very few of the living things that she passes on her way to the T are as perfect as the specimens in the cases, glass-behind-glass, unmuddied by the swirl of dirt and germs of humans, unclouded by breath, but somehow the combination of touching on her way (and once she exits the T at Harvard Square and trips up the grimy subway stairs, the even more mannerly and abundant hedges and window boxes of Cambridge greet her) to the museum, and then gazing at the glass versions of what she has just touched – as well as never-seen specimens – merge to form a nearly impeccable experience. The conjoining in one morning of Theoretical and Applied.

The artistry of the meticulous glassblowing – such careful, controlled breaths! – amazes her, but to her it is merely the vehicle for the science, a way to measure and create accuracy. She is grateful for it, but more moved by the details it showcases rather than its inherent beauty. She distrusts beauty for beauty’s sake, desires art to do some work, perform some function. It seems like it can be less manipulated that way, that its usefulness and purpose override the pleasures of mere symmetry and grace. She knows too well how much overvalue is given to symmetry, to some semblance of what is deemed perfection. Her own face stares back at her blankly in its classical lines, its neat structure, its carefully painted and shaded areas. Her thin hair, as blondly fine and transparent as the glass roots, trailing to her shoulders. She has no obvious markings or
signs to underscore her deviations from an ideal, which makes her feel like an interloper, Her secret self is hidden, even to her own searching gaze in the mirror. Now, even to herself, she seems only, coldly American.

Sometimes there are chalky scrawls on the blackboard left over from the physics lecture that meets before the botany class. Formulae: odd pairings of letters and numerals. Sometimes she copies down the equations that mean nothing to her, sometimes she stares at them until her vision spins slightly, the top of her head a lid on the boiling pot below her ears.

She hears snippets of phrases: Squash Court explosion, Fermi (which makes her think of fermer, to close), University of Chicago, Jew, atom, New Mexico. She wants to know more, to try her hand at ordering those fragments under the smudged scrawls on the chalkboard. She knows there is a connection. But she has heard the somewhat cautionary tale of Harriet Brooks. Just thirty years ago Brooks worked with Ernest Rutherford, who praised her original contributions to radioactivity. Brooks had observed that the decay of the active deposit of radium and actinium depended on the time of exposure to gaseous emanations and determined the curve of decay for very short exposures. According to her calculations, it seemed that radium emanation diffused like a gas of heavy molecular weight estimated to be at least 100. Rutherford credited her identification of radon as a vital piece of work that led him to propose the theory of the transmutation. Brooks had discovered that its atoms were a little smaller than those of its radium ‘parent.’ Later on, she showed that radon in turn could transmute itself into other elements. This changing of one element into another was alchemy made real. Real gold. Brooks went on to teach physics at a women’s college but was obliged to resign her post.
when she got married.

But women can study botany. Somehow, botanical studies are thought of now as a feminine science, an intricate knowledge of flowers and greenery one of the desirable tenets of femininity. Men have given it over, relinquished it to the ladies. Yes, there is more to be discovered and catalogued, and it is still not considered a woman’s job to hunt, even for plants, even for the most feminine symbol of all – flowers, still embudded (her word for the bud being present somehow, embedded in the center of the bloom) or at peak or overblown, but it's been eighty years since *The Origin of Species*, eighty years of men traversing the globe, stealing seedlings and cuttings from the Himalayas to South Pacific beaches, adventuring in order (how apt a phrase in this context, she thinks, all “in order”) to label the world through its flora. The wives and sisters stayed behind, and now that the most important, the most dangerous work is out of the way, they can re-enter the fold (the word “fold” like a tulip petal flattened back on itself in the wind, a mountain’s memory of the earth’s never-ceasing undulating that formed it in the first place), and use their keen eyes, accustomed to needlepoint and cross-stitch, their nimble fingers and household organizing habits, to do the final sorting and labeling and filing, the secretarial work.

Elizabeth has never been much interested in sewing; she would much prefer to be a part of the collecting. She does not have to have a job, however, and is almost content to spend her days soaking up the tidbits that men have returned with from their explorations. And there are women’s walking groups that collect wildflowers in Milton and climb up to the summit of Mount Monadnock. On a clear day, they can see all six New England states.
But the dance. Her date is her brother, Reed, who is a “real” college student, at Harvard. He is four years older than her, and, perhaps because of that, treats her tenderly. It is only the two of them. If they had more money, he would gladly pay for her degree at Radcliffe. Their plan is that he will study law and set up a practice, and then, once the money starts rolling in, as it no doubt will, it will be her turn.

Turn, the moment when one thing becomes another, or the movement during that transmutation. A start-over. A beginning-ending strung together on a taut piece of fish wire, a diamond necklace of city lights. A dance itself made up of a series of turns; a crowd dancing is a bouquet of turns, of changes and alchemies. Nothing even to do with who is partnered with whom, or individual couples’ chemistry, even, but the act, the motion. An embedded, wind-tossed field of change.

The dance takes place at the Ritz-Carlton, still called “that new luxury hotel on Boylston Street” even though it is eleven years old. The ballroom is not vast, but it is stately and ornate, glittering with chandeliers and freshly waxed wood, polished to a high, glassy shine.

Elizabeth is in white, her yellow hair piled on her head, like an asphodel daisy. Her eyes and lashes and brows are dark, strangely contrasted against her bright hair, so that most people assume it’s dyed. But then her brother has similar coloring, his hair wheaty and his eyes golden-brown, so no one can be sure.

The odd thing about beauty, especially symmetrical, non-quirky beauty that is less beauty and more an example of excellent form, is that it still requires a pushing out, an ejecting of petals, a thrusting forth of leaves and stems, an upturned face,
shining with the wish to see and be seen. A wallflower might decorate, but it does not
glow out on its own. To be admired and desired, it must make itself seen. Elizabeth
knows that the flowers she touches on the way to the subway, and then on her way to the
museum, press themselves against the surrounding air so that one cannot help but notice
them. After all, plants perpetuate by interaction with the ground, with the wind, with
their carriers, and need to make themselves noticed. A gorgeous Rose of Sharon on a
bush must not be shy, hiding in the leafy cavern of the hedge. The inner blooms unfold
and burn and burst and fade in the privacy of a grave-like bower, and rarely replicate. In
the botanical world, as well as the human, then, beauty is not all. It is still charm that
ensures longevity. Tempting is a flower’s business in the world. There are even theories
that posit that flowers are in a constant frenzy to become more and more lavish in
appearance and fragrance to tempt humans into picking them, and therefore planting and
caring for more like them. Everything a potential for husbandry. No wonder botany is
now women’s work.

But Elizabeth, while she is aware of this task in the natural world, does not
have sisters or close women friends to ease her into this necessary extension. While she
is not awkward, she feels ridiculous thrusting herself out into the world as a thing of
beauty. Maybe, she thinks, she wants someone to stumble over her, as he would be
tripped by any visible, treacherous root, but she does not know how to be both herself and
something publicly displayed. She knows that beauty is the way of the world, and it does
and equally does not have anything to do with her, since it is randomly assigned by
others. It was just something handed over to her with no instructions, completely
unearned and rather useless in its enfolded state.
So she does what she does best: she watches. She has always been best at observation, which is sometimes confused with adoration.

All women at a dance are beautiful, the ones spinning and being spun, the ones hoping to be picked (picked!) to be spun. They give off a multicolored glow that merges into one and yet remains distinctly separate, simultaneously. Elizabeth herself notices this swirl of colors as she herself is being spun, quite expertly, by her brother. Other men cut in, and she continues to spin, around and around, in a sort of dance-daze, a state in which she often finds herself. She is not quite here, wherever here may be, and often catches herself, rotating in yet another pair of encircling arms, or walking along Dorchester Avenue or up the pale stone steps to the museum, or gazing out at the Park from a tearoom thinking, *I love you I love you*, with no idea who or what she loves. Certainly something bubbling up with such certainty, strong enough to pull her away from her reverie, must be attached to a real thing or a person. She reads the newspapers, she knows enough of the world to know it does not deserve or warrant unmitigated generalized love. A person attached to that feeling would be nice, lovely even. But people in her experience are too ephemeral, too intent on disappearing, turning themselves out of existence, changing beyond any once-shared intimacy. In any coiled arms she finds herself in, she is more entranced with the movement than the specificity of what arms are causing the movement. Probably *I love you I love you* will never be attached to a person.

Just as she is thinking this, theorizing, which makes her seem a bit translucent even when she is wholly concentrating on something in the present, when she is scribbling in her neat hand as much as she can write from what the professor is saying,
say, or as she is leaning over towards the glass cases holding glass bulbs with little glass
grubs on them (one day she might fall in, hit her head, smash the case, and cut her
forehead on a pointed stamen), her brother is introducing her to a man. His eyes are
shining and he presents this man as if he is a special exhibit on loan from a famous
collection. “This is my friend,” he says. “Carter.” He pivots on his right heel. “Carter,
this is my sister, Elizabeth.” He faces Elizabeth again; she has rarely seen her brother’s
eyes so luminous; for years and years they have been quite dark. “Carter is in my Ethics
class. He’s from Tennessee.”

Tennessee. Elizabeth pictures it on the map, just below skinnier
Kentucky, flush along its upper flank. As Elizabeth accepts the proffered hand and
glissades over the golden-glassy surface of the floor, as if hewn wood had been preserved
in amber, encased in ice, she thinks, what other state has a number in its name, a number
starting its name. And not just any number, but the magical ten/10. And it is this
connection with the place where he is from that compels her to return his gaze, fastened
on her as if with a hasp, whereas she had only looked pleasantly at the other men who
had twirled her countless times around varnished floors. She feels more like a daisy than
a woman.

“Your brother tells me that you are interested in botany.”

“Yes,” she says, breathless from either the motion or the question or the
fact that she is answering with her present mind and not just a vague smiling answer that
does not encourage any more questions from her partners.

This man, Carter, smiles at her and speaks again. “There is a famous
botanist who has catalogued many plants and flowers in East Tennessee, William
Bartram, but there is still much to discover, much to explore there, I think. It's not quite
the wilds of the Himalayas, but because the landscape is pocked, it hides quite a bit and
yet is not yet developed enough to have eradicated its nature.”

“I’ve read Bartram,” Elizabeth says. “He and Gilbert White write botany
in exactly the style of what it is: poetry and science.”

He laughed. “I love poetry too much to compare it with anything else.”

“To me science, especially the science closely attached to a place, a
landscape, is poetry, through and through,” Elizabeth countered. “There is very little
difference between nature poetry and botanical descriptions.”

“Well, perhaps you can prove that to me, by describing plants in East
Tennessee as well as Yeats conveys love and politics.”

Elizabeth says, “Easily: ‘Labour is blossoming or dancing where/The body
is not bruised to pleasure soul./Nor beauty born out of its own despair,/Nor blear-eyed
wisdom out of midnight oil./O chestnut-tree, great-rooted blossomer,/Are you the leaf,
the blossom or the bole?/O body swayed to music, O brightening glance,/How can we
know the dancer from the dance?’”

“I see,” Carter says. And spins her around so abruptly that something in
her snaps.

When Elizabeth recovers from the sequence of turns, she asks him, “Do
you mean to go into the law as well?”

“No,” Carter says. “I’m a farmer’s son. Although,” his eyes now
skimmed the top of her head, “I’d like to be a pilot. There does not seem to be enough
life to do everything that I want to do. Do you know what I mean? To fulfill all
obligations and all dreams?”

“I have no obligations,” Elizabeth says.

It seems a moment later they are to be married, at City Hall in Boston, with only her brother and John, another Law classmate, as witnesses. Reed gives her away. And Elizabeth feels relinquished. Yet another letting go, another separation. Not because she feels unloved by her brother. Isn’t this what is supposed to happen? What else is beauty for except to achieve this? Otherwise she might become something encased in glass. No, this beauty is to ensure her safety in a world rapidly becoming more hateful, more prone (Elizabeth pictures the globe flattened and face down) to separations and scapegoating.

What she feels instead in this giving away is an emptying out of her old self, her past and her history stretching back in time like an arched back. Instead she is filled with a new name that renders her absolutely invisible – that is, like anyone else. Elizabeth McKinley. A non-name that fills her with such giddy relief that it is difficult not to smirk or gasp when the priest – the priest! – calls her by this name that surely has only been used as a cover, never as an intent. There is now nothing that can mark her, since she has removed the only obvious sign. Ma griffé. My mark. Why would the French sound so much like that particular English word, if not for a secret, teeming purpose, never to be quite discerned, just glimpsed, moving under the skin.

Under her new name, and scattered over it, interspersed with it, like dried petals or the fallen autumn leaves she used to crunch under her shoes on her walks to and from the museum, the ones now imprinted in the sidewalks and streets, plastered there by November rains, there are the names of plants she will encounter in her new home.
Carter describes them to her, whispering into her neck where they can be found. Often he does not even know their English names, and she hunts through the small Botanical Library at Harvard to find *Appalachian Plants and Flowers*. The next time they meet, Elizabeth tells him the names, in English and Latin. In this way, they avoid talking about all other subjects burgeoning lovers speak of. Carter has figured out that asking Elizabeth questions about her past, even seemingly innocuous ones such as how long she and her brother have lived in Boston, or where they lived before, and certainly anything to do with parents or grandparents, makes her turn away from him. But once he starts describing the landscape of his boyhood, she will reach for him, she will do anything.

Smooth Yellow Violet. Trillium Erectum. Largeflower Heartleaf.
When Conway was with Lucy in London, he felt like he was drowning in clay, sinking deeper into her every day, every hour he stayed. Not the slop of English slush, but red Tennessee clay, the silty river that flooded the streets of a hastily-built Oak Ridge.

That clay could be molded into something dry and solid seemed less than likely, owing to its eye-of-the-storm, black hole qualities. Its stick-to-it-ness, impossible to shake off, its “matterness.” Impossible to ignore or destroy, just endlessly recycled and re-configured: smashed down into a bumpy ball, re-molded into new shapes. But the same raw materials. That was the problem, Conway thought. It’s the same old tired materials, all those bright colors, new once, now blended into a muddy rust-brown. What the world needed was some newly created matter.

The Oak Ridge he had grown up in still seemed ephemeral. It certainly retained a certain surreality. How could it not? Places, like people, contained vestiges of their origins no matter what. Banks built atop Indian burial grounds, StopnGo’s along the Trail of Tears, body farms stowed under academic institutions, a marketplace selling tourist tat on the site of a marketplace that once sold human beings to each other, without even a memorial to mark it. The black women among the dusty tumble of sweetgrass baskets, placemats, wallets, the same art Conway had seen used to weave steel thread around copper tubing for more efficient cooling systems.

Conway always thought that surfaces in Oak Ridge – the skins of buildings and houses and storefronts – were deliberately constructed to be dull. Not only
boring but sand-blasted of glossiness or reflection. It was as if the original architects took their cues from a kind of all-pervasive drab fear: the long, low buildings of the lab (X-10, Y-12, K-25), crouching to hide their enormity, and even the well-scrubbed housing developments that sprung up a considerable distance from the lab gave the impression of being light-sucking, about as reflective as the brown, nubby fabric on Brian’s couch.

The sun shined plenty in Oak Ridge. It was still East Tennessee after all, even if the scientists who worked on the bomb and their descendants pretended it was Massachusetts or Chicago or Northern California, a training ground for intellectual excellence. The sun just didn’t bounce in this town. The buildings drew it in and snuffed it out. Instead, there was a tinny, hollow sort of light. Suffused with a kind of after-ness. Conway and his sister called it bomb-light or BL. No one in their family had worked on the bomb itself, but their dad, who was a marvelous storyteller, animating the most potentially child-proofed details to the level of movies and comic books, worked behind the fence, within the wiry arms of Oak Ridge National Lab. ORNL. Conway’s father was proud of his work, but he was still in awe of the work done thirty years prior; he felt that he shone in the afterglow of that famous triumph, when man stole fire from the gods. Neither Conway or his sister could imagine anything more glamorous.

The two siblings knew that the crepey quality of the light, of the town, was real, although they were not made aware of the historical nuances until much later. In the 70s, that Age of Benign Neglect, they roamed and explored, often just the two of them, sometimes in packs of neighborhood kids. His sister was the one who drew them all together. She was not the only girl, but she seemed to be. Although she was fleet and sinewy, she was not faster or stronger but scrappier and sweeter than everyone else.
Conway was happiest when he was trudging along next to her, but even the sight of her bright hair in its sloppy ponytail up ahead of him made his joints soften, happy to hear the mud french kissing the soles of his shoes. All the real light of the place was gathered on top of her head, and it truly shined: it gave back.

He knew Oak Ridge – its gullies and barbed wire – better than he would know anyone or anyplace again. And yet even during the sixteen years he lived there, shifts had occurred in the landscape, the physical reflecting the social as it always did, especially here: the Old South with its Appalachian self-sufficiency, its handiwork and woodwork and needlework, giving way to the New South.

When Conway read about the New South, The Research Triangle, the Wal-Marts, he realized that Oak Ridge was the birthplace of the New South, just like the Tigris and Euphrates. And there was nothing gradual about it; it literally started with a bang. The Bomb was the American Big Bang Theory that still reverberated. Even for those stupid creationists, those Adam and Evers (He called them the “I don’t ever give a damns”), had to believe in Big Bang now: The Modern American Edition. Conway liked to think of the very first two cells, the first to divide into two (rib or shred of mucus membrane, same difference) as a completely innocent version of Adam and Eve. Then again, could anything that burgeoned, that blossomed, that multiplied, that grew ever be innocent? “Not one, not two” the Buddhists called it, and it’s been trouble ever since between the sexes: the quest for wholeness battling with the quest for self and individuality and self-sufficiency. Just like an atom, just like fission. Just like Oak Ridge. And how impossible it seemed. One of the groundbreakers of quantum mechanics was an accurate measure of the energy of an atom at rest, which was an artificial state. Conway’s
grandmother was fond of repeating, “No rest for the wicked.”

Conway had met Lucy in New York. He had moved to New York from Raleigh with Amber, his college girlfriend. When they moved, they were almost seven years into the relationship, and he was more than restless, but she wouldn’t let him leave her. Almost a year later, he was downsized from his programmer job. When he’d started they took anyone with a pulse and analytical skills. He had those in spades. Too many. He broke up with Amber and moved into a rent-controlled apartment in the East Village, and got a gig driving a truck for big Fifth Avenue art galleries. As far away from a lab as he could get. He despised everyone in the art world, and couldn’t get enough of it – it was that far from East Tennessee. Few people had even heard of Oak Ridge; some even corrected him when he mentioned that most of the uranium for the bomb was collected there. He only heard “Don’t you mean Los Alamos?” He had been worried that Oak Ridge and Nuclear were synonymous in people’s minds. At first he wanted to punch them, but then he realized that he could sink into anonymity here better than anywhere he’d ever lived. He even began to say he was from Ohio so he wouldn't get the inevitable “Oh you don’t sound like you’re from the South,” with its connotations of “You sound too smart to be from the South.” Better to be from nowhere, he thought, and let the city close over his head. He had never hidden so well. Even mountains turned their pockets inside out every once in a while, but out in the open, on the broad avenues and crowded streets, everyone’s secrets were safe.

Lucy was a curator for a small but exclusive London gallery. How she got his number he never knew, but somehow he was her contact person. He picked up the art
in its wooden encasements from the airport, drove it downtown and unpacked it under her wary brown eyes. She wore pointy-toed spike heels. She wasn’t beautiful but sexy in a hard way, so unlike Amber with her accommodating curves, her curly, natural hair.

Conway liked how Lucy appraised him: she had absolute confidence in her own eye, her ability to discern whatever it was in a piece of art that somehow deemed it not only art but worthy of being shown. He had never had a woman look him up and down, pausing wherever her fancy happened to rest. She had all of the power, all the connections, the expense account, as limitless, as expansive as the universe. She thought she was slumming with him, that he was using her for her American Express card, but they both knew that that wasn’t quite true. They emailed and visited across the ocean for a year, and then he decided to go live with her. He had never moved anywhere for a woman – he had bullied Amber into the Raleigh and New York moves.

But Knoxville was too close to Oak Ridge. He had failed out of the master’s program in physics that Doc had worked so assiduously to get him into, even though his grades were inconsistent and his behavior in the lab on the “renegade” side (that was how Doc had spun it, to make him sound like an independent thinker, a potential genius). Like his father? No, his father had faded into obscurity. His often brilliant flailings in aerospace engineering made redundant (the phrase, Conway thought with bemused horror, the Brits gave to those downsized or fired) because of changes in, of all things, style. Fashion. Other aerospace engineers had parlayed their various talents and know-how into more relevant, more fashionable sciences, after the bust-up of the plane industry, but his dad, even with his considerable charm, hadn’t been able to rally to do
anything like that, had just sunk into depression and Dickel. His occasional outbursts became daily, transferred from cutlery and porcelain to the sentient beings around him.

“You’re so lucky to have a father who loves his work, kids,” his mother would say, after another dish clattered to the floor because either Conway or his sister had their elbows on the table. Conway got the brunt of it, but his mom and sister got their fair share, before the separation (Conway couldn’t think of that word without thinking of fission, slowed, a timeless moment that explodes, car crash time), the divorce, and Conway’s mother’s relinquishment of him to his father’s charge.

His mother had explained later, after unfixable damage had been visited on him, that she didn’t want to deprive him of a male influence, that he would be smart enough, agile, enough like his grandmother, to discern the good parts of the afore-mentioned male influence and discard the rest. Conway’s mother didn’t believe that her ex-husband would create maps of bruises on his own son that never faded, just shifted and drifted as Pangea had, because he was so angry at Oak Ridge, the lab that had betrayed and banished him. She thought that once her ex-husband had moved to Kingsport with Conway, away from the lab and her, fused, she knew, in his mind as Failure, he would revert to the man she had married, who had a knack for finding things to be passionate about, whose scientific outlook, his scientific heart (which sounds like a paradox but is fact an oxymoron) would re-fill with the joys of inquiry, with wonder, and awe and seeing solvable puzzles in the thinning air. The same relish for the sprawling, adolescent equations translated into filial love.

Near the end of Conway’s time in England, after one month of bliss and four
months of decline, after he announced his departure, after he bought the return ticket, it started to get better again. Lucy held her nature just enough in check to drive him wild. This girl was materialistic, highly varnished and stylized, tough as nails, and would never make him feel responsible for leading her on, ruining her life. She was going to ruin his.

She didn’t have that kind of striving to please nature that was burdensome, a cumbersome kindness.

She would feel the guilt. If she did feel anything like that. It was the do-gooders, the HeadStart teachers in inner city schools, the ones who believed so fervently in justice – the ones, in short, like his sister, but who weren’t and never could or should be. Those were trouble. And so he sunk his fingers in Lucy. She wasn’t at all fat, but English girls were less relentlessly toned than their American counterparts. And when she trawled into him, she dredged, she scraped the bottom, and he took deep breaths that came from those hidden depths, those clayey deposits. He breathed it all in to store it, to shore it up, because he knew it would be a long, long time, if ever, he could let himself take such deep, noisy, uncareful breaths, to imbibe so much rawness without having to answer for it or give it back.

This Friday morning the light was so sharp-edged it was as if everything was covered with a clutter of the disks carved out from opened cans. He could cut himself on any surface. As he drove to work along I-40 towards Knoxville and Ray’s, dreading it every mile, Morning Edition fanning its forked tail, twisting in and out of his thoughts (or home to the tune of All Things Considered – he was grateful for NPR but he couldn’t help snickering at the hubris of that title), hearing the thud-thud of his tires over the well-trod
road, he thought of the frogs. When he was a kid, whenever one of the streets in Oak Ridge was re-paved, everyone knew without saying it that there had been a spill. Chemical, radioactive, scary. The local authorities were loathe to perform adequate clean-up jobs because that would force them to admit there was a “problem.”

His dad knew more than others, though, and often regaled the family with stories at dinner. His father was either incredulous or outraged, but also in awe, always, of the power of the lab over the town and even the region, the power of Science.

One night when Conway was about nine, a truck carrying toxic materials was following a truck carrying the same load. The second truck’s headlights picked up what looked like tiny splotches from a leak. Each one was about the size of a small child’s handprints and not a continuous stream, the way leaks usually manifested themselves on the curved spine of the road, and yet they were perfectly equidistant from one another, and, when tested, clearly radioactive. No leak, however, could be found. It was later discovered that the toxic prints were not from the trucks at all, but from a frog that had been smushed under the lead truck’s wheels. A frog that lived in one of the few small scummy ponds within the lab’s gates. A radioactive frog. Conway and his sister, mouths agape, started laughing, and soon their mother was too, all four of them, careening toward each other, their heads just missing. “From what I've been told, the rule is,” Conway’s father wheezed, wiping the tears from under his eyes, “that if you see a frog near the pond and it's still alive, nudge it back into the water with your foot. Only call security or clean up or waste management or whatever those poor people are called if the frog’s dead and needs to be disposed of.” Later, in college, Conway heard about the screens fastened over those weirdly glowing ponds, to keep the frogs in and to keep the hawks and
This morning, the sky loosely covered in a patchwork of clouds stitched together by threads of fading sunrise, Conway’s thoughts carried him all the way into the rutted parking lot between Burger King and Ray’s. Across the street was the Second Baptist church. The numbered churches, he had been told, were for black Baptists, somehow inferior, somehow second best, like appendixes to the genuine. Down the road was his favorite moveable type sign, in front of one of the “real” Baptist folds. One day it had proclaimed: “Shouting ‘Oh God’ in bed on Sundays doesn’t count.”

He’d thought about everything except the apparatus he was praying would get him out of this mess, this life, those old haunting memories. His music.

But now, walking towards the store, the glint of metal on the electric guitars hanging on the wall like artwork, flashing in the autumn morning, the brightness played the strings with an almost audible lyricism. Frets jutting out of the neck, dagger-sharp. The darkness of the guitars’ bodies melted into the walls, and the strings looked like spiderwebs, sparkling with dew and dazed sunlight. Notes locked in the pavement (Pavement was another favorite band) pulsed up through his flipflops. He would try to ignore them, which was the only way he would know if something was good enough to write down or not. If it came back to him, it was a keeper.

Not that he would write about his sister, or his father or even his mother or grandmother. And Lucy didn’t deserve one crimped tail of a treble clef attributed to her; he didn’t feel passion, except for the longing for the old passion, for Amber anymore. But he had a song in his head, half-formed, the lyrics, as always, stolen from scientific
phenomena, the tune clear in his head but muddy once he tried to work it out on the
guitar. What was so perfect revealing its cracks. Which made him strangely wrathful
towards the world, this place that the merest translation from thought to thing required so
much skilled alignment, such stalking intent. He had once thrown his guitar across the
room and it now wore a gash on its underside. So he had to remind himself, “Compose,
compose.” Both meanings nearly impossible to achieve.

The titles always came first, in tandem with the background buzz of notes
strung like birds on a wire. “Azimuth” was the name of the song he was working on for
an (imaginary) album called The Sun, the Moon, the Stars, a word that signified both an
angular distance to the point where a vertical circle through a celestial body intersects the
horizon – as well as the lateral deviation of a projectile or bomb. Another song was
tentatively titled “Libration,” which referred to the singsong oscillating of the moon but
suggested words like vibration, liberation, and libation. The song would be about a
woman but would talk about her physicality solely in terms of the solar-and-lunar limbs –
the extreme edges of the visible sun and moon.

Late at night, after leaving Ray’s, coiled and ready to spring, after
spritzing the goddamn cacti (wasn’t the point of cacti that you could leave for three weeks
and leave them alone?), he would be clutching his college guitar to his chest. There was
never enough space to explode into. The instrument was not worn, not nearly enough,
and the pads of his fingers were still too smooth, he never worked hard enough to get
what he wanted – and why should he when it mostly came to him, unbidden, in only a
slightly different form than the ideal, the dreamed about, the truly desired? But Conway
kept scribbling notes and scraps of lyrics, scraped his brain for original ways to describe
his life. What kept Jack in the Box-ing up were snippets from Doc’s lectures and his own ferocious impotence and burnt-out excitement in the lab. And he thought, if The Magnetic Fields can do it, then so can I. The album “69 Love Songs” was practically perfect, although Conway preferred Merritt’s first two CDs, “The Wayward Bus” and “Distant Plastic Trees” - “100,000 Fireflies” had to have been written with East Tennessee in mind, the annual firefly conference that took place all over the state every year, without fail.

Why was it always easier to analyze or even theorize than to express?

The bell tinkled annoyingly as he opened the righthand heavy glass door. Walking between the two doors he often felt like a specimen, smushed between glass sheets. Still between the glass sheets we never broke, we can only look at each other under a microscope. Was that his, or did he steal it from a recorded song? He was pretty sure it was his, but the problem with originality was that origin was impossible to discern. If only the zero point (x,y, like a pair of chromosomes that stamped “male” on a human) existed everywhere. If life was a graph, everything would be plotable, clearly defined. No wonder he had felt so safe in New York City, that crosshatched island, the city version of himself.

The store was bright and garish on the inside. One wood-panelled wall where the electric guitars hung and dust motes floated in the air around them; the rest of the walls were painted sunflower yellow, ultraviolet purple, cornstalk green. It was entirely too clean to be a bona fide music store, filled, therefore, with a sort of stale energy and a suppressed frenzy. The instruments – guitars, drums, keyboards, and the
synthesizers that were imperative to music-making – waited patiently for all the angst to be transferred onto them. At least the store wasn’t housed in a mall or strip mall, and the instruments were in good condition, alluringly playable. And there were discounted lessons for employees. He could do worse. Story of his life.

He took his place behind the cash register, bending down to unlock the safe, counting out the dirty bills and placing them in their piles. Was it only him that thought cash registers and silverware drawers were arranged in exactly the same way? For that reason, he kept his spoons, folks and butter knives in three pewter pails hanging from cabinets, over the sink.

Conway thought he’d see Mauna later in the week, as she had told him her dance class was on Tuesdays and Thursdays. But he hadn’t see her on Thursday, even though he stayed home and played his music loudly to alert her of his presence. He couldn’t find the receipt with her phone number and had looked up her email – he’d somehow memorized her last name from the receipt, but he hadn’t written to her yet.

She waltzed into Ray’s in the late afternoon carrying a large pot of purple mums from the farmstand down the street. The soft spikes of the flowers ticked the underside of her chin, flattened against her neck, made her eyes glow greener. Wasn’t reddish-purple on the opposite side of the color wheel from green?

She was nervous but jauntily so, as if she had lost a gentlemen’s bet. “Hi. I thought I’d stop by on my way home.”

“Nice flowers.”

“Thanks. I just bought them.” She blushed. “Obviously.”
Her default setting was an unnerving shunting back and forth between courage and shyness. And yet he was sure that it was not the concept of risk that scared her, but performance. Like him. But he still felt it, whatever it was, a temperature more than an emotion, when he was next to her. Whatever her secret thoughts were, they thrummed around her, rounding out from an inner spindle. More than an aura, a kind of pregnancy, a part of her. Something akin to the quilt he slept under, on the sleigh bed in the guest room at his grandmother’s. The bed was slightly too short for him, so he had to sleep crossways. His great-grandmother made the quilt, supposedly, and it was better than a duvet: lightweight but warm, the only decoration that the room required. He remembered taking naps in this room, his mud and grass smell mingling with the squares, shiny with age and use that he traced with his finger until he fell asleep.

She looked right at him, with those searchlight eyes. “So this is the famous Ray’s.” She swiveled her head, too fast to take anything in. Although with her, who knew, she was a pretty quick study. “Wow.”

“Wow?” Her most prominent quality, Conway thought, was a kind of terrifying innocence, composed of a profound knowingness completely devoid of cynicism, deeply veined with optimistic expectation. It was, he realized, the most combustible combination of elements that existed: American.

“I dunno,” Conway said cheekily. “I’ll have to ask my girlfriend.”

“Oh you Americans, always having to decide everything by feckin committee. You cannnae think of one good thing Americans give the world?”


The man raised his glass like a lantern. The last swig of lager turned to a golden sheen, a piece of amber, by the smoky light bouncing off the glass bottles. “Well, a’right then.”

Conway had had, as usual, a rough retail day navigating his boss’s wife Tina’s flirty barbs and flustered micromanaging. She routinely, randomly blamed him for misplaced merchandise, mis-slotted change. And she always found a way to touch him, or squeeze past him on the floor or behind the till. Too short skirts, too much makeup. Her husband stayed behind a large, important-seeming desk in his office, George W. Bush smirking down on him from various posters and portraits scattered on the walls. Conway rarely exchanged any words with him.

The store did a roaring business with the many churches in the area, mostly Baptist, and Conway had to finesse a certain style with the ministers and youth ministers who came in for mikes and instruments for their church bands. It frightened him, how good he was at selling this stuff, modulating himself to mold to the customer’s desires and expectations of him. Today, a regular customer, the minister at one of the largest Baptist congregations, came in to update his mike. When the reverend balked at the price – a special deal that Conway was required to give him which cut into his commission – he said, “Are you trying to Jew-me, boy?” Even the boss came out of his
office for that, to slap the minister on the back, and shave another ten dollars off the price. Conway couldn’t wait to get out of there.

Mauna told him that her best friend had been in town, which explained why she hadn’t gone to dance class the day before. He was glad she had stopped by – she had been hard to read before, but now he was certain she liked him. But he hated her being there, the comments on her appearance, their relationship, and everything that would follow from his co-workers after she left. He liked his life divvied into sections, and wanted to think about how she looked in private. He didn’t want to defend or agree to anything about her until he knew her better.

He was unsettled for more than reasons of privacy. When Mauna had walked through the door, the late morning sun at her back, almost pushing her in as she hesitated at the threshold, he realized that he had seen her before. In this light. Almost every day for weeks. He had seen her loping unconcernedly to the bus stop across the street from the store on some days, seen her race hurriedly by the store’s gaping windows without even glancing in them or at her reflection on others. Watched as she shed her red coat – the Brits called them duffel coats because the army still issued them in navy blue – as she neared the bench right outside of Krystal. Watched as she waited, reading, on the green bench.

He hadn’t been the only one in the store who noticed her. There weren’t that many morning customers during the week. Most of the people who came in and browsed came in the afternoon, after school was over, since the majority of the browsers were high school boys. He hadn’t been one of them when he was their age, more than
half his life ago, he thought with some horror. Twenty years ago had been his father’s scandal at the lab, and the move to Kingsport from Oak Ridge. It had meant a new school, without the rigors or the academic stress of Oak Ridge, but with new pressures. Sports were big at Kingsport High, and although he had the build, and he was even vain enough to admit that he had the strength and grace, he had always hated sports. His dad had been an All-American ballplayer in college or something, and though he might follow him around baseball diamonds as well as down paths littered with busted atoms, the nuclei loose in their broken bomb shells like the oozing meat of oysters, the crystallized clusters in geodes, protons glittering in their translucent caves, what he pictured when one of the lab techs shouted out “What a clusterfuck.” Conway could easily reject anything to do with sports, watching or playing, with no wavering or compunction. Twenty years ago he was not idling in music stores, but spending time in his room reading and finding places to hide around the new town. And missing his sister, who had stayed behind in Oak Ridge with his mother.

“Call me,” he said to Mauna.

“Okay, see you Saturday. Call me,” she tossed the last directive over her shoulder as she left the store.

*Minx.* That’s what he called Lucy when she was being stroppy. Lucy even had the word printed on a pair of black lace knickers in diamanté. How had he retained all the British slang and physics lectures, but he was losing his sister’s face every day? Her voice sounded in his head, alternately chastising and encouraging, but it sounded like it was coming from the bottom of a canyon, a leaf-covered trap, a mineshaft.
Squirrel, a guy he worked with, sidled up to him. “Nice,” he said, trying to wink. The left side of his face didn’t function too well, so his expressions were usually lopsided and gave him a slightly unstable look.

Conway glared at him, but Squirrel was too stupid to get it. In fact, the more serious and less humorlessly he took the ribbing that was sure to follow Mauna’s visit, the more mercilessly Squirrel and even Tina would tease him. He had never had a visitor before, let alone a female one. He would have to tell her not to come in here, not to visit him at work in the future. His privacy and grumpy anonymity had kept everyone at the music store at bay; they seemed almost scared of him, and usually gave him a wide berth. Lonely, but preferable. These were not his people.

Squirrel didn’t even belong in a city. He reminded Conway of a guy he and his sister had stumbled upon when they were visiting relatives in Maryville. Top of the World, the community was actually called, since it had alighted on top of a mountain, a stray Smoky. They had skirted out of the family function, whatever it was, and scampered out to the overhang. From somewhere, it seemed thousands of miles but they couldn’t be very far up, they heard a rumbling noise that seemed to be of fixed duration but then rolled up the mountainside, like a river flowing backwards, like the New River did, so that it was extended beyond the immediate, the momentary. It was somewhere between an exalted shout of pain and a cry for help. Conway and his sister had tried to ignore it, but it made them jump every time it roiled up to their perch, and it became too insistent to ignore, and too tempting not to find out its origin, what it was attached to, human or beast or machine.

They followed it down the mountain’s ravines and paths and creekbeds
until they came to a trailer in a small clearing, in the knuckle of one of the crevasses, as if
the mountain had taken a breath right here, before it had decided to plunge further
downward. One side of the trailer – the one facing them as they came upon it, three-
quarter turned toward the mountain itself, one quarter turned toward the carpeted view,
clouds like puffs of dust rising from it – was torn off, so that they could see every detail
of its interior. Conway had seen the roofs and walls of whole apartment building ripped
off by hurricanes, but that was on the TV news. There were no signs of strife to explain
the lack of outer wall. In what was clearly a cramped living room was an inordinately
large, luridly painted statue of Jesus, canted slightly forward so that his bowed head could
fit, a stripe of glittery magenta paint on the ceiling near him, and a corresponding white
stripe on his shoulder.

It took them a few minutes to locate the living resident of the place, and
only when he spoke. “Yaweh!” He screamed, out to the deaf expanse, tears streaming
down his face. “Yaweh!” Conway and his sister scrabbled back up as fast as they could,
and never mentioned it to anyone. They had never even spoken of it themselves again.

But the girl, this girl. He had watched her every day that she walked by, as she
took her place and then disappeared onto the bus. The shape of the bus neatly filling the
not-quite empty air of expectation as neatly as a hand wiggles its fingers into the finger-
shaped tails of a glove.

And because there wasn’t anything else to do, and because she was certainly
ornamental, the other guys watched her too, Squirrel included, although he didn’t seem to
have recognized her up close, and maybe, without that red coat. She must be from the
East Coast, he thought, with a coat like that. Too warm for even the coldest day in Tennessee, unless you lived in the mountains.

And one time, since all of her workers and the few customers who were ditching school to riffle through amps and the dollar tape bin were pinned to the window, Tina had come up to see what was taking their attention away. She had been jealous, not even that anyone could really see the girl up close, but because Tina had an ever-present need to be noticed. The other guys in the store thought that she was, as much for her legs, which, Conway had to admit, were not to his taste but remarkable in their sleekness, as for her aura of untouchability, her rich husband in the back office who had all the power, except over her, her Cherokee Country Club membership, that, incidentally, she would lose if she and her husband got a divorce, club rules (no single women); her big, icy house in Sequoyah Hills. All the things none of them would ever have.

Conway didn’t want those things, anyway. He wanted different things, less easy to articulate or solve and therefore to obtain.

He would email Mauna on his next break. He would write that he hoped he had the right Mauna Kea, her phone number having been washed, rinsed and dried along with his jeans, although in fact he had found her easily on the web, as soon as he had left them at the bar, after sorting through – and reading much of – the information about the Hawaiian Observatory. Would his life be as charmed as hers had seemed to have been if his parents had taken their honeymoon on an island, had climbed up the stairs to the stars? As corny as it might be – and wasn’t the whole idea of weddings and honeymoons a bit twee to begin with? – it seemed that a good dose of gently, mutually-mocked Romance was the best way to start any heady endeavor. To approach it, heart-
pounding, as one would a spliced ghost neuron, a necklace of DNA, filaments falling from space, a slide.

Tina cleared her throat, pretending that she was sneaking up on them at the window. “Her?” Tina said, in the accent that she must have spent hours practicing in front of the mirror, remarkable in terms of its artificial construction. The dialect version of a hothouse flower, forced into bloom in February. “Now, come on, boys.” Her voice could be modulated to contain various admixtures of overpriced gasoline, canning vinegar, sandpaper and molasses, with some WD40 dribbled in. Conway felt her long acrylic fingernails, usually painted a bright coral, lightly scratch the middle of his back. “What do you want with a girl like that?”
Elizabeth wakes up four days after her wedding with a throbbing head. Who is she now and what does this strange identity have to do with the man snoring softly, like a train whistling through the fog, beside her? She remembers herself through the brief ceremony, her brother at one elbow, Carter at the other, his whole side pressing against her, the ball of her shoulder fitting neatly into the socket of his, the puzzle-piece click of the two of them, even standing, even in this solemn, judicious place. Her in another white dress. No veil, no flowers. Her hands laced tightly together, instead, which people – the courtroom employees milling about, the judge and notary – probably took for modesty, nerves. She thinks of the words *enfold, unfold*, words that make her tremble. Almost the same word both in looks and meaning, even though they are opposites. How is this possible? Or is it just the way she sees the acts, both drawing in and expunging: a Becoming.

The only way she propels herself through the ceremony is to imagine herself as a Star-Gazer, the deep pink-stained lily. The lily’s strong-sweet smell that makes it impossible to argue, impossible to cry or clench in its presence. Elizabeth refuses to carry live, cut flowers because she would be distracted by them, their anthers and corollas; she would not have been able to pledge herself to another creature with those variegated worlds flattened against her ribcage, their stems being crushed by her damp palms. Also, they cannot be truly called live, or at least she cannot think of them that way. If they were being studied, that would be one thing; the usefulness and vivid
function of experiments she readily validates; but she does not want anything sacrificed unnecessarily. She has, at 23, witnessed enough immolations to last a lifetime, even though she can sense that more are to come, that the world is, essentially, an adust realm, and for all her efforts and the real work of man (and some especially brilliant women), unclassifiable, highly combustible, and metal-cold to the touch.

The train trip to Knoxville: a shimmer of motion. It feels like mid-summer, but it is only April. Waves of heat rising off the cognac-colored tracks, it is the heat and not any sort of wind that causes the wheat and corn in their ordered rows to tip back and forth, not creating any real movement in the air, any cooling. It is not merely crop dust but particles of heat, she believes, swimming before her eyes, settling on her scalp, looped inside the coils of her Marcelle waves, half-tucked into the white Peter Pan collar of her dress. Her dress is the color of a brown penny.

Elizabeth believes that in the coal-dark earth, the subterranean, where what is subsumed is usually protected from above-ground fluctuations in climate, it is boiling. She imagines gasping roots. The train slices through the fields, the long arms of the grasses reaching for and being spurned by the locomotive body, the exoskeleton of the machine. The red earth, bellowing out puffs of itself.

Spring in Boston is so wet, so green, although it usually arrives sometime in late April, after the March blizzards and early April rains. Here in East Tennessee, the season is already so hot and red, dusty-dry. Opposites, North and South, even expressed through their opposite poles (North=green, South=red) on the color spectrum.
When Elizabeth and Carter arrive in Scarboro they are not greeted by anyone. Elizabeth finds this absence reassuring. Maybe they can have some privacy, some secrets, even in a small farming community, a cooperative space. She is not upset not to be met at the depot. Carter has explained his kin (a new word for her) is composed of mountain folk, scattered over the area, in Elza and Wheat, and Oliver Springs, although some live in what Carter, even with his Boston experience, calls the grand cities of Knoxville, Chattanooga, and Nashville.

“What do you mean?” She asks. “How are they different?” Meaning his family. She knows herself to be different, and hopes that her oddities and theirs will somehow mesh.

“They’re shy. A result of centuries of isolation.”

Elizabeth understands. They are like the landscape, full of crevasses, hidden folds. A squirrely sort. Like her. She can only recognize herself as a kind of landscape, but somehow light, portable, movable, uprooted. A kind of net, a dusty crinoline spread onto the earth, green blades poking out of dense red marl. A moraine, an accumulation of drift. With her own fiercely controlled climate, her own carefully chosen collection of flora and fauna. Not, simply, “Boston”; no, something more specific and encompassing, hovering above the land and buried below its face, like grief. Will she be superimposed on the peach-colored undulations and crimps of soil? Or is she too recalcitrant, too much herself to drape herself over this land like a transparent veil, the one she did not wear on her wedding day? Her own invisible folds tucked into the freeze-framed tectonic shifts.

Filling the train’s window: cemetery after cemetery. She has never seen so many in such a small area. All called “Historic.” The result of that Civil War, as opposed to the
current one, erupting across the ocean. Civil. What a word to put in front of any war. Will the places she has skittered over, on that landmass now separated by the Atlantic, someday resemble this? Instead of castles, grave after carefully tended grave? Or will there not, finally, be separation and isolation, and instead the democracies of death, all ground up into anonymous dust? Or will those same generalities (people died; people were killed) make the very landscape on which “it” happened completely disappear, float away?

Carter seems embarrassed by the lack of fanfare accompanying their arrival. He grabs her waist in a husbandly way, and swings her down from the cabin, as if they are still dancing, the girls in white dresses and men in dark suits stippled over the amber surface of their first meeting. “It’s threshing time,” he says. To Elizabeth’s ear it sounds like “thrashing.” There is some guilt in his voice, and some longing too. He wants so desperately to belong. To her and to his community. She does not have the heart to hint that it is impossible to have both. He too is separate from his beloved homeland. Anyone who goes away for an amount of time can never mix into the tillaged topsoil unnoticed again. Carter looks at her with another kind of longing from an arm’s length distance away. They might as well be lighthouses on opposite coasts. “They don’t know what they’re missing.”

She smoothes her dress down, pulling impatiently at the hem to knock out some of the wrinkles, and looks around. Her new home. It feels like another country, and since she has actually lived in another country, or several, she is surprised at herself, at her tendencies toward melodrama and overstatement. But the famous separation
between North and South can be discerned. Especially since she can’t prove (the word on the blackboard in the museum, the word on everyone’s lips, the word itself winding through Harvard Yard, through the quad, on curing, leaf-or-petal strewn paths. Maple, oak, elm; cherry, magnolia, crabapple…) what was so different. Here, as opposed to There.

All right, she thinks, tasting the lead from the pencil she always licks before she starts taking notes. There is no ocean. But the ocean’s work is surely palpable, with these mountains surging up. If she can see the towering, crumpled earth as rock-frozen oceans, then perhaps the landscape will not look so foreign. She shudders at the word “foreign.” “Prove,” on the other hand, sends a delightfully terrifying frisson up from the ground, lacing around her arch and then tightening around her ankle. And so many grasses and flowers, trees and plants to discover and identify. She will be fine, happy even, in this strange new land. She will be able to funnel herself into the foliage, here as easily as she has elsewhere. In all of the other Elsewheres.

Carter looks at her again, anxious that she is happy, that she likes it. His innocence petrifies her, that American quality that overshadows all knowledge of the world, all its mounting ills, its ravaging injustice and consuming hatred. But now she belongs to him, to his history and his innocence. Maybe both will transfer to her, wafting seemingly aimless but propelled by a mysterious force like the invisible, sticky particles of flower-love, pollen. Imprint in the very swirls of her fingerprints. Perhaps she will become a new species, a hybrid; her former self grafted onto this variation: Elizabeth tennesseean.
Elizabeth more fully wakes up. She is next to Carter in his family’s farmhouse, which is out of a film depicting farm life or a novel. She thinks of the nineteenth-century Russian novels, kind, obstinate Levin shouldering his plow in *Anna Karenina*. Novels were her first love, her preferred means of escape, before botany. But now she finds them too prescribed, not mystical enough. Flowers have more life than any human could contemplate, and none of it is violent or irrational, angry or abusive. That’s not even true, she chides herself. There are even carnivorous plants. Venus fly-traps, stinging nettles.

Elizabeth turns toward her husband. His skin is dark and polished like a maple (“Hickory nut, I’m a Southern boy,” he teases). His hair is oak-dark, shingled so that it has the actual appearance of bark, although it is soft and crumples like fallen leaves when she grabs a handful of it. His eyes are a muddy brown. Tiny floating lily pads of green reveal themselves when he turns his face directly into bright sunlight.

The bedsprings squeak as she holds herself up, a palm under her ear, elbow poking into the mattress.

Carter opens one eye. “What are you looking at?”

“You.”

“Well, come over here, then. Why’re you so far away?” His drawl, almost imperceptible in Boston, is most pronounced in the mornings.

“I’m not,” she says, but slides over closer to him.

When he kisses her sternum, a rosebud spins into bloom. This planting and blossoming is repeated all along her ribcage, and she can barely breathe. *So this is marriage,* she thinks, *a sort of magic garden.* What will happen when his mouth doesn’t produce this effect? Plants don’t have to worry about the loss of desire, or changes in
patterns of desire. Everything happens newly and gloriously in their short lives. But *Homo sapiens* live as long as trees, and the cycles between events are longer, harder to control or predict. She tries not to stretch too long, to thin out into the future, makes her brain fasten on his lips buttoned to her throat.

Afterwards, there are always red trails across his broad back. They look like equatorial lines, longitude and latitude. When he next drops off to sleep again, a smile pinned to his face, she traces them. They lead to places she has been and never wants to return to, or exotic pockets of the globe to which she is barred from traveling.

Carter moans in his sleep.

What she wants is to discover something. She wants to name and catalog. She will look under rocks and between the finger joints of trees. She will turn over the earth to find something she can name. A name, a genus and species, will help her make her true place in the world. She can only be tethered by a green shoot.

When Carter wakes up, she starts kissing him again, in his favorite place, she has already discovered it: the depression just under his Adam’s apple. She does not want to bathe and dress and meet the family. She had begged off meeting them the night before, but now it was past dawn, and the house is astir.

He breathes deeply but a pot clanging in the kitchen serves to remind him where he is, where they are, and he pushes her, gently, away. “They’ll hear us.”

“We can be quieter this time,” she says, nuzzling into his collarbone. She puts her hand flatly against his forearm, then curves her fingers around it. They both look down: her pale hand on his brown skin. “Is the rest of your family this color, or just you?”
“Most of us,” he answers. “Must be some part of Ireland or Scotland – we’re all Scotch-Irish from way back – that mated with a Pygmy.”

She frowns.

“Aw come on, honey, I’m kidding.” He waggles her wrist. “I don’t know why, but it stands to reason that there’s a part of Ireland where people have black hair and dark skin. Most of my family has black eyes, too. Isn’t there something called Black Irish? That’s what we are.”

Elizabeth thinks differently. What Carter mostly resembles is a true Mediterranean, a Turk or Greek or Cypriot.

“They will love you, and you will love them. Into your socks now.”

She clutches his shoulder. She has no idea why she is so desperate to preserve the distillation of the two of them, just themselves, for as long as she can. Isn’t this part of what attracted her to him, why she uprooted her mostly satisfying life? For a family and a community?

“Wait, first just tell me what our house will be like. Just a little bit. So when I’m meeting your family I can think, ‘What lovely people, we shall have them over for dinner soon.’” Elizabeth says, knowing that this is his favorite subject, one can distract him from nearly anything else.

Carter sighs. “I don’t know what you’re so worried about. They’re good people, and I’ve told them so much about you that they’re sure to love you already. But okay, just a few minutes more.”

Elizabeth shivers, even though it is already oven-warm. These people, who have spent their whole lives in the company of plants, dependent on their every movement and
location and manifestation, who know a living thing’s every nuance, from seedling to dusty stalk, will be able to see straight into her, everything that Carter cannot or does not want to see.

“It will be in Knoxville, in one of the newer developments, maybe Sequoyah Hills.” Carter says, stroking her hair. “Not too big, clapboard, with a wraparound porch and a yard. Inside, everything will be as new as we can afford. Formica countertops....”

Carter was quite taken with Formica. It had been invented in the 30s, but all sorts of new innovations have made it more resistant to light, heat and humidity, and capable of being manufactured in a wide range of colors and designs. He had told her with pride that the Queen Mary, recently built in Scotland, boasted Formica countertops throughout.

Elizabeth had sat in on a mechanical engineering lecture about it the year before where she heard about urea resins and scratch-resistant, inexpensive laminates. By putting an aluminum-foil layer between the core and surface, Formica engineers even developed a cigarette-proof surface. Elizabeth thought of this layer as a specimen, sandwiched between two glass-like layers, like a slide.

But the first time she heard the word Formica, she had been confused, because *Formica* is a genus of ants. Species of the Forelian formica group whose type is the Red or Southern Wood Ant *Formica rufa*, or wood ants. In the binomial nomenclature used worldwide, the name of an organism is composed of two parts: its *genus* name (always capitalized) and a species modifier, or the epithet. Elizabeth loves that a scientific name is also a term used as a descriptive substitute for the name or title of a person, such as *The Great Emancipator* for Abraham Lincoln. And that epithet is also an abusive or contemptuous word or phrase.
Somehow, being armed with this information helps give her confidence.

“Let’s go meet your family,” she says.
When Conway got home from work, or, rather, back to Brian’s place – he couldn’t get too comfortable here since he’d have to leave soon – there was a message from Mauna on the machine. Brits called it an answerphone which had always sounded awkward and robotic to him. She sounded unsure, her voice a rickety chair being moved in fits and starts across an uneven wood floor. She had broken down and called him, though, which was what he needed her to do. British girls were much more forthright than their American counterparts, and he had appreciated it, gotten lazy even about male-initiated dating protocols. Plus, in the back of his mind was his lack of a higher degree (“A higher degree of what? Murder? Enlightenment?” he had sneered to Lucy during one of their fights), his current dead-end job. But he had enough money to buy her a couple of drinks, and he wanted to see her and wanted her company more than he had wanted anything or anyone in a long time.

When he called her back, he was freshly taken with her unexpected vocabulary, and tried to find a foothold for his usual cynical superiority, a refrain, that always soured in his ears after a while, but she riffed, she changed tempo and modulated rhythms. “Let’s go out,” he said. “Are you ready?” Later she told him she had given up on him – she hadn’t checked her email – and was in bed in her pj’s. “Yes,” she said. “Where should we go?”

What he wanted to do was talk, but now he thought that the typical drinks thing might not be enough for her, that she might insist on something more sophisticated,
a movie or dinner. Where was she calling from? He wanted to picture her surroundings. He stalled.

Mauna said, “This is maybe silly, but it might be fun to go to Pigeon Forge and go golf-carting and on some of those cheesy rides. What do you think?”

“Oh god, no.” Conway said. “I grew up around here, remember? I have horrible memories of school trips to Gatlinburg, and other ones going with my dad, after my parents got divorced and I was living with him. He always berated me for not being aggressive enough at bumper cars.”

He hadn’t meant to tell her that much, all at once and so soon, but there it was.

“Let’s definitely not go then,” she said lightly. “I don’t even like those places that are designed for ‘forced fun,’ anyways.”

He was grateful, but also had the urge to correct her. Lucy had always corrected him: It’s “anyway,” not anywayzzz, she sing-songed in her posh, Sloane accent, wagging her index finger in front of his face.

She lived in a converted garage behind Matt and Kel’s house in North Broadway, down the street from the music store. She was nervous when she came to the door, wearing too much perfume, patchouli, ylang-ylang. Wouldn’t look him straight in the eye in the car, but seemed hyper-aware of him catching peeks at the side of her face. All good signs. They went to a new, supposedly cool bar, but the band was playing funk and he steered them away. “We can do better,” he said. She was behind him going down the stairs to the entrance, and so was ahead of him when they went back up. He could tell
that made her nervous: she hurdled the stairs as if they were on fire.

They settled into a corner booth at a converted-Victorian-mansion-turned-bar in her neighborhood. No one asked them for the cover. The band was on the third floor, the bluesy music sifted down on them mixed with the lavender smoke. Two guys and a girl, in grungy jeans and plaid shirts, almost indistinguishable from one another, played on one of the dilapidated pool tables opposite where they sat. The table sagged so much he mistook it for one of the equally slumped couches shoved in various corners. When he did a double-take, the girl, in glasses and stringy hair, smiled beatifically at them.

Mauna ordered a double Dewars and insisted on paying for that and his beer, which was surprising since she had drunk white wine at the Olde City bar and couldn’t seem to hold even two glasses of that very well. He had her down as a girl who liked the beginning of the week better, because she could fill in the crossword puzzles in the *New York Times*, that she might feel more apprehensive as the weekend approached, less in control. When he had expressed his admiration of her doing the crosswords, she had charmed by replying, “They’re like another language, so you just have to learn the language, as if it’s French or whatever. They’re not a referendum on intelligence.” She was a bit fidgety in the bar, and told him she’d never been there even though it was around the corner, that going to bars in general was out of the ordinary for her. She said that when she’d lived in Scotland her flatmates had asked her about American bars and she’d told them that there was a stigma against people who went to bars, that it wasn’t part of American culture.

“Are you kidding?” He said, smiling but strangely indignant. “You’re
She laughed so hard she snorted. “I know,” she said. “I didn’t even tell you the worst part: I said something ridiculous like, ‘Only bad people go to bars.’ The thing is,” she said, sounding more solemn, “I really never got into them much. But,” she confessed, looking around and then smiling back at him, “I like this place a lot.”

He loved this part: the carefully flamboyant flirtation, the revealing of secrets, the constructing of the person, the man he wanted most to be. Never mind that he couldn’t maintain that image – or interest in a particular girl – for longer than about three weeks, usually. But he had spent six months with Lucy in London; eight years with his college girlfriend, Amber, and while he doubted he could ever be that committed again, he was a romantic. Or wanted to be one.

He wanted to know how old she was, so he said, “I used to live in the East Village in a rent-controlled apartment. That was the happiest time in my life. I worked as a programmer, back then they’d take anyone with a pulse. Rode my bike everywhere. It’s embarrassing to be a grown man – I turn 36 in December – working at a crap music store in Knoxville.”

She said, “Well, I’ll be 33 soon, and it’s not like I’ve got it all figured out or anything. Most people are long done with school by now.”

His sister’s age, about to become the age his sister never reached.

He was relieved that she wasn’t ridiculously young, as had been his trend lately, but girls in their 30’s had expectations about relationships that 24 year-olds didn’t. “Nice try at the Southern lingo. Next you’ll be saying, ‘Don’t be ugly to me’ and ‘fixen.'”
She laughed, “I don’t think a nice girl from Boston could ever get away with ‘fixen.’”

“Man, I thought you were in your early 20’s. Seriously. 23.” The exact number of chromosome pairs in a human being.

She responded with an appealing mixture of sorrow and pride. “When I was 21, my life sort of stopped, and ever since then I have a serious case of arrested development. Some parts of me are just…stuck in 1993. Not even a particularly good music year,” she added wryly. “Hmm,” she wrinkled her nose. “That was the height of Nirvana wasn’t it…anyway, I’m actually afraid that if I get over that stuff completely – and it’s probably nothing compared with what you’ve gone through since my parents are still happily married – I will age like in a story, after eating the magic apple or whatever. Gain a decade in one night or something.”

She shrugged her shoulders, now covered by his Thrift Store shearling coat because she said she was always cold, and ducked her head.

A lot of what she had just said intrigued him, but he corrected her instead.

“Mystical.”

“What?”

“I prefer the word ‘mystical’ to ‘magical.’ Are your parents actually happily married?”

“Yes,” she said. “They are. It’s not perfect, but nothing is. Is ideality even a word?”

Conway mused. “Wait, yes it is, I remember from Philosophy. Something like, well, it can be thought of in terms of ideal, but also in terms of idea. Something like
having an existence only in idea and not in reality.”

He didn’t know why, but something made him tell her about his sister, his best friend, dying from a heart complication when he was 31 and she was 32. 1999. They had been born eleven months apart, she in January, and he in December: Irish Twins. Later he wondered what the segue could have been from a topic of conversation he felt wholly comfortable with; content, as always to dig out some hardcore descriptive versus prescriptive linguistics, that then dog-legged into the essential revelation of his life so far. Blame it on dark matter, something invisible to electromagnetic radiation, and therefore nearly undetectable, that might account for the most powerful forces observed in the universe: gravity, the pull of the planets, the half-parted lips of space.

Mauna’s reaction was so uncensored it hurt and surprised and comforted him all at once. She had almost laughed, as if the preposterousness of his disclosure was the main thing: “What, that’s crazy-talk, no one loses a sister so young!”

What was it about her absolutely unstudied reaction? It was not correct, so to speak, but he found himself warming himself in it, putting up his tired and sopping feet that had been traveling for so long without a safe or solid place to rest. And here she was, just like Dylan had said.

Mauna didn’t apologize for her outburst, but she talked over it as if to edit it: “Is that why you started off as a scientist? To try to figure out what happened to her, to try to fix it? Were you on your way to being a doctor?”

“No,” he said. “My dad is a scientist, so I was trying to be him, or please him. Whatever.”

She nodded, her eyes softened, the sparkle in them turned down a few notches.
“I would never want to be a doctor,” Conway said as if through clenched teeth.

Mauna’s eyes widened, her mouth started forming a “Why?”

“Doctors think they’re so cool but medical school is really a sort of trade school, like carpentry, mechanics, plumbing. People in those professions often do better financially, plus they have less stress, no malpractice insurance. There’s the nobleness of making things, really fixing things, instead of guesstimating about something as unknowable as the human body.” He realized he was hyperbolizing and nearly hyperventilating. He slouched back in the polished wooden booth. “Anyway, they’re not real scientists, unless they focus on research. What does your dad do?”

“Oh, he’s a gastroenterologist.” She could barely get word out before she put her hand over her mouth, laughing.

He cocked an eyebrow at her. “Nice one. So?”

“He was an administrator in Peace Corps. Now he has a consulting business for nonprofits.”

“So, good,” he mused. “We’re from the same class.”

She gave him a strange look. He hadn’t meant to say the last part out loud. “Um, sure, I guess. Both my parents work, though.”

He thought, then again, maybe not. “Ooh, sorry, so maybe you are on a higher rung than me.”

The apples of her cheeks flushed. “You know that's not what I meant, I just didn’t want to leave my mom out, here, since she has the same degree as my dad, and a similar job. Does your mom work? I mean, outside the home.”

“Nicely worded. The feminists,” he swiveled his head over both
shoulders, “would give you points. But they don’t seem to be out tonight. No, she does not work outside the home. But she’s a great mom.”

A political debate evolved from their talk about regionalism and schools and education (she took his not finishing his MA in stride). He didn’t trust Kerry; she did.

Mauna said, “Ugh, how could anyone be stupid enough to compare this war with the Second World War. Or, even more ridiculous, Saddam to Hitler! I didn’t believe all of those WMD-findings for a second, did you?”

She was really worked up, eyes flashing, cheeks radiant. He liked her concentrated passion and articulate conviction, her insistence on justice, but it also scared him. This was the real deal.

“No, I knew that was a crock, but I can’t trust any politician. People just believe what they want to believe. Some people needed war for catharsis.”

“Well, okay,” Mauna ran her ringless fingers through her hair. “Politics is a mucky business, but it is important to choose the least-bad candidate.”

“Kerry doesn’t even have a clear, articulated plan.”

“Everything is well-explained on his website,” she flashed back. “Come over, and we’ll get online and I’ll show you.”

As she was turning the key in the door, he said, “Your ex’s name was really Nigel?”

She looked over her shoulder at him, rolling her eyes, “Yes. Ridiculous, isn’t it.”
Her gesture was too dramatic to be fully believed. “Are you still in love with him?”

She went through the door and he followed her. Then she stopped and turned around, looked at his face but not his eyes. “No.”

“No?”

“No, I mean, I am not in love with him anymore.” She turned back around, started up the old laptop that was on the table in the entryway. She jerked out the wooden, high-backed chair, which snagged on the carpet before righting itself, and offered it to him. While he sat, she said, “It took a long time to get over him, but I finally am.”

He was amused that they did look up www.johnkerry.com. She pressed her breast against his arm while he was sitting at her wobbly table that served as both kitchen and work table. There was no well-articulated plan, and she seemed genuinely surprised and crestfallen. “I thought he was a strategist.”

“A what?”

She churned her hands in the air in front of her. “Sorry, geez, what’s wrong with me? I mean strategist. Someone with a strategy. Although in politics, with all of the spin-doctoring, I suppose strategist isn’t too much of a malapropism.”

“Oh yeah?” Conway was genuinely pleased. “How about a stratajazzerciser then?”

Her head snapped forward with her laughter, and missed the table edge by a hair’s breath. Violent joy.

Then she shifted the weight back to her ankles and stood up, still smiling. “Too
much to hope for, I’m afraid, from this crop of so-called leaders. Although I’d pay a lot of money to see Bush in a leotard.”

They stood the same distance apart as the degree by which her hairline had missed the table. “I don’t have much in the way of entertainment,” she said, looking down. “I’m a twentieth-century girl. Or maybe nineteenth.”

He didn’t say anything. He had learned in sales that if you stay silent, the deal will close by itself.

“I did just get these DVDs from my parents, though. Our home movies, converted from Super-8s, if you want to see them.”

They sat on her couch and she tucked herself against him. They fit together like a tool-and-dye kit. Through the entire two hours (she didn’t have a remote, so they couldn’t skip scenes) she worked her thumbnail between her bottom teeth, and he watched the side of her face, a better narrator than her verbal explanations. He couldn’t understand her distress, all he could see was her mom pregnant with her, radiant. Her father standing her up on his chest; she was visibly adored. Grandparents who looked like saints, a baby sister she clearly doted on. He wondered how she could be so happy showing this to him and also deeply sad. That intrigued him. He thought that all happy families were alike like Tolstoy said, but maybe that was because he hadn’t really had one. He had had a half-happy family. Or half his family had been happy. Or some complex equation involving carbon-dating and half-lives that he no longer had the aptitude or the tools to figure out.

Reel after reel flowed by, and he was transfixed: strawberry picking in the summer, apple picking in the fall, sledding in the winter. He wanted his life organized
around that kind of natural ritual, that continuity. How he would get that he would think
of some other day. But it was all in her, all those fruits; he just needed to taste it from her.

It ended and they turned toward each other. She snuggled into his arms, but hid her face in his shoulder.

His throat burned, usually he was smooth as silicone. “Are you going to let me kiss you?”

“Yes,” she said, and lifted up her face.

Kissing her felt like studying for an important exam, in a subject he cared about, like philosophy, or performing very delicate surgery on an atom that he had the skills for, and a steady hand to cut and stitch with, but that still challenged him and made him nervous. He had forgotten how many girls he had kissed, surely hundreds. She didn’t turn off her intelligence or stop trying to know him while she was kissing, and her reserve was firmly in place, which made her a less good kisser, but enchanting.

“You’re so smart,” he said.

“Thank you. Are your legs mushed? Do you want to go into my bedroom so you can stretch out?”

He didn’t know what to make of that. “Sure, okay.”

They lay down on her bed that smelled like coconut and nutmeg, as if she’d been baking in bed. They gleefully unbuttoned each other’s shirts, put their mouths on the skin they exposed. “I dreamed this. Meeting you,” she said between kisses. “I was with another married couple in the dream who live in St. Louis, but it was the same: a bar, music. Swirling. I had to stand on tiptoe to kiss you.”

The dream stuff was corny and almost turned him off, but then she was cupping
his face, grabbing the back of his head and pulling at his hair, biting his jaw and raking her nails up and down his back. The electrons along his spine spun in their atomic orbs.

When she slipped her middle finger inside the back of his jeans, a tremor danced up his spine, and he thought he heard her gasp, too.

She let her finger just rest there, at the very bottom of his tailbone, which drove him crazy. He rarely squirmed and he successfully fought the urge to so now, but barely. He had read somewhere that enlightenment entered the body through this place. Elucidation wasn’t his predominant feeling, but his abdomen was suffused with a warm blue light. His wrists and knees felt waterlogged and his fingertips throbbed. She dragged her finger back out of his waistband: “Do you have a girlfriend?”

“God, no,” he said. He didn’t, but he wondered who would admit to one at a time like this.

A voice in his head warned him that he needed to stop, that he couldn’t be the person in anybody’s dream. But first he had to put her breasts in his mouth, one at a time. She made noises she didn’t seem capable of and wracked her brass headboard. Glow in the dark stars hidden in the crooks of the scrolls.

“You’re so sensitive,” he said. He didn’t know what he meant, or why he said it, but he didn’t want to stop talking to her, narrating her as he was gulping her down.

He wanted to go back there with her, to her childhood home. Not to save her, the way he’d wanted to with Amber, or gawk at, like with Lucy’s posh upbringing. Just to watch her wading in the creek in back of her house, the heavy parentheses of her hair dripping in the dirty water without her even noticing, her intent faithful on the pink salamanders and water spiders.
He tried to encircle her waist. His hands were big, and he’d rarely encountered a waist he couldn’t touch his fingers around, but whether it was angle or that her middle was bigger than it looked, he couldn’t, so his hand slipped lower to the back of her jeans.

She raised her head. “Do you want to sleep over?”

“Sure,” he said, pulling her down to him again. She was hard to read. He didn’t get one night stand signs from her.

She stopped kissing him and pushed on his chest so that she could get up. She stood by her dresser and rifled around for something, then pulled out a pair of plaid—tartan, Lucy would say—pajama bottoms and a silky-looking see-through tank top. She turned her head toward him, her eyes settling into the lines along his jawbone. She had kissed him there, and he wanted to stop her, but had felt powerless to do so.

“What do you sleep in?” She asked.

“Well, I usually don’t sleep in anything.”

She laughed, but it was her nervous laughter. “Do you want pajamas?”

So they both changed into pajamas. He was in his tee shirt and a pair of scrubs she’d gotten from her doctor friend in St. Louis, and got back into bed. He put his arms around her and hugged her to him. “Mmm, silky,” he said, as he ran his hands over her ribcage, down the sides of her waist and hips. What is it about certain kinds of talk that makes people’s bodies fit together so naturally and feel so right, after they’ve just created a new world, and have known each other forever at the same time? Denying the distinctions between fact and fiction, observation and imagination, evidence and prejudice.
“Wait,” she wiggled out of his arms. “I almost forgot.” She went to her
dresser and took out a pack of pills. “This would be really bad if I had forgotten.”

“What’s that?” He was pretty sure it was birth control, and was expecting
her to say something like, “Because who knows what will happen during the night,” but
she didn’t.

“Nothing,” she said, as if she was embarrassed. Then he thought: what if
it’s anti-depressants. He was no stranger to them himself, but didn’t want to admit to
himself how disappointed he would be if she took them. He liked the way she had said,
when she offered him red wine made from organically-grown grapes, “I’m the Original
Organic Girl.”

After about half an hour, she half-raised herself up, “Are you okay? Is
your arm asleep?”

Did she not want him to hold her? “No, it’s fine,” he said and squeezed
her harder to prove it. “Plenty of blood in there.”

“Good.” Another shallow-breathed giggle.

“This is going to be challenging, however, to hold you like this without…”

He was hoping she’d finish his sentence by wiggling around to face him,
kissing him again in her studious way, but she didn’t even answer him.

There was a draft coming from the small square window hovering above
the bed. He craned his neck to see if it was closed, and saw that it had been broken, there
was still a scattering of shards on the wide sill. A sheet of saran wrap was pinned over
the opening. She halfway raised herself up to see where his attention was. “Oh that,” she
said, almost mournfully, collapsed back down on the pillow. “It broke and we haven’t
dealt with it yet.”

“I’ll fix it for you,” Conway said. “Winter’s coming on.”

All night he breathed her in, the smell of earth in her hair (her shampoo was a concoction of what he called mud but that was actually a combination of clay and something called shavegrass), her ear’s saltiness, even though the rest of her was clean, almost too clean. She still smelled like herself, only. He wished he’d left more residues of himself. He had said, when he saw more of her, “You must bruise easily,” and she said “yes,” but again moved beyond the subject.

He didn’t really sleep. He’d asked if she had a fan or a humidifier. He could only sleep with constant, low noise. But she looked at him like she was crazy.

In the end they turned on the radio to NPR. She did not have her own CD player, another bad sign. Classical music wound around them. At six, the music stopped and the pledge drive came on, insistent and wheedling. After several hours of it, she disentangled and reached across him to shut it off, grumbling and boyish, her hair a ratty mess. She moved away from him, lay on her back, and they both fell asleep for a few hours of hard, disorienting sleep. She snored, and woke up laughing, wanting to tell him her dreams.

He wondered if she was a bit prudish, or cold, or not feminine enough in her treatment of him, which ricocheted from shy little girl, covering herself with a Virginia Woolf-style cardigan as soon as she jumped out of bed, to bar buddy-best mate, when she ended most of her sentences with “man.”

All he knew was he wanted to get out, to think about this in private. She
made him coffee and toast, which were surprisingly tasty.

“He asked, knife in midair. There had not been one familiar product in her bathroom, her toothpaste’s first ingredient was Utah clay and the second was mustard seed and it looked homemade. The label said Auntie Maybelle’s tooth powder. It was mostly salty, only a bit sweet, from the clay.

“‘Butter,’ she said.

‘Are you sure?’ She was having trouble looking him in the eyes. In fact, she hadn’t since she’d woken up the second time. ‘I don’t care, I just want to know.’

She looked down at the rug, an unreadable expression on her face that he could just see the corner of. ‘Butter, I swear,’ she said. ‘Organic, from hopefully happy cows.’

She insisted on reading him a few poems from a book after he’d admitted to not enjoying poetry.

‘You’ll get these, I promise. Everyone likes them.’

She tucked her feet under her, but they peeked out from the Woolfian wrap: chipped red nail polish, unkempt toes, dry skin on the heels. She had washed her face and was lipstick-free, furrowed her brow while reading the poems, which were, after all, quite good. Maybe he had only kissed her because she had put her fingers in her mouth, during the home movies. Which meant that he had fallen for the oldest trick in the book.

He told her he had to go meet his mom for lunch in Asheville, which was almost true: he was always welcome at his mom’s house.

‘Okay,’ she said. ‘I have to finish a book for class anyway.’ She was
standing on his shearling jacket that had fallen next to the bed. They both looked at her little foot sunk into the woolly lining and then she lunged back into bed with the sweater still on, book instantly propped up on her knees, *Hiroshima Mon Amour*.

He leaned down to kiss her good-bye. Her hand soap was also mud-colored and didn’t foam. It smelled good, though.

“Are you sure you can’t stay? I bet I could make you,” she said.

He smiled down at her. “I bet you can, too, but I’ve got to go, unfortunately.” He couldn’t decide whether that brand of flirtiness suited her; sometimes it worked and sometimes it fell flat, as if she was shucking off her shyness with a violent jerk. He had to admit, he liked her being a smart-ass best. It cut her intensity, so that it wasn’t too frightening when she looked into his eyes and turned her mouth down, as if she saw straight through his ribcage and didn’t much like what was there. Or knew in advance that what was there would hurt her but still wanted to take her chances.

“Aren’t you going to walk me out?”

She jumped out of bed gracelessly, flew to the door as if she didn’t want to be seen, stepped lightly over the cobblestones separating her cinder block place from Kel and Matt’s Arts and Crafts style house, and opened the wooden gate for him. She kissed him like she wanted it passionate in the morning, but he hadn’t properly brushed his teeth, and didn’t want to be seen in daylight kissing like mad, so he beat a hasty retreat after pecking her on the side of her mouth.
**Daisy Chains**

Elizabeth and Carter emerge from the bedroom to a scene of turmoil. During the night, a note had been nailed to the wooden fencepost. It reads: “United States Government Project. Land needed for war effort. Thirty days to comply. Signed, General Leslie R. Groves.”

Elizabeth thinks, *faultline, trench*. And yet, the kitchen is in an uproar, but there is no talk of “faults.” Just circumstances. There is no talk of dissent. Elizabeth is sickeningly aware of how infrequently real consternation, true upheaval, rampant disallowal – and disavowal – of rights are met with revolution. Or even questioned. Surely there are men (it has to be men, she reminds herself grimly) who can funnel their anger and outrage, their wholly deserved sense of entitlement on the land which they have loved and plowed – how similar these actions, how similar the letters in the two words; coddling and reaping millions of seeds to germination, into coherent and articulate arguments.

It is not even her land. She has only tangential claim to it, but she too had pledged her life and blood and resolve to its continual greening. The inward volutions of the stalk, the pistil, the cell cannot be quelled and yet are repudiated, replaced with compliance. And then she reminds herself: there is a war on. It has happened. It cannot be denied. It must be complied with. After all, the attack on Pearl Harbor happened many months ago. A gestation from isolation and denial to fervor. From watery surprise to land grabs.
It is a kind of allotment: these are country people, with their own codifying system, and if Carter has brought back a new wife from faraway Boston (they ignore the Boston/Cambridge distinction since Boston is exotic enough without further dividing), then that is that. Hopefully she’s not useless around the house. Hopefully her beauty, which she knows Carter has extolled, doesn’t categorize her as weak or superfluous.

While her new family shouts and squeals and generally forgets about her, she senses her already wilting greenness; she is an exotic species among natives, witchgrass among the sedge. She drags the pearly nail of her ring finger across her palm, mimicking the slinkiness of leaves rejected by the inner core of soil, the secret whorls of branches: springtime in Boston. All that desire stored up all winter, waiting with the resentful deprived patience of a monk.

Elizabeth is presented, thrust in the midst of this scene to Carter’s gruff mother and silent father, his three sisters, his younger brother. The sisters range from eleven to fifteen and are shy as . The brother is seventeen, a replica of Carter in every way except that whereas Carter is both blithely sunny in terms of disposition with a cross-country runner’s lithe physique, Carl is the same array of genes compactified, molten, smoldering. His dark eyes are deeply set in a face already accustomed to hardness. Baked into recalcitrance like the dirt they are standing on, the land turning under their feet. Carter is still moldable.

When she shakes Carl’s hand, a jolt shocks her fingertips, twines around her wrist, travels up her ulna to her elbow: Oh, you again.

Coppery curls snagged in the work shirt collar, the color of a cracked and bleached robin’s egg. She grabs at her elbow to stop the current. No, she has never met
this man, this boy, before. He has similar coloring and a familiar way about him, but of course she would graft the man who haunts her dreams onto anyone even vaguely resembling him.

Carl’s face remains impassive, wary, but she sees his bicep twitch slightly, the tiniest ripple of worn fabric.

She turns toward her new husband, dragging her own upper arm along his. Carter has bulbous joints. Tree boles in otherwise elegant lengths of bone.

Plants grow by accumulating their own skin in one concentrated area – the scar tissue and the lashings of new cells form something so strong and heavy that it breaks off from the mother stem and begins to burrow its own way in the world.

“Nice to meet you all,” she says. “Thank you,” she repeats over and over, as quilts are offered for the nonexistent chill, as her looks are praised, as she is asked how the train journey was for the eleventh time, how well she looks from traveling such a long way.

If they only knew.

Her tongue is sluggish and her consonants emerge less crisp, her vowels wilt when they should be swelling with their oblong rotundity. The language she has always loved, always seemed to know, always excelled at, devouring books stuffed with marvelous words, words, words under her safe covers at night, is suddenly at arm’s length. She feels like she has to climb up the rope ladder of each word, pausing at the knots, few and far between. Where once she skated, she now shinnies.

Maybe it is because their language, Carter’s mother tongue, is harder for her to discern. And then she realizes: Yes, I sound foreign to them, but only as far as Boston.
No ocean-crossings are implied. She is safe. Inside this house. Country. Language.

These mountains. She exhales.

She is handed a plate of biscuits and eggs and a mug of tea. She is very hungry. Not starving, not like others who are denied food and are literally starving in other parts of the world, across the ocean. But she devours what is placed in front of her, earning a grudging approval from Carter’s mother, who she has, to her horror and bemusement, been instructed to call Ma.

After the tears and shouting subside, practical matters are discussed. The sisters farmed out to aunts in Knoxville. The brother is too young for war, but his face is already deeply furrowed and could probably pass for twenty at least. Carter will enlist, and soon. Elizabeth longs for the company of her brother. Reed would dare not enlist, would not risk capture. It is what he – what they both – cannot help but fear most.

How to choose among the possible enemies? And, a small voice inside her asks, among the possible lovers? And how perforated was the war between the two?

Nevertheless, Elizabeth cannot help feel a surge of excitement. The note, even in its cryptic stateliness, its profound self-righteousness, its bald hubris, veined with fear, punishment, crackles in a way that this landscape has so far not. The crinkles of the mountains bubble up, boiling with some kind of purpose, whereas before they merely stood, legs apart in a warrior stance, but with a flowerpot on their heads, their arms half-extended to hold up – what? Sky? Air? The silence that persists, she is sure, even amid the whirr of the threshing machines? Out the window, across the expanse of farm after farm, each individual plot separated by scars, stitched-up wounds of fencerows, she sees that these links on the Appalachian chain seem to have taken a deep breath, as if
preparing for a siege, a noble purpose. Their shoulder blades are pinned back, their chins jut out into the empty but soon to be teeming indentations below. Underground, the roots of flowers rumble in their bulbous casings. Something has begun.

It is as if she has caused this, this underground roiling; she is briefly horrified by her own power, her inflorescence. She had feared and therefore despised the farm, not knowing how she would be catalogued or where she would be slotted. And now the farm is no more. One fell swoop. She had feared this family. His. And now they will all be scattered, the fragile umbrella of dandelion seedpods bobbing on the wind. Like hers.

The government does not lie. Bulldozers come and rip the land out by its short hairs exactly thirty days from the day the notice was pounded into the fence. Everything is turned over, exposed, unrecognizable. The bald redness of the land, spilling its innards onto its own ribcage. Something she had not even had a chance to acquaint herself with properly, newly strange and forlorn even to her.

Elizabeth and Carter and his mother and sisters watch the pummeling of farmland, the jaws of the machines dipping into it again and again; a coyote feasting on an exhausted prey. The father and younger son, Carl, are in Roane, the seat of Anderson County, fighting with other (male) heads of households for a fairer price for the land, the dusty fallout of their souls, sloughed skin of their bodies. Carter had gone with his father and brother the day before and had arrived home, the farmhouse in a state of disarray – packing, purging of household goods, generations of accumulation, layered and fused together. He had looked ashen, baffled. Wide-eyed as a Celandine Poppy, Elizabeth had thought, because he cannot easily contemplate unfairness coupled with upheaval. As
smart as he is, her Harvard-educated husband, he does not know the implications, the truth of the phrase “There is a war on.” Or, simply, “This is.”

When Carter again slammed the door, flecks of sunset peeping under the lintel, after a day of impotent wrangling with a power, “the Government,” so nebulous and slippery, there was nothing to clutch at and therefore nothing to clinch, he had taken each of his sister and then his mother and then, finally her, but almost as an afterthought, in his arms.

“The last sale of land in these parts was in 1932. That’s their gauge. So they’re offering Depression-era prices for land that’s worth four times that now,” he said.

Elizabeth finds it touching, the identification with dirt. She herself could not imagine an existence without pavement. For all her fascination with flowers and green-growing plants, she has not given much thought to the understory. The violets and Johnny-Jump-Ups splitting sidewalks into multiple fissures, the small explosions of zinnias and roses and a cherry tree or two hemmed by iron gates along Magnolia Street in the Back Bay. She has never thought of the dense corn and barley fields as simple food sources, without thinking of them, too, in an unblushingly sensual way. They too were rejected by the dankness of earth itself, the tangled cords of root system. Banished into the open air, to be consumed; worse, perhaps, than being ogled and touched, yanked up and carried to a watery grave.

Nothing will ever be the same again. Elizabeth’s vision blurs and she cannot watch anymore, so she concentrates on the clump of white trillium on the far right corner. Perhaps it too will be trampled underfoot or swallowed by the machines. Their anger is astounding, the self-righteous, directed rage, pillaging something already dead. But for
the moment the clump escapes, hidden just beside a small mound of uprooted earth.

Elza is no more. The 1,000 families who have lived here for generations disperse to Knoxville or beyond.

Elizabeth and Carter move to a rented room in Sequoyah Hills, near Cherokee Estates. A mother-in-law, it is called, an apartment attached to the hip of a one-family dwelling, with a separate entrance and a small garden. She cannot completely disguise her relief and happiness in this arrangement. If the government had not grabbed the family land, how long would she and Carter have been forced to live in the farmhouse, only to be absorbed into the family? The mother, in particular, could not have abided her eldest son leaving so soon after he had returned. Except now that it had been ordained. It cannot be helped. And Elizabeth is glad to flee, trailing the unfamiliarity and drudgery of farm life, of community living, in her wake.

When she makes love to her husband, she feels the soil he is made of sinking under her fingertips, and tries to mimic the machine’s maws, attempts to overturn him, dig him up, hollow him out. For what she does not know; he is already hers. She keeps gauging her nails into his broad fleshy shoulders, the back of his thighs, running her fingers roughly down the sides of his face from forehead to nape. She knows that he is on the verge of asking her about her constant readiness, her apparent experience, but she knows how to give him a look that is both dangerous and self-mocking, which scuttles him back into good behavior, into not-asking. After all, all lovers are colonizers.

Oh my beloved country, my new found land.

It is harder to be secretive when he overtakes her. When he seems to discover
that he can pin her down with his bent elbows, hold her by the barest pressure on the small of her back. When he kisses her in these moments, she still has the oddest sensation that he is literally planting in her. She wonders if it is the phrase “planting a kiss” that made a metaphoric leap into her physical body, its sensations. But it is unmistakeable that his mouth, trilling along her spine, manages to do a kind of speed-cultivation: the seeds are dropped in some imaginary furrow along her collarbone, and then spinning in their tiny orbits, spin into full blown roses.

She is chagrined and even embarrassed that the flowers he produces on her body – or that her body produces in response to him; she is not certain of the agricultural order of this strange harvest – are the clichéd ones of Romance, and sometimes she tries to change them as they are spinning into their multi-petaled shape. Into bright orange and yellow Turk’s cap Lilies or Wild Bleeding Hearts she has seen along the Tennessee River on her late afternoon rambles along its muddy shores. But it is always roses, long-stemmed, elegant florist roses in Newbury Street windows, not even modest, pretty Prairie roses. She expects one day to wake up after the naps they take between sessions, covered with rosebushes, fragrance, thorns, and all. A true princess hidden behind the bracken, protected even from her lover who has consecrated her behind her own kind of barbed fence. The oldest story of all.

Carter is restless; he prowls around when he is home, dissatisfied, although he is quick to point out that he is happy with her, pleased that she is here with him. But unless they are actually making love, his kisses on the back of her neck while she is washing dishes from one of her meals, the flat of his palm against her hip, are performed
distractedly. He is equal parts shocked and delighted by her “quirky” cooking style. He calls her meals “exotic” and asks her repeatedly about their preparation. He now eats more vegetables and less meat than he ever has, sprinkled with red and yellow spices. He calls them her powders, which she once misheard and now calls “pollens”; tumeric and curry powder the same mustard hue as goldenrod dust. Or Stargazer pollen, which stains everything it touches.

“Rationing is the mother of invention,” she replies demurely. She always smiles and shakes her head. “A woman’s recipes cannot be revealed,” she says in the voice, low and gravelly, with a glint of her dangerousness in her eyes. “Otherwise, she can be replaced.”

Sometimes he snaps out of his distraction, his pacing up and down the black and white checkered linoleum. His muttered diatribes against this mysterious force that is allowed to steal people’s land without compensating the landowners momentarily quelled. He comes up behind her, runs his thumb up the inside of her leg. She is at the sink, her back to him, her high heels on, her most faded, and translucent, housedress. He reaches inside the collar of the dress and cups a breast. “Replacable parts like this?”

“Yes.” She breathes out heavily.

“What about this?” He squeezes her bottom. “Is this a part of the greater machine? The plan?” And so it begins again, and she has not answered one of his questions, except with that one syllable composed of assent, desire expelling all dark matter from the lungs, not an answer or even a word at all.

Soon, she thinks, there will be a baby, and all questions of origin will resurface, having to do with the business of naming, of genetic likeness (she has pored over
Mendel and the sweet pea experiments even if Carter has not). She dreams of giving
birth to a flower, something in the delphinium family, its long stalk dotted with electric
blue flower-clusters, its rootstock pulled from between her legs in a never-ending, ever-
renewing vine. She wants a child, but she also, in the dream, wants to birth flowers long-
extinct. The flowers of ancient Greece, for instance, that have no other chance of re-
emergence except through her: her body, her womb, and the thoughts that engender
invisible procreations. All women should have twins, she thinks, but only one should be
human, and the other should be a plant that no longer exists on the face of the earth.
What else can she bring into the world besides yet another human?

She does not share these dreams with Carter, even as she wakes to a
longing so intense she has to bite the sheet so as not to cry out.

If Carter is bored and feels powerless to help his family and the community, if his
Harvard law classes do not raise a ripple or gain him the kind of entrance he had
expected, Elizabeth misses Cambridge life just as much: the daily lectures, the walks to
and from the subway stops, the scribbles of equations on the blackboards hurriedly erased
by the next professor as if they were indeed symbols of the occult and not for the eyes of
proper young ladies. She cannot dispel the whispers of “atomic,” “explosion,”
“successful,” “succession,” “Chicago,” “squash court.”

Except for her walks along the river’s edge, where she sketches – badly,
she is not an artist – the weedy vegetation in her notebook and takes the bus to the
downtown public library once a week to track down her new findings, cataloging her
ever-expanding “Life List of Flowers and Plants,” she sits quite still and waits. She is in
a holding pattern, poised for the Next.

And yet, there is a war on, and she must do her part. She must find “useful employment” as the able-bodied women around her have done. She knows this and wants to help, but she fears that her shyness will once again make her appear snobbish and standoffish, aloof, unable to connect with other women who cannot be dissuaded, as Carter can so easily be, by her avoidance of questions, her blank past, her secret history. Especially since she gathers the stories of others. She does not garner tales for idle gossip or as useful tools of power, even so, she is a collector.

She could invent a persona, stitch together swatches of the stories she has heard from other women, snatched on a subway ride or over tea before the lectures began. She will not reveal other women’s secrets, she will simply throw a composite veil over her past, she will invent herself as a new species, a hybrid, half unknown, half friendly interloper.

As soon as she decides on this plan of action, it becomes unnecessary. Carter returns from Elza, all traces of restlessness are gone, replaced by a fiery purpose, the anger transformed into action. He bounces around the kitchen on the balls of his feet, grabs her by the waist and spins her around, her dangling feet in their usual evening attire of black heels bought on Tremont Street, barely missing the wooden shelving, bare except for meek sacks of flour, sugar, coffee and salt.

“What?” She says, laughing, breathless, a tiny, tumescent slug of fear inching up her ankle. “What happened?”

“There’s work. On the land. It wasn’t sacrificed for nothing. Overnight, almost.” He places her down on the linoleum, catches his breath. “The land has been
transformed into a kind of city. And the army’s there, but it is being planned, and there will be work, to help the war effort, for both of us.”

“Wonderful,” Elizabeth says, although she’s not sure if that’s exactly how she feels. How could she know; she always has to see and touch a thing to know it. It has always been difficult for her to think in abstractions since all abstractions had dissolved around her, rolled out, as fog, to the endless sea. “What kind of work?”

“It’s a factory of some sort. Huge. And there is talk of a need of all kinds of workers. Even my father and mother can work. Even my sisters. There is a place for us all. That is their promise. Young, older. Women’s work.”

She cannot help cringing at the phrase, pictures needlepoint and crewelwork.

“And you, what will you do?”

Carter looks down at the ground. “I have enlisted, darling. I had to.” He raises his head. “But I have not been called, and until then, I will do whatever I am fit for at the factory. We can move there in two weeks.” There is a ring of fire around her husband’s head, and Elizabeth has to glance away, her vision shredded.

“Will you go there with me?”

Cataloguing plants will not help the war effort. It is not even quite an effort, it is a concentrated, half-directed roaming. And winter is coming, she can almost bite it, the skin of it caught between her teeth. Even in East Tennessee, the growing season does not last forever. Not that there is nothing to see or to try to understand by observation, by her identification with it. But most of what is happening will be teeming, under the understory, under the dark, silty layers of composted truths. Maybe this new life, the one that Carter is offering to her, his hand like the spindly arms of the Musk Mallow, is the
Qubits

Tuesday Oct 19

On Monday, Conway woke up in Oak Ridge, a hangover pinballing through his skull, knowing that he had to call or email Mauna. He wanted to talk to her to see her and hear her voice, but he didn’t want to act like he wanted to date her, and he, who was almost never at a loss for words, couldn’t think of what to say or write to maneuver between two not-quite-true absolutes, to somehow form a superposition. He craved inference, when an object simultaneously possesses two or more values for an observable quantity. Although, he remembered, because of the duality of position, true possession was always blocked, even in the utopic abstract.

Usually he just sat back and watched as people, girls mostly, but this was true in
sales as well, revealed themselves: their secret history, neuroses hidden in the zigzags of
the narrative spool. Cells, like the stories people tell about themselves, are kinked, not
the smooth globular surface scientists had assumed them to be, and these aberrations hide
most of the necessary information, their slinkiness. He couldn’t remember a time when
he’d exposed so much of himself, so soon. And she hadn’t asked him any questions, just
looked at him in a way that was both kind and expectant. *This is a blueprint for intimacy,*
she seemed to be saying, *graphs and equations for love. Instead of hiding it in a desk
drawer or an attic, let’s build it, test it, see if it explodes.* He couldn’t remember
questioning her either, he realized, and he was usually a master interrogator, to get girls
talking so that they would feel intimate, but keeping himself hidden. How had she done
it?

Even his eagle-eyed mother had noticed, but then again, little escaped her. He had showed up at his mom and stepdad’s on Sunday evening after several hours of
sleep in his grandmother’s four-poster bed, the fan on full blast, the little pink Benadryls
crawling through his bloodstream. His mother had hugged him, hard, as was her way,
then pushed him away from her, held him at arm’s length. “Who’s the girl?”

“What do you mean?” Conway ducked under the loose square of her
arms.

“You have that ferret-y look in your eyes. You only get that look when
you’ve met someone who’s gotten her quills under your skin.”

“What is this, animal kingdom?” Conway said as breezily as he could.

His mother’s eyebrows had arched practically up to her hairline. No
Botox for her. “Someone special?”

122
“Yes. But I don’t know her yet.”

“Yes, you do,” his mother said, with a twinge of sorrow in her voice.

“You sure as hell do.”

Luckily for him, Mauna made it easy: she emailed him. It was casual and anecdotal, talking about how her classes went that day. Somewhere in the middle she wrote: “I’m giving my students extra credit if they prove to me that they voted, so just imagine how I’ll reward you.” She had ended, “I had a lovely time on Saturday. Mauna,” which was hitting just the right note, he felt. He wrote back right away. When Tina was on a sales call, he could check his email, as long as he did it on the sly. He was a fast typist; he could fill a few stolen moments with a lot of text. He asked her if she wanted to hang out after her dance class the next day. “I'll leave the windows open, so you can just shout up when you’re done and I'll come down and let you in.” He was proud of his subject line, knew she would thrill to it too: “I like your kind of Democracy.”

He had suggested that she come over after her dance class, but he couldn’t tell her how to get to Brian’s door from the inside of the building – the upstairs hallway was dark and disorienting. He only knew how to get from the parking lot exactly where he needed to be; he felt too weird and out of place to explore the rest of the building, a stranger in a strange land, a failed scientist amongst the productive frenzy of artists who rightfully lived here. He had noticed tribal rhythms and heavy beats snaking under Brian’s industrial-sliding door, but hadn’t ventured out to check out what the music was attached to. Now those sounds and vibrations seemed unbelievably private, and encroaching.
Somewhere she was moving and sweating, gyrating her hips, the hips that he had held when they were poised over him; somewhere near, behind some mysterious, red-painted door.

Mauna was jittery in the borrowed apartment. He knew it wasn’t a proper place to bring a girl: bare and coldly spacious, a hotplate and tiny fridge for a kitchen. She was wearing the same clothes he’d met her in, her icy scalp showing through where her hair had been raked up.

She cased the room. “Where’s the bathroom?”

He sighed and pointed out the door. “In the hallway. It’s shared, and please, please don’t ask to use it.”

“Okay,” she said, not looking at him. “I guess I don’t absolutely need to.”

“You friend must not have too much female company,” she said, shivering and looking balefully around. “His paintings are nice, though.”

“You’d live here too for $200.”

“No,” she said, looking at him pointedly. “I would not. Where do you, I mean, does he, sleep anyway? I don’t see a bed.”

A sentence like that would have sounded forward, even crass, coming from anyone else. From Mauna it sounded only vaguely flirtatious, more curious than anything, which somehow made her more desirable. He pointed toward a futon mattress on the floor. It was both thin and the same no-color of the cement floor, no wonder she hadn’t seen it. “There. Every night I move the couch cushions and stick them under it to make it more comfortable.”

He had been waiting since 7:30 for her voice to waft up to him. Her class
ended at 8, but he had hoped that she would leave it early, not be able to stay for the full hour knowing that he was down the hall, waiting. Her voice, when it came in through the small window, the same one he’d broken into a week ago, was less sweet and breathless, higher and more nasal than he remembered, with more than a touch of panic and insecurity leeching through. How could a girl like her not expect adoration?

When they got into the apartment, she slipped out of her shoes, and in her black socks bounced around on her toes. Her feet resembled Barbie feet, he noticed, small and so highly arched they looked like she was wearing invisible high heels. He wanted her to be drawn toward his things, his guitar and the scattering of CDs on the floor by a stereo – all that was his in the apartment besides his clothes, but she made a beeline for the wall of Brian’s paintings. He had counted ten paintings on the walls, and he knew that there were probably double that amount leaning up against each other in various parts of the studio space. The ones on the wall made him uncomfortable. He admired them, in a way – he couldn’t even draw a stick figure, and he knew that these were technically interesting. But to him, the blocky shapes and jagged lines in primary colors were too melodramatically sparse.

“I like them,” she decided, after frowning at the largest one, the most unsettling. How could red and yellow lines and blue squares be so intimidating, so probing?

“I mean, they’re not all equally good, but this one I think is fantastic. I don’t know if I could live with it though.” She finally had the courage to look at him, and twisted her lips into an impish grin, although she lost confidence halfway through the smile. Maybe that was how she was sexiest. Hadn’t he wanted to kiss her when he saw
her thumbnail working into the space between her braces-perfect bottom teeth? She must have had braces at one time on the top teeth too, but they had migrated back to their overlapped state. She would be lazy about a retainer, he thought.

She continued, staring at the painting, or perhaps it was a silkscreen, not at him. “Isn’t that what people always say about art? No one says that about scientific theories, do they? ‘I like Relativity but I don’t think that I could look at it everyday over the breakfast table.’”

After making her cursory tour of the wide space, she collapsed on the floor on her back. “Ahh,” she said. “Dance was hard today.” He didn’t comment, just watched her.

She couldn’t seem to hold any one position for more than a few moments. She sat up and spread her legs out on the concrete floor. About 160 degrees apart. Then she bent over between them, her forehead touching the floor, then her lower back tensed and she tilted her skull back so that her chin touched, and then her entire spine flattened out. She stayed there for several moments, he guessed several moments longer than she truly wanted to or could comfortably stay, and then, moaning, eased herself back into sitting, her legs still splayed out, vectors of her peripheral vision. She looked up at him, even though he was sitting too, Indian style, a few inches from her left knee. There were three damp spots on the floor left by each of her body parts, a barely perceptible dot from her nose, under it a small circle where her chin had hit, and then a larger less concentric shape. They resembled a group of three primary colored circles in the painting closest to the door. He stared at the circles on the concrete until they disappeared.

“Are these your CDs?” She asked, scooting crablike over to the array –
like fallen flower petals – on the floor around the stereo. He didn’t want her to look too closely at them, because, and he knew that this was irrational, she would know everything about him. “Hey Mauna.”

She didn’t answer. Instead, she looked at him, and folded her legs into Indian style too. Sitting, they were almost the same height because he slouched and she stretched her slightly long torso up straight. Perfect dancer posture. A wave of desire hit him, somewhere in his solar plexus. Wave or particle of desire? How sustained would this feeling be, how continuous, how undulating? Or was it just a speck, momentary and forgettable? Would he resort to particulars? That's how he’d thought of particles: specific things to be picky about. She lifted her truculent chin and said matter-of-factly, “I don’t think I can be here one second longer.”

They went to a pub near the one they had gone to with Kel and James the first night. As they were driving to the Olde City, he turned his head to her. The orange glow of the sodium lights reflected off the windshield and plastered across her face like a painter’s canvas made of light.

He turned back to the street, furrowed his brow. “I can’t stomach Barley’s again, I hope you don’t mind us going to Manhattan’s.”

“Sure, I don’t care,” she said. “But what was so bad about Barley’s?”

“The voting booth or whatever it was will probably still be up, and I’ll get accosted by some hipster who has no clue about anything in a My Chemical Romance shirt. Fucking emo-hipsters.”

Mauna looked stricken for a second. He saw it. Fear, desire, that alchemical
compound washed across the bridge of her perfectly upturned nose; the admixture by its very nature radioactive like Carbon-14, the only way to date anything. He smiled at his own pun on “date.”

_I am you, you are me._

“What did you just say?” His mind went blank and across the screen of it flashed two words: _mirror neutrons_. His sacrum was looping like a hula hoop around his kneecaps.

She flushed. “Geez, don’t yell at me. I just meant, in reference to the Iraqis.”

Relief rolled through the watery parts of him, the ones that were indeed sloshing, that had liquified from panic and recognition, but stopped before it reached the shore of his heart. He couldn’t stop the savageness of his tone, that bulwark. Where was his solid ground, his coolness? “Then don’t you mean, ‘I could be you,’ etc.?”

“Is there really that much of a difference?” She said, puffing out her cheeks in what he assumed was mock-irritation.

“Well, you’re the expert in Cultural Studies.”

They sat at a polished wooden booth and she mashed her tiny feet in their slightly damp black socks under his legs. It didn’t feel good or bad, necessarily, but he couldn’t remember a girl ever doing that. Her face, still flushed from exercise, vivid and alert, was framed by the watery, dim lights of the bar. Every smooth plane and dip of her face seemed to hold such joy and acceptance of him as if she had observed and discerned his good qualities, whatever those were, and reflected them back at him without even trying to. He wrapped his hands around her ankles, squeezed and let go. “Aren’t your toes
“No,” she said, wiggling them against the underside of his thigh. He removed his hands from her ankles and she waited a few beats, then slid her feet out from under him. He missed the bumpiness and warmth the moment they were gone.

“So,” she said, pushing her feet against his booth, one on each side of his hips to jam her backside against the L-seam of her seat – it was like a two-person pew he thought –, the 0-point on a graph, the origin, where the x and y coordinates collided. “Do you miss science?”

Talk about going for the jugular, right away. Didn’t she know how to flirt?

“That’s like asking if I miss my sister.” According to General Relativity, the Universe must conform to one of three possible types: open, flat, or closed. He went for what he hoped translated as flat; he couldn’t decide if he wanted to talk more about his sister to Mauna or not. This slicing through that she did reminded him of Occam’s razor, cutting though all the static and muck to get to the irreducible. Although he didn’t trust that theory. Everything could be fissioned further, back-scattered, bunny-rabbited. Wasn’t that how the Universe, any universe, kept expanding?

“Oh, I’m sorry.” She looked not as if she was sympathetic or even empathetic – the difference between those two seemingly close words a baseball diamond compared to the distance between neutrinos, the space between isotopes spinning in their orbs – but, he realized with a jolt, as if she were feeling exactly what he was feeling. Not just heart-sore but lonely, guilty, hot and cold, full of dark matter. He had to turn his head away, towards the gleaming bottles over the bar.

He remembered somebody at a gallery opening in London asking Lucy,
after she had grudgingly revealed that she was originally from North Berwick, if she ‘missed living by the sea.’ She had scoffed at this person, ‘Well, Britain’s an island, so I never have to go far to get to the bloody sea.’ But, he had thought, knowing it’s there is different than really being able to swim in it anytime. If it’s all around us but if we can’t see it, if it’s not immediately accessible, then it’s not really there, just assumed or imagined. The first two steps toward a new scientific discovery.

He turns back to Mauna. “Science is hard to miss. It’s everywhere; it’s hip, it’s glossy. Even if it’s not there-there.”

He added: “That’s a Gertrude Stein quote.”

The lushness of the moment was broken; he had dropped it. She laughed, “I know that,” she said, stretching out the “know.”

“Did you go to North Berwick when you lived in Edinburgh?” It had taken hearing other people’s pronunciation to convince him that Berwick was pronounced “barrack.” As in army-issued hutments, or the “limited livability” housing that had sprung up in Oak Ridge to house the mostly black workers who built and maintained the plants. It was said, since East Tennessee didn’t have a large black population, the landscape too rocky and mountainous for large-crop farming like cotton, that the original planners of the Secret City had gone down to the Deep South, and scooped up African Americans, promising them a better life. And then put them in dwellings so much like slave quarters it was embarrassing even in 2004.

“Yes,” Mauna said, as if she were confessing something deeply personal.

“I loved it. I love seaside towns.”

“Why? Did you go there with Ni-gel?”
She reddened. “No.”

“No?”

“No,” she said more definitively. “But he had an uncle or something there, and one of our first conversations was enumerating the charms of the Eastern Scottish coast. He was mostly English but identified with Scotland more.”

This thread was making Conway feel slightly ill. “Isn’t being Scottish and English like being a Democrat and Republican? Or a Yankee and a Southerner?”

“Yes,” she said simply, with such a serious and earnest look on her face he wanted to pinch her cheeks.

“So you’re admitting to having some Republican tendencies?”

She shuddered theatrically.

Conway got up and leaned into the bar – their table was that close. He made a drinking motion with his hand, and she shook her head from side to side. He ordered another glass of what she had been drinking, House White.

He plunked it down in front of her, “You’ve got to try to keep up.” Mauna rolled her eyes, but pulled the drink toward her. Gravity, impossible to resist.

“Seriously,” he continued, “I’m glad you see the world in non-categorical ways. I hate when I meet people, especially from this area, who insist that they don’t have any black blood in them. I mean, come on. Everyone does.”

“I don’t.” She lifted her chin again. This was a new gesture from her.

Conway wondered how someone could swing between an almost painful shyness and also express such vehement opinions, and not get dizzy.

“What do you mean, you don’t?”
“I mean, my parents just got here. I’m second generation American. I don’t think there were too many black people in the Ukraine, or Russia. Not that I would be opposed to the idea of black blood, I just doubt I have any. It would make more sense for me to have Asian blood, right? Uzbek blood.”

“Hmm.”

“Don’t you dare assume that I’m racist because you think I’m denying my true platelet-makeup. That’d be a great lipstick color, wouldn't it? Platelet. Some vampy, science-chic blood-red. The way to make money as a poet is, I’m convinced, in coming up with clever names for makeup. I already have a list, want to hear it? A hair gel called Pangloss. Or Panglossian gel, spray, mousse, something. On the bottle, this is specifically for a company called, I kid you not, Philosophy: ‘In the best of all possible worlds we wouldn’t need hair products, but....’ I haven’t thought up the rest.”

“That’s high-larious.”

“OK, maybe you have to be a woman to appreciate the absolute brilliance of it. Ooh, that’s the name of the product: Panglossian Brilliance. Sorry, back to the topic at hand. I mean, I can’t be racist. I’m Jewish.”

“Really?”

“Yes. Really.”

“Huh, that's cool.” He cocked his head to the side.

“Cool? God, it’s like the secret identity or something around here. I feel like a spy, an undercover white person. Eggshell. Another makeup name, or kitchen paint color. Not foundation because I never put that stuff on my face.”

Conway leaned forward on his forearms, then realized he was being too
obvious, and slouched in his seat. “You’re so white you’re practically blue.” As soon as he said it he realized that her brand of glow was faintly bluish. Warm blue.

“Actually, being here, which is the most exotic place I’ve lived, by the way, is just like being in the U.K. When Nigel and I were fantasy-planning our wedding and he, who was not at all religious, said that he had always wanted to get married in a country church, I said that that sounded nice, but couldn’t we just do it in a field, since I’m Jewish, and he said, all Steve Austin slow, ‘Wow an American Jew,’ like I was some rare species of orchid.”

He laughed. “You are funny.”

“Thank you,” she said again.

The politeness was beginning to unnerve him. It made her seem foreign, as if she really were an undercover agent (a tantalizing but deadly Russian spy, a bombshell, who always remained mysterious, just out of reach, in direct proportion to how much she appeared to reveal) sent to infiltrate his cell-wall. He loved the double meaning of that phrase, how it made biology expose the body for what it was: a kind of prison. He was used to people thanking and apologizing without meaning it – something Southerners and Brits had in common, but there was something so heartbreaking in her speech patterns, because words he thought had lost all meaning, were delivered so genuinely, so earnestly, so divorced from calculations or machinations, it was like he had never heard them before, and it made him wonder what other words whose meanings had seemed irretrievably lost would sound so true they would split him like a water molecule, producing clean, green possible energy. Enough for all the vehicles of the world.

He tried to recover himself, and remembered a piece of trivia he’d picked
up, God knows where. “Don’t go thinking that you’re the first Jewish person in Appalachia, by the way.”

“No, I don’t think I’m that special here,” Mauna said. “Last I checked Tennessee’s still in the U.S. of A. Even if you had won your awful war, there would be some Jews here, from before.”

“’My war’? I'll let that slide so I can tell you something that you, actually, don’t know. Imagine that.” He raised his eyebrows at her, and she cracked up.

“There’s evidence that your people, if we’re going to get into possessives here, have been in Appalachia since the 1600s, when Drake left captive Mediterranean soldiers here. They call themselves Melungeons. Actually, I think ashes of their DNA still exist in, well, lots of people you meet here, blowing the stereotype that all Appalachians are English-Scotch-Irish mixed with Cherokee and, as per our earlier conversation, black. I read something once about these isolated family cemeteries tucked away in the mountains, with tombstones carved with Hebrew letters and Stars of David.”

“Wow, that is cool. And new information. But their name sounds like a disease, who named them?”

He twisted his mouth, but refused to laugh again. “They’re your people.” Then, unable to help himself, he asked, “What kind of disease?”

“Ha,” she said. “My people are as far away from them as, well, Turkey is from Lithuania. I don’t know, Me-lung-eon,” she said, “some kind of lung ailment. That one only acquires by working in a dungeon-like pub in Edinburgh for a short time. Smoke must be unfiltered, mixed with Tennant’s beer, Celtic-Manchester United matches and brogues.”
“I take it you’ve never been a smoker.”

“I was that year, just by existing. Were you?”

“Oh yeah, like the proverbial chimney,” Conway said. “But I quit.” When my sister died, he wanted to add, but stopped himself just in time. Not that his sister’s death had anything to do with smoking, but it just seemed almost blasphemous to be alive when she wasn’t. To be smoking and alive while she was dead even worse. He quit in one day and never had the urge to again. He wanted to tell her a family secret. That when his grandfather died, the coroner’s report showed lungs blackened by a thirty-year cigarette habit. A habit that none of them, even his mother or grandmother, had been aware of. They’d all seen his granddad indulge in the occasional cigar or pipe. But never a cigarette. He, incidentally, was a scientist at ORNL during the 40’s.

“So,” Mauna said, “The Melungeons. Where did you hear about them?”

“Dunno, probably when I went to school in Oak Ridge. A lot of the kids there were grandchildren of scientists who worked on the bomb. A lot of those scientists were Jewish. Oak Ridge is the weirdest little enclave, a bit of the intellectual Northeast nestled in the Cumberland Valley. Totally incongruous.”

“How long did you go to school there?”

“Til I was sixteen. Then I moved to Oliver Springs with my dad, which is far, far away from Oak Ridge, even though it’s right next door. Your classic Appalachia, poor white trash, trailers, resentment towards everything Oak Ridge represents. But it still wasn’t quite far enough, I guess, so my dad moved me to Kingsport.” Another planned community, like Oak Ridge. But Kingsport had been created by white businessmen, with clear demarcations between black and white neighborhoods. They
feared the checkerboard effect that was the norm in other cities: one street rich and white, the next one over, poor and black. And angry, or at least that was the fear, the projection, the perception. Kingsport had been the first city – after Oak Ridge (which had been “planned” as a hybrid, an uneasy marriage between army base and company town) to build slums specifically for blacks, rather than letting once “good” (often Jewish) neighborhoods go to seed and evolve “naturally” into the wrong side of the tracks.

Conway thought about the Melungeons. They knew who they were even if they were not popularly acknowledged. Names and language can change, but cultural pollen and genetics remain, those inescapable fingerprints, maps of our identity maps. But what was pure anymore anyway? Nobody is who we think they are. To give science its full measure, without corrupting it in service of myth and history, is an impossible task, since identity is not fixed and impermeable. Politics always invades the personal. Cells themselves have no clear boundaries, which is how they evolve.

Back at her house which was always cold – there was no central heating and no radiators, just grates in the wall in the living room and kitchen and bathroom that pushed out a barely effectual heat – she checked her caller-ID, a message from a friend who’d moved to London, her sister. She said, “My sister sounds exactly like me, here, listen to her message.”

She hadn’t even played it for herself. A voice that did sound remarkably like Mauna’s asked for the news about the “ladder guy.” He felt the wheels of impending relationship rumble under his stomach. He just wanted her exactly like she was, in this moment, adoring him gracefully and unknowingly. The only kind of interaction he could
handle would be like a crystallized droplet of water trembling on a petal, teeming with secret life, the moment before the fall.

He sat on the same blue sofa they’d started out on, on Saturday night. The couch faced a bookcase, haphazardly arranged, lots of unread-looking tomes. It actually seemed as if she hadn’t completely moved in yet, that she was still transitioning. He mentioned this.

“There were some problems with this place in the beginning,” she said. “A pipe broke and flooded the yard while James and Kel were in the Outer Banks, and there was a mouse and lots of bugs in here because the walls didn’t connect to the floors. They put in carpet, but I still feel like this house is going to attack me.”

She clamored on top of him, so that her legs were around him and she was facing him, the dance class dampness still in her clothes and hair and skin. It was both adorable and unpleasant, so he tried to wrestle her off. She fought back, like a tough kid sister, biting her lip, absorbed more by winning and less by the sexuality of the situation, and he threw her off of him. “You’re strong,” he said. He wasn’t sure if he liked the tiny fists of muscle rotating under her skin when she moved.

“Thanks,” she said. When she wasn’t trying to appear happy, her mouth naturally turned down.

“I would love to make out with you again,” he said now, stretching his legs out, “but I’m not feeling that well. I think I’m coming down with something.”

She was clearly hurt, but she had reserves of pride that would save him.

“If you have to leave, will you at least tuck me in?”

“Sure.” The slipknot in his stomach pulled tighter. That was cute. But
juvenile, he reminded himself. If he was with someone his age, he wanted a woman who could play the game better.

He came into her bedroom as she was undressing. She was talking to him, but he wasn’t paying attention. He held her slightly petulant face in view as he watched her in one motion pull down the yoga pants and pull up her pajama bottoms. Her legs were briefly bare except for the skirt that hit her at the top of her thighs. Then she unhooked the shirt and let it flutter to the floor. She stopped chattering as she turned her back to him and lifted off her tank top and reached around to unhook her bra. A red sports bra. Both fell to the puddle of clothes at her feet.

She reached for a top (if she were truly smart it would have been the see-through silky one, but it wasn’t), and he thought she would pull it over her head quickly, but she was facing her two photo collages, hung side by side on the wood panelling slathered with Pepto-pink paint, and she seemed ensnared by them. He had called them her “Benetton ads” the night he stayed over, because she had so many friends of different colors. “You’re like a walking ad for multiculturism.” And she had been wry enough to say, “Exactly like Benetton ads, because no matter how many different colors we were, we could all afford those clothes.”

Perhaps she was looking at younger versions of herself, the untested innocence clustered in her lashes. There was only one man in the collages who didn’t seem like a friend or a friend’s boyfriend. He was holding a cat tenderly in his hands, looking at it, not at the camera.

Conway noticed that Mauna clutched the people she was pictured with, and was always hugging them even when they weren’t embracing her. In some of the photos, her
hand was almost claw-like. He stared at a picture of Mauna in a bikini, her arm tightly around a girl who could be her sister, the ocean an angry jewel in the background.

The whole time she was staring at these other versions of her life, caught at apexes of happiness, was probably less than a minute. But what she didn’t seem to realize is that her naked torso was faintly visible in the reflection of the framed collages. The blurry shapes of her face and neck and breasts mingling with, overlaying the pictures. At her back, the glow-in-the-dark stars on her headboard were the palest yellow.

He thought, here I am next to a bed, with a half-naked beautiful girl, and discreetly shining stars. And then in one motion, her top was on and she had catapulted herself into bed.

He somehow found his voice. “How can I tuck you in if you need to get up and lock the door behind me?”

“Oh, it doesn’t matter, I just won’t lock the door.”

“No,” he said. “You have to.”

He shoved the covers under her body – she was on her back – and said, “I don’t really know how to do this.”

She sat straight up, her eyes limpid with sadness, full of questions and reassurances, those two dangerous entities. “I’m going. Get up so that you can lock up.”

He didn’t kiss her, but he enclosed her in what he hoped translated as a friendly hug.

She grabbed his arms, but her hands were so small that her fingers couldn’t even reach around his underdeveloped bicep, and he slipped out of the embrace. “Please stay.”

“I’d love to but I have to go.”
“Why?”

“Because.” He would start shaking soon. He put on his best dad voice.

“Mauna.”

“Please,” she begged again, and he felt himself softening toward her and her warm skin and her warm bed. He hadn’t slept in his own bed for a year and a half. First Lucy’s in London, then his uncle’s in the trailer in Key West, then couch-surfing at Amber’s, now alternating at his grandmother’s and Brian’s.

Her bed was covered with an authentic, or authentic-looking, crazy quilt, silky peach on the underside. *Square of beauty.* He had expected her to look annoyingly beatific as she had pronounced that, but instead she had been frowning, biting her lip, arched brows swooping toward each other, a scar on her chin standing out against her reddening face.

Before his giving in made itself palpable in his arms or his chest, she let go, laughing, rueful. “God, I am so bad at this. I am so not playing by *The Rules.*”

“Forget them,” he said. “They’re stupid anyway.”

She swung out of bed on her accord, but somehow instead of going straight for the door, they sunk back into the fat blue arms of the couch again. Mauna rested her head on him, somewhere in the vicinity between his chest and abdomen. She just lay there, against him, and it felt nice, that weight, that warmth. But then he realized that she was modulating her breathing in time with his, he could tell, on purpose. He rolled her off, then stood up, twisted his head around to look at her.

She was kneeling on the couch. “Cmere, I want to give you a hug.”

“Aren’t you going to say goodbye?” His voice sounded like it was
scraping over bedrock.

“Bye,” she waved at him, crumpling and unfolding her palm.

He just looked at her, steadily, and she untucked her feet and shuffled to the door.

He bent down, down, and hugged her.

“That’s all I get?” She pouted. “I came all the way to the door for a sisterly hug?”

He paused on the other side of the door. He could hear her breathing, and he tried to steady his own pulse. What would he do if she opened the door and stood on the threshold in her striped pajama bottoms? What would he do if she threw her arms around his neck, pressed up against him? What would he do if she was braver than him, and less cautious? He waited until he heard the lock click, and then turned toward his car, crunching the driveway gravel under his feet like so much glass.

He had noticed in the bright outdoor bulb, a naked star shining down just on them, that her eyes were light green, the color of trinitite, the glassy melted-silica residue imprinted on the desert floor after the Trinity test, like a pocket-mirror. He had read that a few traces of it could still be found, though most of it was bulldozed and buried by the Army, and it was now illegal to take the remaining material from the site. Maybe he could fit her in his own pocket, and carry her with him as he loped through the rest of his life, shoulders hunched against the wind.

_Tensegrity_. A new way to think about cells, an explanation of how they were able to bounce back from being manipulated, and how they could then re-conform themselves
to whatever receptacle they were housed: “The dish determines the primary shape,” a different professor had said, one he hadn’t remembered as well as Moreland. No, he did, it was his one white female science teacher in college. Sort of a dish herself, if he recalled correctly. Tension + integrity. How fitting for Mauna, he thought. He needed to leave her, he knew that. The thing was: how could he leave her and still keep her?
Daisy Chains

By most accounts it is the shortest gestation in history. This New Rome was built in a day. From the army surveillance that deemed it more than suitable for a secret operation (and it was almost surgical, the planning, if not impeccable, performed as if with a scalpel, the cavities of the land gauged, carved out of the body of the earth) to the building of the town and the plants that are hoisted up like a movie set for a Western. The Rome-ing of East Tennessee backwater. Elizabeth constantly has to fight the urge to peer around the backs of the buildings, as if the outer walls would be revealed as painted posterboard (fake pies cooling on the windowsills of the four-family “E” apartments) with a crosshatch of plywood backing and an angled stake speared through the dirt like the aftermath of a duel.

Once again, Elizabeth’s life is determined by plants. These are a different kind, a vastly different definition of the word. She marvels at the tendency in English to use the exact same word as a stand-in for such variegated meanings.

The “plants” in Black Oak Ridge are not the green or even brown scraggly scruff of Georgia that she saw blurring past out the train window, or the reediness that springs up along the Tennessee River, clamping it in place, tiny island of prickly dams slowing the tea-colored water to a sluggish pace: she can walk faster than its flow. These plants of the Cumberland Gap are gray, ugly and concrete. They are erected in order to be hidden, but the contrast between the brightness of the just-dried cement protudes into the colorful foliage of autumn, and all the buildings, the plants, are as ankle or knee-deep in red, red mud as the human inhabitants are; the mud that dries like some tribal markings,
effectively disguising them all, human and building. Mixes them up with the soupy landscape, so that everything is at the level of dirt. A true melting pot, she thinks wryly. With all of the phrase’s implied messiness included.

A plot. Of land.

The landscape – formally quilted and puffy between the stitches of fencerows, like a swollen eye – is now serrated at the edges near where something new has been erected, but in most places smooth as a sheet, as if it has been tacked down, as if a giant red tarp has been thrown over it and tucked in with trim hospital corners. *Go to sleep now*, the wind whispers, its ear to the ground, stroking its forehead. *You asked for fallowness, for time to rejuvenate. You begged to be allowed to return to a time that you were not used. You will no longer be needed, except as cover. A covering. A cover-let. You will finally be ignored.*

She and Carter drive from Knoxville to survey for the second time what will, in a few days’s time, be their new home. The trees are at their most spectacular. They look shot through with chemical agents, which, of course, Elizabeth reminds herself, they are. Natural chemicals. Seems like a contradiction, but how else to explain the effect? A change produced by the leaves themselves, the drop in temperature, the backlog of sap that has nowhere else to run except out to its own fingertips, bursting through the only thing feathery and papery and hand-like enough to accept its hot, running liquidity.

Carter has promised Elizabeth a drive and an overnight stay at a well-appointed cabin in the Smoky Mountains before they move house to the provisionally, newly-named area now known (but only by a very few, it has not made the newspapers,
the Boston *Globe*, for instance, has no clue of its existence, re-named or otherwise) as Black Oak Ridge. It is to be their honeymoon, since taking a real honeymoon during wartime is not generally done. But a stolen day or two, hidden in the skirts of the mountains, surely no one can find fault with that. No one, indeed, need know.

Elizabeth is sitting beside her husband in the car he has borrowed from an old friend, someone he used to hunt with when they were boys roaming over Roane County. Tied around her yellow hair is a yellow silk scarf, so similar to the lemon of her hair that it looks as if she is not wearing a head covering at all, as if she simply sports an elaborate hairdo that merely moves with her own movements, strangely untouched by the whipping wind. She glances at her husband, intent at the wheel, negotiating the hairpins. Although she is somewhat resentful of the elaborations necessary to appear well-coifed and dressed, she loves the word for sharp turns.

Natural chemicals are at the root of the scene in the car as well, the ecological community inside this speeding car. She glances in her husband’s direction, this beautiful, beautiful boy; this stranger. His dark brows that link over the bridge of his nose are even more tightly entwined in concentration. She puts a hand on her husband’s leg, and he jumps, as if he was not expecting tenderness from her. She is saddened: she has never spoken a harsh or unkind word to him, but she knows that her not speaking, the fact that she finds it difficult to express delight or unalloyed glee, is the cause of his flinching. She must be warmer, she thinks. In the new place she will open to him, fully, with no passageways cut off, no corridors unexplored. She will finally let her guard down.

The mountains. She has not expected their presence to unhinge her. Their
imminence, their closeness. The way the taste of them lies on her tongue. Winnowing through them – after being shot out of Townsend as if from a gun – the car heaving this way and that (there is nothing in nature that she can compare the motion to, it is purely mechanical, a feat of engineering, steel against hard tar), sometimes a pokey knee joint made of crumbling shale seems like it will kick her between her teeth. Or a mass of rock kneeling in supplication causes her heart lurch. Either way, the pilings of rock dispossess her. The hand resting on Carter’s kneecap clenches it from time to time. Her husband misunderstands, takes his right hand off the gear shift for a moment and pats her ring finger (the ring that her brother Reed had given her, shaking it from the lining of his overcoat with the foreign-looking cuffs and lapel like stolen bounty, even though she can picture this glitter on a hand she had looked upon for twenty years).

“I’m sorry, sweetheart. I’ll go slower around these turns.”

Elizabeth scissors his driving hand between her ring finger and pinkie and holds on, hard.

“Darling?”

“No,” she says. “Don’t worry.” She tilts her face toward him so that he could see her shining eyes. “I love it. I’m fine.”

“If you love this, then we’ve got to get you to the State Fair so you can ride the ferris wheel and the bumper cars.”

Elizabeth laughs; it is almost a bark. It cuts through the chill air and mingles with the jeweled leaves (miniaturized in the tiny stones in her ring: topaz, amethyst, sapphire, emerald, blood-red garnet). Instinctively her hands flutter to her throat. Pressing the heels of her hands against her windpipe, she feels the reverberations
that her own delight creates. When has she last felt that delicious motor, thrumming through her face and chest, her whole body, like music, which she has also denied herself. Since.

Her singsong voice that has been largely absent since she had daily swung her asphodel-body through city streets worms its way in, and she welcomes it, albeit with some trepidation. It can go too far. But now it intones a jaunty tune. She will plant herself, she thinks, once again, among plants. *IloveyouIloveyouIloveyou...*

Carter looks at her with a love composed of equal parts gratitude and hungry possession. “I’m glad you’re happy here. I was afraid that you wouldn’t be.” His hand moves from the gearshift again and rests on her shoulder. She takes it. It is cut in places, but the calluses he must have spent years acquiring long since disappeared in Widener Library and the Harvard Bookstore. She opens it, stretching each finger the way she has coaxed thinly-covered buds into bloom, in other people’s gardens.

Her husband’s breath catches in his throat. But instead of molding his fingers into an arrowhead that dips into the grooved space in her jewelneck collar, she fits her cheek and chin into it, rubbing her face against the fleshy pads of his fingers and palm. He has never clasped her face like this, the way a father would. He does not actively do it now, but relaxes his palm in a cup and allows her to nuzzle against it.

“I want to tell you something,” she whispers into his wrist. But she is not sure if she has spoken, if the sound she distinctly hears is just the sibilance her kisses make. Or if he does not answer because she is kissing him and he doesn’t hear her. What did Goethe say in *Faust*? That the arrowhead fits itself into the exact shape of the wound?
Three days later they are unpacking their share of the belongings from the dismantled farmhouse. There is no hole or scar to indicate that it had ever stood, that seven generations of a family were born and died in its six rooms. Where the house and barns had dug recalcitrant feet into the hard-scrabble rocky soil, there is now the foundation and the first story of what looks to be a storefront, a kind of general store or PX. The house’s vegetable garden and root cellar now scooped out and filled in, respectively, covered with wooden planks, the sidewalks meant to help pedestrians in the new town. So the town won’t swallow itself whole. Or sink under its own brisk self-righteousness, its refusal to answer to a purpose that was somehow to be respected and obeyed, in inverse proportion to how little it revealed.

Elizabeth finds her husband’s hand, stuffed into his trouser pocket, and squeezes it in her small one. And then they both take a deep breath and turn their backs on that site, pick their way amidst the muddy streets. Were there streets from an ancient time hidden under the muck? Had the nomenclature of civilization always been buried, just waiting to be unearthed? Would they ever be completely uncovered?

As they stand in front of their new doorway, Carter looks balefully around at what was once so familiar he could still trace the map of it on Elizabeth’s back.

She can feel the electric trails of his fingers now painting the picture: the farmhouse at the center of the frame, perched on a slight rise, outbuildings (cribs and coops and smokehouses) and animal enclosures scattered around it. Log cabins made from saddle-notches or dove-tail or half dove tail or semilunate crown notches, a phrase that thrilled her. The roofs made by “riving shakes with a froe.” Carter had laughingly
explained that was the local way to call shingles made from white oak. Limestone chimneys and front porches. Often with stairs leading to the loft above the main room. Human beings always yearn to build as high as they can, to push what they have accumulated and collected – children or attic debris – both closer to the heavens and out of sight.

Carter says, “At least they saved most of the trees. Couldn’t named the town Black Oak Ridge or Oak Ridge without them, I reckon.”

“No, I suppose not.” Elizabeth says. “Bald Ridge doesn’t have the same ring, does it?”

As soon as the words were out of her mouth, she thinks, No, that is what they should have named it. An open, treeless, prairie-like forest gateways, covered with a thick pelt of Wild Oatgrass, Bluegrass, Three-toothed Cinquefoil, dotted with red-orange asters. If this is the future, then it should have the pomp and desolation of an empty heralded opening, not this frenzied slosh the color of dried blood.

The house is cheaply made, but it is her first house. All of the houses are so identical in color and style and construction, down to the placement of scant trees and naked flowerbeds in the yards that she has to hang a piece of brightly embroidered cloth in one of the front windows as a sign. This is the one.

She has a terrible sense of direction. Carter could be plunked down anywhere, she is sure – forest or trench, glade or desert or teeming metropolis – and would always know exactly where he is. She thinks of this ability of his as something strangers in a strange land can do, taking the idea of place with them wherever they go so they can
replicate it when they next alight. Landscape sinking into their bones instantaneously.
Whereas she, who has erased one scene after another, has lost the way to her immediate
bearings as well. It is as if every motion she makes somehow boils down to sweeping
away her own footsteps with a pine branch as she backs away over a snow-powdered
path. Trusting as much as fearing that what she is backing into is more benign than what
she is leaving.

She worries about the cloth, but it is a necessary part of her survival, in this
newest era of her survival. It leads her home, seeming to glow, even in the dead of night
(not that she has ventured out past nine at night). But it looks out of place: it is not calico
or plaid, or any fabric recognizable to these parts. Densely stitched, opulent even,
suggesting heavily draped dens and boudoirs; Eastern, Oriental, something like the
Russian dolls that were doled out to tourists in the decadent days of the Tsar, when
Americans dared to travel beyond the curling lip of the Atlantic to the Ural, Aral, Eder,
Raga.

It is the only object she has from her past life besides the ring.

Carter and Elizabeth arrange their few belongings, the ones salvaged from the
farmhouse, the few that both had brought from their tiny lodgings in Boston. A set of
dun-colored books on the one shelf, the writing on their spines marigold foil, some of the
words flaked off. They have inherited the oak kitchen table Carter has supped at since he
was a child. His parents have moved east, toward the turgid rivers leading to the ocean,
near the sisters who are housed in Conway, South Carolina. Carl remains. Carter
explains that his brother is tied to the landscape as if they – Carl and whatever comprises
the land, the trees, bushes, flowers, the dank rot below and the dust above – are all organs of the same animal. Bound to each other through the sinews and bone. Rock and rootstock.

“What animal?” Elizabeth asks. She can barely breathe to ask the question. She knows the answer anyway.

Carter glances up at her, a line of worry creasing his face. In this way he looks more like his brother, and she longs to soothe him back to a place of peace. Her darling husband, who treads so lightly but breathes so heavily over the world. She leaves off what she is doing, dusting a bookshelf in a far corner, and puts her arms around his supple shoulders.

“Mountain,” he says, kissing her. His arms enclose her; she is a mountain pass, contorting herself balletically to chistle spaces between rock. So that others who come after her can find a way through. “The animate part of the mountains, like the Indians believed.”

She lets her husband detach from their embrace, which he does, unwillingly, his hands lingering on her waist until the last possible moment.

Then Carter removes the inner leaf of the table so it fits through the lintel, and places four of the ten chairs around it. Elizabeth looks at it with pride and also a kind of sickening feeling: it looks like a dollhouse, a scene from a storybook. And its very perfection and quaint charm seem to contain the elements of its unraveling and destruction. She drags a forearm across her eyes, then shakes the dust from the apron Carter’s mother had given her as a wedding present, and ties it around her waist, pulling the strings tightly.
“Them pretty clothes and high-heeled shoes won’t do for farmwork,” Carter’s mother had said, trying to be kind.

The farmwork that she will probably not have to learn; the farms are no more. She wonders if the seedlings and roots planted the season before will still push up and hit their heads against the concrete of the new land cover, if they overhear the murmurs of “war effort” and “progress” and “planning” and “machine” even in their dark cells. She believes plants, the green kind, and perhaps the concrete version as well, have the most sensitive ears, more acute than bats or any animal or creature from the insect world.

The day after Elizabeth and Carter set everything to rights in their drafty little house that looks like it will topple with an exasperated sigh, or unequally-distributed weight, she is called for her interview. It is an interrogation of sorts. Carter had undergone a similar “trial by fire,” as he called it. He told her about it as they were doing the final kitchen scrubbing with lye infused with pine, his mother’s recipe.

“It was the damndest thing, honey. They asked me all about my ‘activities’ at Harvard. But they weren’t interested and they certainly weren’t impressed by my grades or the courses I took.”

“What did you tell them?” Elizabeth asks. A fist turns inside her ribcage; the beat staccatoes.

“I told them I didn’t have time for anything besides studying. ‘No clubs of any kind?’ They asked. And I said, ‘The debate club.’ That seemed to satisfy them. I said, “I barely had the time to properly court my wife or squire her around the nice parts of town before I dragged her off to this godforsaken place.”
She pauses, dishrag in midair. Speaking to authority, any authority and this was clearly army authority even as they shrugged on the moniker, Clinton Engineering Works, CEW, in this way was dangerous. “And they still gave you the job? After you insulted your birthplace, the place they’ve chosen to build on?”

Carter said, “Oh, they’re mostly East Coast types themselves. Well, the army types aren’t but there are enough guys in specs to make it seem almost like Cambridge. One of them said, ‘It’s too bad you studied Law and Ethics instead of Physics. We coulda used you.’ And I joshed back, ‘So this is fixin to be an unethical, lawless enterprise, I take it?’ And then his entire face shut, slammed, like a barn door kicked in by an ornery bull.”

Elizabeth considers this.

“So remember to play up your Boston roots. That nice clipped accent of yours will stand out nicely too.”

Elizabeth is not sure she wants to stand out. That, in her experience, has never boded well. But she will wear gloves and smooth her hair into the sausage curls and tuck them behind her ears with bobby pins. She must, she thinks, remember to bring a clean cloth to wipe the mud that will no doubt stain her shoes.

Her interview is held at a small stone building called the Castle. Brand new, still smelling of paint and wax, mortar and wood shavings. It is almost laughable to her. As if royalty continues to be a real imposing presence in the world, as if “nobodies” haven’t sprung up in every corner of the apple-round globe and were taking large noisy bites with their rage-sharpened teeth. No, royalty is usually too weak and decadent to be truly
feared. The ones who snatch power, the secret police and their ilk, are the ones to inspire cowedness during an interrogation.

A secretary in a pert bun and coral lipstick (Elizabeth bites her lips in order to redden her own as she has licked all of her own lipstick off in her nervousness) welcomes her brightly, takes her coat. It is so much warmer here than Massachusetts in early summer; Elizabeth is flushed and overheated from her short walk – and ushers her into a room with a cement floor.

There are two women in the room and a man in military dress. They ask her the questions she has prepared to answer in her head. “Are you from Boston?”

“Dorchester, about three miles from downtown Boston.”

“Your parents are still there, then?”

“They’re dead,” she says. “But my brother Reed is a student at Harvard.”

“What is he studying?”

“Ethics and law,” she answers. “He and my husband were in the same classes, and that’s how we were...” She stumbles, a bit, blushes. “Introduced,” she finishes. And then they ask her a question that upends her. “How are your math skills?”

“Yes. I am very good at maths...mathematics.”

The two women look at the man and nod, barely perceptively.

The man clears his throat. “A plant is being built as we speak, under the auspices of Eastman Chemical. We are looking for women who are organized and clear-headed, which your husband described you as. You should be ready to start soon.”

Something in Elizabeth flutters open.

Her skills would be put to good use, and she will be safe, encased in concrete in a
room full of machines. Counting. She has spent the last several years measuring, calibrating, numbering. *Teach us to number our days that we may apply our hearts to wisdom*....

Because of their name (plants), because of their intended secrecy, Elizabeth is drawn to the architected town all the more. She cannot wait to get inside one of them and do whatever is expected of her. Whatever it is, she can learn it.

“I will be ready whenever you need me.”
Conway was late for work because he stayed in his car in the parking lot until exactly 9:01. He was one minute late everyday, he had explained to Mauna, to hear the end of Morning Edition on NPR, his favorite two minutes of the day, *Star Date with Sandy Wood*. Pissing Tina off was an added bonus; she was always threatening to fire him over it.

He wanted to do something great with his life. He hadn’t quite given up hope. He was still a scientist after all, or familiar enough with the scientific method and mindset. Sometimes he was compelled like a magnet to drive through Oak Ridge, couldn’t help but be lured East on 40 past Clinton and Norris, the Museum of Appalachia. Early in the mornings when he couldn’t sleep, he passed the Environmental Science researchers with their plots of grasses – scotch broom, orchidgrass and bunchgrass – their tiny greenhouse chambers through which they pumped carbon dioxide onto small square plots of land to predict future climate change. One of his three-week flings in college was an ecologist. Hard to sleep with her since she had to be at the site at Oak Ridge National Labs at 4 a.m., measuring precipitation (dew, rain), climate and photosynthesis before dawn, after dawn, before sunset, after sunset. Like that silly “Sunrise, Sunset” song from *Fiddler on the Roof*. One of her friends – he’d slept with her too, come to think of it – measured global warming by shooting carbon dioxide through holes drilled into surrounding trees. Wind speed was controled so it wouldn’t interfere with the stream of poison focused on that one quarter-sized spot on the tree. Deciduous pine he thought,
a throwaway tree anyway, what was it called? Scrub pine. And poplars and sweetgums, the tree-version of lab rats because they grew so fast. These two girls had claimed that the effects they were measuring on the tree (insects, bark, leaves) were indicative of what the tree would look like, or act as, in 2050. A year that had seemed so far away to him at the time, in 1988, it seemed to belong to another whole life.

When he passes the scarred-out trees now they usually make him feel such vast amounts of self-pity he ends up feeling disgusted with himself, but that morning he paused and was reminded of something good: Mauna’s clothes. Her clothes were nice but overworn. Many of them had, similar to the trees in the experiment, small imperfections – frayed hems at the bottom of her pants where her heels had caught, cross-hatch spots on her tee shirts, snags in her sweaters, the strap of the see-through top hanging by a thread.

The first night he met her, her flowered dance skirt had a few holes and when he pointed them out to her she said that she had gotten them breaking into her house. “There were a few pieces of glass in the sill from when the window broke,” she had said. “See, you’re not the only one who gets locked out.”

“Yeah,” he’d said, “But I’ll bet your window’s only a few feet off the ground.”

“Right, easy for me to break in, and burglars too.”

And then the night they went to the Victorian bar, she had worn jeans and a blue shirt that matched her eyes, a weird sort of tealy-green. The jeans were new-looking but the button-down had a microscopic hole on the left breast. The first thing he’d do, he had thought, when he got her alone, was put his mouth up against that hole and blow into it. Hot breath on cool skin. But then he’d been so caught up in everything he’d just
unbuttoned her shirt and dove in.

Tuesday night he’d come back from Mauna’s shaken. He wanted a beer, or five, badly, but he’d just spent the evening drinking, so he blasted Sonic Youth – the walls in the building were so thick he wouldn’t bother anyone. There was a message on Brian’s machine from Amber, calling to check in. He had told her about Mauna, no doubt his ex was more than curious. She’d said, “I know you're deathly afraid of commitment. Believe me.” She had laughed, the bitterness coming through even on the machine, the smoker in her laugh coming through even though she was only 31. “I know.” Amber had gone from dating Conway for eight years and living with him for five to allowing her one night stand, Ben, to move in with her. Easy, because, like Conway, Ben never really had a place to live. When he had told Mauna the Amber story and mentioned Ben, he said, “But, you know, Ben’s a Beta-Male. He let me sleep on their couch for a few months. I would never allow my girl’s ex sleep in our apartment.”

“A better male?”

“No,” he said, an edge in his voice, “Beta, as in a ray.”

Amber did sound worried, and jealous. In her message, she encouraged him to dip his toe in the water, to try this out, she always said that, knowing that he rarely would. But the tone of her voice was definitely not as breezy as she was trying to make it. He erased the message, and sat down at the card table he’d found and set up as a desk, flipped open his laptop, his most prized possession, after his music collection and the beat up guitar. He typed in “mauna kea observatory” again. He stared at it for a while, but he couldn’t see or read anything that he could directly relate to her. And then he went to

158
astrology.com, and read his month-long horoscope. He would never admit to doing this. He didn’t care about the goings on of celebrities, or all the other junk on the web. Astrology he thought of as science-porn. He and Mauna were the same sign, born three years and nine days apart. He scanned over the first part of the month, goes read more slowly when he got to October 12th, “You will meet someone today who will affect the rest of your life.” Scary. On October 16th he read, “Best day for a date.” Not that he believed any of it.

He remembered asking Mauna on Saturday night, “Do you wake up early to look at the stars?” He was murmuring into her nape, into the hair that she had twisted all the way up, pushing it over the pillow away from him, leaving her neck bare. “I wake up before 6 sometimes. Don’t worry, I go back to sleep right afterwards.” She had already been sound asleep, light-years away from him.

Mauna had called earlier, while Conway was at work. Her message said something about going to the Brewery to watch the Yankees-Sox game. The American League Championship. Funny how the United States always seems to win the World Series, he had heard that over and over in London, even though he had lived there February to early August, not really close, time-wise, to the games. He knew without caring, that this game was more emotional and important than the actual Series, because of the, what, century-long? rivalry. He had absolutely no interest in watching sports on TV, he never did, but he did want to see her. He could not see the point in watching other people do things while he was just sitting. Movies bored him too, but they were more controlled, vetted, less dead time (unless they were bad American movies). He
liked French movies a lot, even though he couldn’t speak any French. He wished he could. But at least there were girls in movies. He might watch sports if women’s sports were more frequently televised.

When he called Mauna back, she seemed less sure about going. She had an assignment due the next day and she said that she was nowhere near finished with it. Kel and James were going, and they were meeting another guy friend of theirs at the brewery. He wasn’t sure he wanted to see Kel and James so soon. He just wanted to be alone with Mauna, talking to her, drinking up the way she looked, and looked at him, in the dim lights of a bar. But he was also curious how she would act around other men. Lucy had a male friend who was clearly in love with her, and who she stuck Conway with every chance she got, as if to prove, *I have someone just waiting in the wings for me, waiting for you to fail.* That guy, whatever his name had been – spending countless hours with him hadn’t made him any more memorable – had resembled a rat more than anything else.

He heard himself almost wheedling, trying to convince Mauna to go out. He wasn’t sure why he was being so insistent, he would see her the next day surely if not tonight. He wanted, he realized, to see if he could make her do something, convince her of a slightly unhealthy thing. He wanted her to be late with the assignment or do a sloppy job on it. Get her to eat a hamburger with fries and Coke shot with moonshine.

“OK,” she finally said, which made him feel both powerful and panicked. “But I’m being stupid.”

When he got to the Brewery, he scanned the ground floor but didn’t see her. But
all he had to do was tilt his head back slightly and his eye caught on something bright: Mauna’s hair. He usually liked blondes, but reddish-brown hair was nice on her. He stole up the steps; he had an overwhelming urge to surprise her. As he got closer to the top of the stairs, he saw her, all of her. She was sitting on a swivel, three-legged stool, using her feet to make it sway slightly a few degrees one direction and then back the other way. She was wearing what Lucy called a pencil skirt and her legs were pressed tightly together. With the harsh light tunneling down on her she looked, more than usual, from another era: unreachable.

She was surrounded by men, laughing, jostling with them, her gestures comfortably flirtatious. So she was only that tense around him. A frighteningly pleasant thought. He saw James and Kel sitting side by side, James leaning in to Mauna to catch the last thing she’d said. He wanted to turn around, and go home, but his mind snagged on the word “home.” Where was that, and to what or whom was he returning? So he forced himself to walk toward the round table.

When Mauna looked up and saw him standing almost next to her, she gave a small jump and an “oh” of happy surprise. It wasn’t as satisfying as he had thought, though, to surprise her. She was always so surpriseable, he realized, living in her head most of the time, like he was in his, that fascinating, secret laboratory full of whirring machines whose purpose he could only guess at.

As he eased himself onto the stool beside Mauna’s, Kel smiled hugely at him and James shook his hand. Far from being a crowd of other men at the table, there were in fact just two others. He was introduced but he forgot their names as soon as Mauna said them. Classmates of hers and Kel’s. They had been discussing her paper,
the one that was due tomorrow, the one that he would make late. They were all in the same class.

Mauna looked at him, although her gaze didn’t rest long in his eyes, scuttled back down to his Adam’s apple. “I thought that I would use Derrida,” she said. “But I don’t think I understand him quite well enough. You’ll have to give me a tutorial.” The end of her sentence turned up into a question, mirroring the upturn of her mouth. She had a great smile, but really, he preferred her frowning, deeply concentrating, trying to figure something – him – out. Or in repose, her mouth full and naturally pouting.

“What do you want to read it?” She asked, sliding the pages toward him. It’s just the rough draft, and it needs to be 20 pages by, well, now, Friday, I guess.”

He took it from her and read: “Merely a Trick of Moonlight”: The Accidental Triangulation of Love, Power, and Narrative. He skips down a few paragraphs. “...locate her story, her history, in the landscape of the body: a mouthscape.” That sounded promising, so he skimmed that paragraph: “By choosing to locate her narrative in the mouth, it seems as if we are being forced to acknowledge the political and historical power of desire....”

He couldn’t concentrate on this right now. It intimidated him. It was everything he hated about academia, taking the learning experience and parsing it into bits, not allowing the reader his own sweet time to suss out what was important to him. And then doing the same thing to love, using it as a concept, a scrap of data, a pawn. Pre-figuring, posturing, full of assumptions. It was the same trick that scientists used that made him ill. A lab technician had once told Conway about some “messy data” and
Conway had expressed sympathy. He knew that the guy had worked all night. “Naw, disparate variables aren’t really that big a deal,” the lab tech had said, grinning. “As long as we have the numbers, we can extrapolate what we want, and let the statisticians skew it our way.” That argument had appealed to Conway’s sense of order, but it had troubled him overall.

He had to admit, though, that reading Mauna’s essay made him want to read the book and it made him want to kiss her.

But she was busy. Talking, laughing, her mouth open in an oval, all in response to the other people at the table, or, worse, to whatever play was happening on TV. He didn’t want to share her with any of them. But then he didn’t want the responsibilities inherent in making that claim of her, her time, her attention, her body and face and voice and mind all to himself. He was up shit creek. Which he used to pronounce more like “crick” until Lucy had made him self-conscious of it.

Her head was actually turned away from him. He tapped her shoulder. “Do you really care about this stuff?” He found it utterly depressing that while in other cities people went to art exhibits and French movies and ate Ethiopian restaurants and walked around looking at things, people in Tennessee, in the South in general, spent their time, so much of their lives, watching sports. What a lame hobby.

“Not usually,” she said. “I hate sports, usually. But it is Boston potentially winning the first Series in forever. And I lived there, you know.”

“Boston is such a boring city, such a wanna-be.”

“Oh,” Mauna said, “I didn’t know that you’d been there.”

“I haven’t,” Conway said. “But I wouldn’t take a crap in that city if it had the last
toilet in the country."

He definitely had her attention now. “That’s ridiculous, and I would call you a hypocrite, but I have this thing where I refuse to see Tom Hanks’ dramas, and I am convinced that *Philadelphia* and *Forrest Gump* are awful even though, you know, I wouldn’t deign to see them.”

“I’m glad you don’t buy into that manipulative shit,” Conway said. “But isn’t it un-PC to hate a movie about AIDS?”

“Conway,” she said, rolling her eyes. “Try to have a good time, okay, b –?” He knew that she was about to say “babe” and stopped herself, thank god. Too soon for all that. He couldn’t remember the last time a girl said his name, let alone with a term of endearment. At least one with an American accent, Yankee to boot, who wasn’t a total bitch who he hated himself for – still – he had to admit, being obsessed with.

He said, “So what does Nigel look like?”

“What? Well, a lot like you,” she said, slowly. “Strong from working outside all the time. He looked Israeli, actually. Tan with light eyes. He trained to be a chef and then went back at 30 to get a second degree.” She smiled. “He loved the word ‘bobby pin.’ I can’t remember what he called them.”

Nothing like me, he thought. “In what?”

“Conservation. I guess that's the English term for ecology, wildlife management and protection, something like that.”

He had always been amused by the terms “management” and “protection” being linked like that. How could something that was controlled also be protected? But then he realized that paradox was his tactic with Mauna. He had to fend her off so that he
could save her from Amber’s fate. From all of their fates.

Mauna continued: “My ultimate fantasy was making love in a field. Where before, during, and after he told me the names of trees, birds, butterflies, flowers. He could identify birds when they were just a speck of dust in the sky, even when they were completely hidden, just from their faraway calls.”

All things he couldn’t do, skills he didn’t have. He wanted to ask her, And what did he name you? But he knew the answer; he called her Darling, with that English lilt that scrubs the irony from endearments. “And you got all that. So that’s it? You’ve achieved your ultimate fantasy?”

“Well,” she said, either deliberately ignoring his jealousy, trifling with him, or being incredibly naïve, “that and spending at least one night in a double-bed. He was living in a converted dorm with a single bed. Romantic, but nothing that anyone could live with. Like Relativity.” She smiled at him as her mouth formed the word “Relativity.”

“But,” she sighed, “I couldn’t convince him, hard as I tried, that I didn’t care he wasn’t ever going to make a lot of money, that I respected what he did.”

“That’s because you’ve always had money,” Conway said. It came out harder than he meant it. Then again, so had he, his grandfather’s legacy had allowed him to move to New York, to the shabby-chic East Village no less, without a real job. To chase after an English girl, all the way across the pond, to that sophisticated and expensive city.

How could he explain that a man with all the power society bestows on him, even if, or rather especially if he’s not successful or immediately successful in terms
of money or career, feels nothing for the gifts he was just lucky to be born with. And in fact he feels something like a barely suppressed rage against the people who give him treasure for unearned, stolen goods. Conway felt it now, umbrella-ing behind his eyes, "This is not me, this is not who I am, don’t recognize me or appreciate me, or God forbid, love me for these unearned things."

"Maybe," Mauna said. "But it wasn’t like he grew up without it, either. His dad’s a pilot."

Conway pounced on the cue. "And his mother? Why doesn’t she get mentioned? The feminists would not be pleased."

She smirked, his favorite expression of hers. It was so incongruous to her face. He pictured an antique cameo that Lucy wore on a gold chain. That pious face, one corner of her lips twisted, lifted. That particular arrangement of her face made him feel safe, lifted responsibility from his shoulders, made him think that he could manage her and made him believe that she could protect herself from anything he might throw at her.

"I don’t remember if he mentioned her profession. His parents had been divorced a long time and he wasn’t close to her at all. He was angry at her. He felt abandoned by her."

"How could anyone hate their mother?" An image of his mother assembled; she was perfect, like an equation. It hadn’t been her fault that she had sent him to live with his dad. She had assumed that a male influence, even an faulty male influence, was better than none.

"God, what’s with you?" She asked. "I didn’t, wouldn’t say hate. Hate is usually quite difficult for most people to summon up, and geez, parental relationships are
too complicated to put in love-slash-hate categories.”

“I can easily say that I hate my father,” Conway said. “The reason I don’t want to get married is that I have my father’s genes. I don’t want to perpetuate them. And, please, refrain from theorizing, if you can.”

“Oh,” she said. “Theory makes me think about sex, anyway. I mean, I like the ideas, I just don’t want to read them in that form. I want someone else to read it and tell it to me as a bedtime story. *Derrida and the Dragon*, something like that. I wonder who would win that duel?”

Mauna often slurred a bit after only two glasses of wine, each individual word fused into a string that dangled in front of him, making it hard to differentiate between “word” and “world.” Sometimes he was so overcome with tenderness for her he wanted to break her bones. He imagined them snapping, the satisfying noise of a tray of glass beakers shoved off a table. “Depends on the kind of battle: mental or physical. I bet you like being read to, huh.”

“Yes,” she said softly, looking down. It was as if he’d asked her preference for a certain, extremely naughty Kama Sutra position, one that he had in mind right then. Several, actually. God, no one pronounced the word “naughty” like Brits.

She was still looking down, her brow blue and translucent, a piece of airmail paper. “But you see, if we can’t love anymore, it means they win.”

Somehow, in the midst of the game’s drama, he had steered the conversation down a path she wouldn’t be able to stray too far from, women and their lack of choices, disguised as many choices: a prism that blinded them with its light-snaring facets. The
others were enthralled in the game, didn’t pay them any mind. He was amazed at her ability to carve out a country of two people even in the midst of a group.

And science, always science.

She said that women weren’t scientists, the way that men were allowed to be, that women weren’t encouraged and even pushed toward the life of the empirical mind.


“You make it sound like a high school basketball game. It’s not a competition!”

He was incredulous. Didn’t she know that everything, everything, everything was a competition? Darwin, for starters.

“And that reminds me,” Mauna said. “Why are a team as fierce as the Lady Vols called ‘ladies’? I hate it when I’m called that. In fact, I’ll do anything not to be called a lady or ma’am.”

Except be impolite, was his first thought. And one or two other things, nice things, he could think of immediately.

They were mostly talking in low tones so as to not disrupt the die-hard game watchers, but Kel kept looking for an excuse to break into the conversation, and she did so here: “God,” she said, rolling her eyes, “It is hard to swallow. But it’s a Southern thing, right?” She twinkled at Conway. Mauna was again snagged by the action on TV and didn’t seem to hear. Kel continued, “Mauna doesn’t get how entering your daughter into beauty pageants is totally acceptable here.” Conway was personally grossed out by
that, but even his sister had done that sort of thing, before she rebelled and refused to do it anymore.

A Nissan Murano commercial came on and Mauna turned her face back to his. “Fucking SUVs.” A piece of hair had meandered out of her pinned-back – her hair was half-up, half-down – and she blew it out of her eyes in a gesture that managed to be both annoyed and to convey mock-annoyance. “Anyways,” she said. She seemed very aware of Conway looking at the stray curl, and raised her arms to retuck it inside the bobby pin. “Doctors are now almost feminized. It’s a trade, like you said, almost arts and crafts-y, in its way. And nurturing, which is perfectly acceptable, desirable really for a woman to be. But there aren’t as many female scientific researchers, working in labs. Right? I mean, nowhere near 50-50.”

“That’s true.”

“Sad.” She sighed. “It reminds me of British and American girls in the early twentieth century being sent to Switzerland or Dresden to read German philosophers and poets. And then they returned to be re-introduced into proper society, brimming with thoughts and ideas, but forbidden to share any of their own opinions or reveal any of their accrued knowledge, or, God forbid, get a job, the upper crust ones anyway. Carrying Goethe around like a secret fountain – ‘a fountain of blood in the shape of a girl’ like Bjork said – as they were forced to simper and twitter and flutter their fans to trap a suitor, cautioned to not scare men away with ideas. How could anyone really have truly loved each other back then?”

It always came back to love with her. “Damn, where did all the Swiss misses go? I’ll discuss Heidegger with them anytime.”
She smiled. “In cocoa.”

“Yum, even better.”

She waved her hands as if trying to rewind time, her thought process. “It sounded like a song when you said it. No wait, that’s ‘Where have all the flowers gone?’”

“You hippy.” Although he supposed that she wasn’t, really. She was, like most particulate matter stuffed into the old mattress of the universe, unclassifiable.

“Mmm.” She wasn’t looking at him, was in her own world. “I guess all the ‘finishing’ that went on in finishing schools across Europe, god how depressing: ‘finishing,’ in this context. It all, at least, guaranteed a rich inner life. So they would be happy, or at least not suicidal, rattling around in their heads, sitting around in their sitting rooms. Why do I want to say the word ‘damask’ – I’m not even sure what it means. Isn’t there a fabric called ‘bombazine’? So they wouldn’t rebel except for every couple of decades.” She shook her head and her hair resettled itself around her shoulders. “We’re definitely in one of those lull times, my students won’t even call themselves feminists, even though I tell them they can define it in a myriad of ways.”

Mauna’s hand had meandered to his lap, his right leg. He didn’t want to encourage it but the warmth was nice. He did have the vague feeling that there was a gender swap going on. She was now, in the final innings, re-enraptured with the game, wincing at Boston’s mistakes, her face aglow when the Yankees made errors or Boston made good plays. Her hand on his thigh was the tactile indicator for “I can’t pay any attention to you, but I don’t want you to be mad,” a gesture that enraged countless
friends-who-were-girls or ex-girlfriends – who were so grateful that he hated watching sports, they would do anything for him.

He had already slammed about four beers, and thought he should start slowing down, but then he remembered that he had walked to the Brewery. He had wanted a pre-excuse not to drive Mauna home, not to have a repeat of the night before’s tussle. She would be disappointed when she found out. He figured that she had left off her work only to be alone with him, at least on the drive home. She really didn’t know how to play the game; she should have said no. More than likely he would have found his way to her house, that had an old TV with no reception, no cable or rabbit ears, after all.

He tuned back into the conversation swirling around him. They were finally moving beyond the stupid baseball game. One of the two guys he’d just met was talking. He was the shortest man Conway had ever seen, shorter than Mauna, with a Napoleonic complex to match. He was spouting off about one of his composition students.

“This black girl, my student. She’s really hot and she knows it. So she plagiarized, and I mean blatantly. I caught her and wrote ‘come to my office hours’ on her paper, and she shows up in this skimpy skirt and low-cut top, flipping her hair around. It’s not like she’s actually going to sleep with me, so she thinks that she can just, what? flirt her way out of this?”

He hated this guy. How totally obvious that he wanted this girl, or someone like her, some pretty girl, preferably non-white, and that he couldn’t get any girl to save his life. He thought Mauna would have made a face or responded somehow negatively to this diatribe. He himself was instantly on the girl’s side, having to deal with this jerk.
But Mauna put her head in her hands, so he couldn’t see her immediate response.

After a few moments, she raised her head, shaking her hair off her shoulders so that it settled down her back in its long waves, she said, “They don’t realize how plagiarism is like a kick in the heart. I hate feeling like a detective, assuming that every misstep is malfeasance. Finding the asp among the lilies.”

“But think about how young they are, how clueless,” Conway said, turning toward Mauna. “Think of what you were like at that age, getting wasted every night, bed-hopping, getting in fights. Paper-writing was the last thing on your mind.”

She looked him full in the face. “But I wasn’t like that. I rarely drank, I had a serious boyfriend. I sort of loved writing papers. And I wasn’t a boy. Geez. Fights?”

“Oh yeah, every weekend,” he said, “I got arrested one night for picking a fight on the Strip.”

Mauna’s eyeballs seemed to grow rounder and spin, twin disco balls. Girls loved fighters, made them feel protected, let them have someone to save. Even – or was it especially – if they were Yankee liberal pacifists.

“Really, Conway,” Kel lisped. “You have no idea how many fake deaths we have to hear about, three dead grandmothers a semester. It’s demoralizing.”

Conway ignored her, her and her fluttering eyelids. He asked James, “Do you get a lot of that stuff, too?”

James was a master mediator. “Sometimes,” he shrugged. “Not as much as what these guys have to deal with. In community college, people either want to be there, and so they mostly show up, or they never do.”

Conway thought about that. He had been a pretty good student, at least in the
beginning, at UT. And it wasn’t the drinking or the fights that got him in the end. It was sex. Love and sex. Desire derailed him. The thought of going to a sterile lab to work on computer models all day, pixels instead of pixies, made him nestle against whoever was next to him, sleepwarmed and fragrant, supple and soft. And then, afterwards, he was depleted, and could only sleep until the next wave of desire hit him, and the process would begin anew.

He knew that he had done Amber wrong, using up her 20’s greedily, when she should have been looking for her true mate. But he still blamed her for, what? Making him want her so desperately, never saying no, never forcing him out from between her legs, out the door, into the lab with its whirring machines, idling like muscle cars, or planes with bombs, waiting to take off.

He should have studied climate, something all-encompassing and holistic and enormous. Not the microscopic neutrino, wily and invisible. He could have had a hand in predicting future events. Environmental science was such a community-minded science, the web of the life, the inter-connectiveness. They all did their fieldwork together, even in groups, reminiscent of the early days of Oak Ridge, where (he’d seen pictures and imagined) all of those serious men rolled up their shirtsleeves, adjusted their horn-rims, smoked their countless cigarettes, put the heels of their boots, waffled with red Tennessee dirt, up on the wide tables and argued and figured things out as a group. For the common good. Or what they ardently hoped was the common good. Of Americans, anyway. Then, at the time. Now people stayed in their little cubicles and jealousy guarded their discoveries. The minute, the fractions of invisibles or nearly invisibles, all that dissemination.
He’d had enough dispersal in his life, enough spallation to last a lifetime.
Daisy Chains

The first day Elizabeth enters building 9731, she feels a strange pull. An affinity of sorts. But it is more than something merely emotional, more than This is the place, I am here. The words that ricochet inside her skull, carom around the cavity surrounding her stripped-bark heart, are Oh you again, aren’t we beautiful?

Elizabeth rubs her abdomen, the wool crepe of her skirt rustling against the satin liner. She wonders if this new habit of hers is in the same category as other women twirling their hair or biting their nails in private. She knows that it is not a result of being married, or newly married. Or the machinations of love, which are not so very new to her, after all.

She often feels stirrings in her womb, and even a pressure that is painful in its implied portentousness. But she bleeds every month. Carter is both disappointed and relieved, she knows. He could be called overseas at any moment. Part of him wants to go, which she cannot take personally. Her husband is needed there, his strength and calm fortitude, his desire for rightness, his absolute lack of shirking in the face of any kind of duty.

At first Elizabeth fears that she is ill, that she will not be able to bear children, but she and Carter are somewhat careful in their timing, and in her deepest heart she feels capable of being pregnant and giving birth. Just not quite yet, not quite yet, but soon, her blood sings through her. First: this. She does not know what this is specifically, but there must be a purpose. That she survived, that she hoodwinked her very own fate.
On one of her walks she has discovered her new favorite tree, not native to Tennessee, the seedling carried from Florida in the folds of a bird’s wing, she is certain. She loves the description of it: “The wood is not so heavy as that of leadwood and when thoroughly dried will barely float in water.”

*Darlingplum Darlingplum Darlingplum* she murmurs to her womb, to the dark-purple drupe of her blood, to the unknown.

She was told to be waiting at 7:00 a.m. on the Castle steps and someone would take her to the building, manganese-gray in its spackle of fresh cement: 9731. Elizabeth wonders what the numbers can signify, why they were chosen as the code, and all she can think of is her color, yellow, and the element yttrium. Yes, she thinks: perfect, associated with “rare earths.” It was discovered in 1794, during the Reign of Terror, but in safe Sweden, not ravaged France.

She arrives at a quarter to seven. She is alone on the steps, even as she sees men and women file into other buildings. Surely, Elizabeth thinks, she cannot be the only new worker; the call has gone out that this place needs people, in the same way Elizabeth understands that all plants need people, green and alive or tomb-colored. Carter had just that morning at breakfast remarked that businesses in Knoxville were upset by the siphoning of laborers, lured by the promise of higher pay and a hand in the war effort, a chance to be patriotic and line their pockets more thickly. “That’s a sacrifice people can sure get behind,” her husband had remarked.

A woman with an officious air and a brisk manner meets her at the Castle. She does not give Elizabeth her name or extend her hand. She merely looks at Elizabeth over
the top of her clipboard and nods once, definite. Elizabeth assumes that she has passed yet another test, unknown to her, and that she is meant to follow. Both pairs of heels click and scrape along the wooden plant set up over the red wash of mud.

Elizabeth is dressed in a shirtwaist tied with a fabric belt. The patriotic, hard-working sun continues to work overtime. She does not carry a purse, and the keys to her little house are in one of the pockets of the dress. She has carefully applied her lipstick, and her Marcelle waves are set perfectly. She wears her wedding band, the one Reed had shaken from the old coat lining, and silver earrings Carter had given her as a wedding present.

Whatever is being done in this building exerts a kind of hand-over-hand tug on her, as if she is a knotted rope, and one side of tug of war is made up of musclemen. Body-builders: it is her body filling with the thrust of air trapped and charged inside the plant. An edification of sorts. She is being built.

As soon as they enter a drab corridor, the persistent chatter of heels fades in comparison to the vibration of her organs rattling in their husks.

Her keys shift ever so slightly in her pocket, move closer to her pelvis, away from the hipbone they had been clanging against. She senses her earring lift up a fraction, get tangled with a curl arranged near her jawbone, she feels the pins in her hair migrate in minute but perceptible degrees across her head. Her ring tightens on her finger, then loosens and she grabs the finger by the knuckle, afraid that the circle of gold will slip off.

It is the internal shiftings that are the most unsettling. She can explain away the movement of metal. It is a conductor and responsive to changes in the body: nervousness as a chill that might loosen the bonds of a wedding ring, fear as a heat that burns in her
ears.

But this. Her cervix tips its pitcher opening so far towards the center of the room, she hears a tinny scrape as it moves against the inside of her belly, tugs on the plug of her belly button, that vestige of connection. Her bones and muscles twist toward and away from each other in ellipsoid hinges. Fusiform spaces open between the topography of her organs along their axils, enough for a silvery light to create mountain passes where before they were only thickets of blood. The atria of her heart expand so quickly in their calyx envelope, she involuntarily raises her hand, and squeezes it with her right hand; she knows that this expansion causes the eclipse of something necessary and sacred. Certain cherished spaces slam irrevocably shut, but she does not mourn them much, since something, half water, half light (her own recipe of a kind of mud, she thinks) is coursing through newly dug out anastomosing, arborescent channels.

She has to fight back tears, although the magnetism of the space, seems to work on water just as well, and a few spill out without her allowal. She hurriedly wipes them away with the back of her hand; she is thankful that she is behind the woman. But Elizabeth knows that as soon as she is alone, she will pace in a grove of sweetgum and poplars she found embroidering the edge of a barley field, and lean against a grandaddy Eastern hemlock (*Tsuga canadensis*). Its terminal shoot, lime-green, her book states “assuming a gracefully weeping habit.”

The two women turn the corner, a sharp right angle. Then another. A series of right angles: what would Pythagoras make of it? He the equalizer of both the sexes and numbers, the decryer of binaries, of balance. The peace-loving vegetarian, the proto-Buddhist. Ever-hopeful that a hypoteneuse, a line that connects two lines working
against each other, could be traversed instead. But how often are buildings or cities built along those short-cut, rational lines? Boston and its environs comes closer than most cities, but it is a series of concentric circles, nothing properly triangulated. The old cosmologist’s teachings about vegetarianism are ignored along with his blueprint for teleological movement. Green plants are hardly models of efficacy, seeming to grow through a series of starts and arrests, one shoot and then another. And the great machine of this place, of Oak Ridge? Along what sorts of labyrinthine lines is it drawn?

The vibration drops to a near, irresolvable whisper, as delicate as a scruffy line of ciliate tracing the curve of a leaf. As the corridor widens to a warehouse-huge room with the highest ceilings Elizabeth has ever encountered (taller by far than the Boston Symphony Hall or Opera House, or any of the other city arts buildings she has entered and sat, rapt, watching a story unfold, the musical notes peppering the air), the thing that seems animate or at least animalistic sharpens to a tremendous roar so loud and present, jangling around in her own core, she has to clamp her hands over her ears. The tears are pulled from her eyes again, and topple over the rims, trail down her cheeks. Are her tears saltier in here? There is a persistent burning as they carve the planes of her face. She wonders if they will be the ones to leave marks, after all of the invisible ones.

The room is so cavernous and bare it reminds her of an underground squash court for giants. The echo and plop of balls faint, like a horse’s gallop.

The woman’s voice is as kind as she will allow it, in these uncertain circumstances, Elizabeth is sure. “The reaction you’re experiencing might derive from the combination of metal and electricity in such large quantities.” Her hand sweeps over
the lines of machines, lights blinking. At almost every station, a woman Elizabeth’s age or younger sits on a three-legged swivel-stool. Identical waved hair tucked behind ears, identical red-painted lips pursed in concentration, and vermillion nails tapping on buttons and lighted consoles. They remind Elizabeth of a line of pretty birds on a fence or a wire, inherently balanced, intent on the task at hand.

The woman with the perfectly whorled bun turns toward her. “Yes, it is rather strong today. You’ll get used to it, all the other girls have.”

“What is it?” Elizabeth gasps.

“We don’t know, and we’re not supposed to ask questions about the work being done here. It’s war-related, as you know.”

Elizabeth’s breath comes in a succession of quick, shallow flutters. She crosses her hands over her breastbone to try to quiet it. “I understand.”

She is led to an empty seat. It is cold; no one has ever sat here before her. The woman peels off a piece of paper with numbers and words, the magically mundane symbols of our age, smoothes it down on the one flat surface of the station. The rest of the console is covered with knobs, like tree boles and scars, blinking like hungry babies who need to be fed and attended to. Their tiny, ravenous hatchling mouths.

“Here are the instructions. All we ask is that you be attentive and careful. Just follow them. You will be fine.”

The woman clacks away, then does a quarter turn, and stops, like a beauty contestant. She would win, she would be crowned queen, Elizabeth thinks. That poise, that inveigle-less wraparound smugness. “Of course, you should not talk to anyone about what you do here. Even to your husband. What happens at the lab should stay here.”
She stretches her bright mouth into a tight smile, adds a cheery note to her voice. “Loose lips sink ships!”

Elizabeth sits down gingerly on the swivel-stool. The two women closest to her are separated from her chair by four empty spaces, although the consoles even at the empty stations blink just as furiously as the screens of the ‘manned’ ones. She glances at the woman to her right, her dark hair poking out of a paisley head scarf. The woman’s lips upturn slightly, and then her eye is caught by one of the lighted knobs and she frowns, her attention snagged on her task.

Elizabeth picks up the piece of paper covered with typewritten black marks. Neatly typed across the top are the words “Instructions for 9731.”

Skimming down (there are just ten tasks), she is disappointed: there is no explanation, nothing to suggest the magnetism of the place. Whatever is responsible for that unbelievable pull is either embedded in the machines themselves or is invisible, perhaps an emanation, undetectable by scientific means, only felt. And therefore more powerful for being unexplained and unknown.

She places her hands on the thrumming machine. It is just like a man, after all, she thinks. Merely requiring a certain kind of touch in a sequential order. Like a body it will reveal itself, its secrets, to her, in time. She presses the START button, and the knobs all light up at once, which frightens her. They settle into a diamond pattern. She glances again at the sheet. It appears that a diamond pattern is the neutral position (how counter-intuitive, she thinks). When a button lights up blue outside of the diamond pattern, she must mark down the number that will appear on a small screen in the left hand corner. If the pattern of yellow lights changes completely, to a square or a rectangle, then the
number must also be noted down. Sometimes, although the Instructions assures that this is a rare happenstance, several combinations of shapes and blue lights will coincide, and that is where memory, a mathematical awareness, becomes helpful, since the numbers on the counter will change quickly, and all needs to be gathered.

Carter must have told them about her strange ability to instantly memorize any number: phone numbers, street numbers, gas mileage. Calendar dates as well. He must have boasted about her attention to miniscule details, her neat hand. Her penchant for order.

This work is enough like botanical categorization to keep her attuned. But unlike a petiole or a sepal, an anther or corolla, she cannot dissect this metal box, she cannot see how its gears mesh and clank. And it is so far from the natural world that it seems divorced from the very idea of an outside world, as if the green world no longer exists. As if it has been theorized out of existence. Or will be soon.

So this is physics, she thinks, with a delicious shudder. Tiny particles locked in metal. Perhaps that accounts for the pull: the atoms barrelling against whatever is encasing them, straight-jacketing them so that they are frozen, unable to crazily spin, off-kilter and wrongly, for no purpose, and certainly no goal that has anything to do with war. The machine’s purpose must be to corral, to rein in, to enclose in an aluminum embrace.

What she feels wrench at her heart is in fact something struggling, unrecognized and not part of the offensive, the plan. Or only a ignorant cog in it.

Her eyes burn on her walk home. She is hungry; ravenous, but nauseous. Thousands of bright threads – the comet tails of the rounded lights behind her eyelids –
dance in the grove of trees that encircle the lab.

She has never felt such a strain as she has staring at nictating lights, all speaking to her in some code akin to Old Testament numerology. Her great-aunt had been adept at reading numbers, divining the future from their mystical orders, their shadow-aspects. Elizabeth had been fascinated by the power and symbology etched into their seemingly benign or blank faces: 4, 9, 6. But her great-aunt (a painter, childless except for the legacy of her color-soaked paintings, as if gems had been melted and spread over the canvas, as if they were one-dimensional pottery, cooked and stirred in a kiln) had been taken away, along with everyone else she had loved, except for Reed. Even a knowledge of the secrets buried in numbers and caught in swirls of paint hadn’t foretold of what could not be believed.

She presses the heels of her hands against her eyelids as stoppers. Forces her mind to contemplate $\pi$. A magical symbol represented by an eternal string of digits. Some say that the calculations, if carried out to the billions of decimal places past 3.14, will yield some sign, a truth about the universe. But the devices to reach those places have not been invented yet.

She passes a group of barrack-like housing, scarcely a dormitory, more of a rough collection of shacks. Black faces in the small windows, a kerosene lamp flaring to life. Which means that this housing is not wired for electricity.

Elizabeth watches a man lumber up to the shack. The door opens to reveal two cots, a wood-burning stove. There are three other people inside. All men. Why are they being housed like animals? Where are the women?

What will she tell Carter? What has he been doing all day in another part of the
compound? She is sure that he will have been instructed not to tell her either, that a veil of secrecy is draped over the entire town. She understands the impulse. But how many more secrets can she contain, wrapped like sinews around her bones and nestled in the strands of her hair like hair pins?

And yet, she thinks, her fingers running along the ridges of the pins in her own french twist, a pin can be removed rather inconspicuously, un-kinked and used to pick any lock in the world.

Qubits

Thursday October 21

Conway had the day off. He had driven to Oak Ridge in the early morning, in the near-dark and dark, the stars winking at him like crazy people, trillions of secrets spilling out across the deaf ears of the sky.

It was best not to do anything physical with Mauna, anything that involved landscape, fresh air, heart-swelling vistas. Any landscape like that would remind him of geophysics, and his sister. And it was romantic. He had to be in a bar, lavender smoke wreathing over his head. After all one bar was pretty much the same as another, a place
to forget. A no-place. He needed Mauna to be placeless, untethered to landscape or the lab, his twin ghosts. What he wanted from her most was to participate in their electrodynamism without trying to figure it out. He could only handle a sort of angular momentum, “action at a distance,” the mystical interaction of two objects separated by space with no known mediator that mysteriously explained gravity and electromagnetism. How else could an object somehow know the mass or charge of another distant object? If Conway had a divine inclination, it was the belief in that invisible mediator.

After her dance class, she knocked and he let her in. She was drenched in sweat and looked unfocused and open and also had that concentrated kind of charisma that comes from meditation or exercise that seems vulnerable but is in fact practically impenetrable.

“Well, hello.” Conway said, stepping back to open the heavy door wider.

“Hi.” Mauna came in but didn’t meet his eyes. It always took her a few minutes to work up the courage at the beginning of one of their evenings together. She collapsed on the floor as she had on Tuesday, her legs bucking under her, and started stretching like a ballerina, legs spread apart, her back just slightly rounded between them. When she raised herself up she groaned a bit, somewhat theatrically, and gave him an unfocused smile.

“How was your day?” She asked. Her cheeks were red and there was a smudge of dirt on her right cheekbone, probably from his floor.

“Well, today Tina accused me of stealing a guitar pick. I probably have taken them from the store before, but this time I hadn’t. Plus there are like a million of
them lying around. I guess this one was special. I spent a good half hour after my shift looking for it and when I found it, in the change drawer under the pennies, she had already lost interest and didn’t apologize. I fucking hate that place.”

He wasn’t looking at her as he spoke because he was shuffling through his CDs, trying to find the Magnetic Fields and Scritti Politti for the classic “Perfect World” and more obscure but even better “Jacques Derrida” that he really wanted to play for her. It felt like high school, inviting a girl over, sweaty from whatever after-school sports activity she was doing – usually cheerleading, he thought, although the soccer players were cute too – and going down to his dad’s basement and playing them CDs so that they would feel all romantic and take their clothes off. Only he wasn’t sure that was what he wanted Mauna to do, at least right now.

“I’m sorry about Tina.” She inched closer to him on the floor, picked up the liner notes from the CD, read through the words to the first song while it was playing. “It’s good,” she said. But after a few minutes, she added, “I really want to take a shower and cook dinner. When can we get out of here?”

He would rather be out at a bar; he was never really hungry. But he knew that there was not one comfortable place to sit in Brian’s space, and she balked at going to a bar again. “It’s a lot of smoke for one week, for this healthy girl,” she said. “Plus I had a long week out in public, talking to people, and I don’t feel like being so, I don’t know, exposed, anymore.” He felt just the opposite. His few interactions with customers in the store, or with Tina or Squirrel were so unsatisfying, made him feel so boxed in, that he couldn’t wait to be in the public sphere of his choosing, the hum of the vaguely dangerous interactions whirring around him, the bright bottles twinkling at him from their
high perches.

He saw that she was determined and so he gave in, this once.

In his car, she scrunched down in the seat, rubbed her eyes and the tip of her nose. She was tired. The blue undertones in her skin made her look faintly fluorescent in the streetlight’s glare.

“That guy last night was such an asshole. How can you even be friends with him?”

“Oh, Conway,” she said, the fingertips of her hand rubbing her temples in slow arcs. “Let’s not start that again. He’s not my friend.”

He ignored the slight vibration of his vertebrae caused by her saying his name, and said, “I bet he just whaled on that poor girl, his student, because he wants her and she rejected him.”

“Maybe, but that’s all under the surface, stuff we can’t possibly know if we don’t know them, right? And it really is a pain to hear lie after lie from students.”

“He’s lucky that I didn’t kick his ass.” He turned at the music store onto her street. “You don’t talk to your students like that, do you?”

Mauna sighed. “I don’t think so, I hope not. But anyway it’s different, because I’m not a guy.”


She propelled herself up, as if she was falling asleep in church, or like she had been drowning. Evidence of the sort of struggle necessary to break through a recalcitrant surface. She looked at him somewhat sleepily, and then her peripheral vision alighted on the ceramic coffee mug he had tossed behind his seat that morning.
“Ooh, pretty.” She reached further around, contorting her body in a not unattractive way – she was certainly flexible – and plopped it into her lap, and then twisted around to face front again. “Did your mom make it?”

At first he thought that he was so transparent around her that she had a treasure map to his own secret city. With its empty, windowless buildings, laced with barbed wire. “Did I tell you that my mom’s a potter?”

She laughed. “How else would I know?”

He shook his head. Too much booze or else he was in serious trouble in terms of her. His memory was usually pretty accurate, even when he wished it wasn’t as crystal-like, clear and prismatic, like a chandelier’s shard. “I don’t remember telling that to you.”

Mauna said, turned it over and over in her hands. “I love the shape, it fits in my hand perfectly. And the orangey-red glaze.”

“Courtesy of uranium trioxide.”

“Eek,” she said, dropping it again in her lap. “That sounds seriously toxic.”

Conway had never really thought about it before. “Easy there, Ms. Organic. Like most everything, small amounts are safe.” And then, he thought, if she describes a homemade, glazed mug as toxic, then what would she do once she found out how cyanogenetic he was. Cryogenic too.

“But not harmless,” Mauna countered, jutting her bottom lip out. “But then again,” she sighed, “I guess nothing is.” She shook her hair out of her face. “But wow, radioactive coffee. Must be damn good.”
As soon as she opened her door (like Brian’s it was red, but was so flimsy and peeling he – or anyone really – could easily kick it in without even trying) he was planning his escape, the near-miss of Tuesday still haunting him. He must not let himself get that close to succumbing again.

Her house was cute, but the ceilings were ridiculously low, not more than seven or eight feet. Especially in contrast to his grandmother’s almost steepled house with its cathedral ceilings, and Brian’s sky-high, loft-style ones, they bore down on him.

Once inside, Mauna headed straight for the bathroom, which was at the back of the little house, down a short hallway and up two stairs. It had a wooden door, which could never quite close because the hinge wasn’t aligned. On Saturday, he had promised to fix it, and she had readily accepted, but his tools were still in storage in the East Village, and he probably couldn’t do anything without them.

He heard her in the shower, an intimate sound that made him uncomfortable.

He wandered into the kitchen, a room he hadn’t been in yet. Lined up on top of the fridge were ten plastic pill bottles with the same label, Da Vinci’s Vitruvian Man. Conway loved this image, it had propelled him into studying higher math on his own, when the Kingsport school system failed him, and he had tacked up an image of it over his desk in college. The fact that it was probably drawn in 1492 made the hairs on the back of his neck stand up. Coincidences inscribed inside of coincidences. He had looked up its origins and learned that Vitruvius, an ancient Roman architect, wrote a series of ten books on architecture, based on the premise that temples should be built to mimic human dimensions, because the human body with outstretched arms and legs fits
perfectly into the two perfect geometric forms, the circle, and the square. Leonardo achieved the symmetry by starting with a perfectly proportioned man and then finding the circle and square in the body itself. All three were figures. And, strangely, a triangle, even an isosceles, was not deemed an ideal shape.

The circle and square are only tangent at one place, and that connection is the basis for everything. Conway thought of that contact as the closed distance between godly Adam, lying on a triangle of barren ground, and God’s extended finger, accusatory and life-giving at once. If someone asked Conway about his religion, this is what he would say. No, that’s not true: the Baptist ministers always ask him if he’s “a Christian” as if there is only one kind, and he doesn’t know how to answer and still make the sale, so he usually mumbles, “Yes, in the Old Testament sense.”

Leonardo’s drawing had also jettisoned him into physics, as soon as he had read “The Yin Yang resembles a circle transversed by a wave, the union of particle and wave. The Yin-Yang is a combination particle-wave holon, the holistic synergy of particle and wave.” Conway remembers his junior year of college, in Moreland’s class, when Doc had been more excited than usual. He had waved around a copy of *JAMA*. “Guys,” he had said. This isn’t physics but exciting stuff nonetheless. One of our lesser brethren, a doctor named Meshberger, just published an article that'll hot n’ bother the whole Christian Right.” Doc had unrolled and then held up a poster of The Creation of Adam. “This guy is saying that the background figures and shapes portrayed behind the figure of God appeared to be an anatomically accurate picture of the human brain.” Moreland looked at the magazine in his hand, and quoted, ‘including the frontal lobe, optic chiasm, brain stem, pituitary gland, and the major sulci of the cerebrum. The draped
cloth around God has the shape of a human uterus. One art historian has called it a
uterine mantle, and that the green scarf hanging out could be the just cut umbilical cord.’
Ah, perfect. Get ready for protests and panels, decrying these comparisons.”

But the protests were hashed out among academics mostly, or perhaps in
some intellectual church circles. Who was it that said that academia was a kind of
priesthood? University=Monastery. Well, that’s how universities came into being, they
evolved from abbeys. But so much had changed since their inception, as always: what
Moreland and his Boston upbringing and MIT degree didn’t get about the South was that
art wasn’t to be trusted in the first place. Both art and science were as suspect as if they
actually resided in human flesh, in the space folding and unfolding between two bodies in
motion. A million contact points sparking up to set the heavens on fire.

But that was all a bit much to share with Mauna, right now. He shook his
head, scattering his thoughts. They scuttled away and curled up with the dust-bunnies
he’d glimpsed in the space between the refrigerator and a shelf full of cans and bottles all
labeled “Organic.”

He heard the shower water squeak off, answered by a yelp in the pipes.
Didn’t anything in this house work? She was out just a few minutes later, pink-cheeked
and sheeny, her hair a damp, crinkled halo slung around her neck.

She had on a roomy tee shirt, once red and now the color of a dirty peach, and an
old pair of pajama bottoms, not tight but certainly fitted, more like long johns. They
were dark blue covered in snowflakes, with a quarter-sized hole high up on the back of
her right thigh.

He wondered if she knew about the hole and was trying to be sexy, or if she truly
was unaware of it. He couldn’t figure out her sense of style, and it irked him; he usually
could tell a lot from the clothes a girl wore. He guessed that she was interested enough in
being perceived as pretty to take some time in the morning with those weird brown clays
and salty tooth powders, but that she gradually unraveled during the course of a day, and
wasn’t quite vain enough to do the necessary upkeep. Small, flip-top pocket mirrors or
miniature bottles were never extracted from her purse. In fact, she didn’t even carry a
purse, only a ratty electric-blue backpack.

“Isn’t this the ugliest tee shirt you’ve ever seen?” She asked, pulling the cotton
taut to reveal a purple skyline and a gigantic mint green moon hovering over it, about to
 crush the pathetic cityscape. She was not wearing a bra, and her nipples puckered the
fake night sky, the color of dying embers. He didn’t answer.

She went to a corner of the living room, next to the wobbly table with her
dusty laptop and some paper and pens scattered across it, and flipped her head over. Her
hair hung down like a long tangle of dull-copper wires, yanked from a machine; glimpses
of her face and of the wood paneling of the wall behind her were partially visible in the
spaces make by her curls. She began brushing her hair, and it was at once transformed
into a dark sheet. Her face and the wall invisible behind it.

After she tossed it back again and smoothed it away from her face, she
went into her tiny kitchen and he heard the capable chop of vegetables, soon smelled fish
broiling in the oven. He stayed sprawled as best he could on her couch, the one that was
too short and small for him in every way. The bookshelf in front of him was still a mess,
packed in haphazardly; he could not even read the titles except a few that bored him

192
Surely You’re Joking Mr. Feynman, Gödel, Escher and Bach, Art and Physics. He preferred Chekhov. The scientific details of the human psyche, but implicit and properly mysterious. These books were almost as bad as stupid movies like The Matrix. It embarrassed him that so many men of his generation saw wisdom and philosophical resonances in those movies, and yet would never deign to pick up a book of Chekhov or Cheever to discover that universal mysteries were more believably Derridian in the droplet of water of a few written – and read – pages.

He called into the kitchen, “Do you want help? I’m a pretty good cook if I do say so myself.”

“No, I’m happy to do it; it’s easy,” she said. “But I’m sure that you are a good cook.”

“Why are you sure?” In his mind, so much of cooking has to do with perfect timing, prepping, meticulous chopping and instinctive sprinkling. He wasn’t sure he had those skills. Or if he had them, they were surely lost or buried.

He sauntered in to the kitchen. It was painted a surprisingly cheering Smurf blue. She had painted it by herself, and it made him feel very protective towards her. All that magnesium and copper sulfate that she had breathed in. There were a few places where the brush marks were in evidence, and a spattering of dried paint drops on the floor and on the Formica countertops which made him strangely have to stop himself from coming up to her and putting his arms around her neck, pulling the curvy length of her compact little body into his. After all, scientists thought that all it took to change the world was as simple as shooting one piece of fissile material into another.

Critical mass. Although, “critical” only in the essential and specific senses
of the word. Love, if expressed scathingly in terms of itself or its object, shot off into
space, only a fiery tail streaming behind it and fading into smoke.

“Because,” she said, scraping a chopped head of broccoli into a saucepan
that already held yams, onions, and by the smell of it, fresh ginger and a lot of garlic,
“you’re organized and orderly.”

“Are you kidding?” He guffawed. “I’m a total wreck.”

Mauna sprinkled torn rainbow kale and strips of red peppers into the pan.

“Your car’s neat.”

“Yeah, but that’s just my car.” As soon as he said that, though, he realized
he had gone too far. She might take this opening to ask to see his grandmother’s house.
The house that he had practically stolen into, that had his few belongings scattered about
like droppings, that had memories of his sister hidden – no: present – in every nook and
cranny. Remnants from their endless games of hide-and-seek, Capture the Flag.

But she didn’t. That caution, that politeness. One could never apply the
“Rude as a Yankee” adage to her. But it wasn’t serving her too well. She had even
admitted to him that it had been Kel’s idea to write the poem and ask him out for a beer.
He remembered Lucy cutting down one of her London girlfriends who rarely had a
boyfriend. Conway had remarked on this girl’s fresh-faced prettiness, a lot like Mauna’s
he realized, and Lucy had said, “She can’t pull a bloke to save her life. She’s one of
those Red Bench Girls. The type who sit with their legs crossed and make eyes, but can’t
open their mouths.” And then Lucy proved how different she was from those girls.

But it was easier for Lucy. She hadn’t been in it for love.

Instead he said, “Why do you take all those pills?”
“To be healthy,” she said simply, taking the sizzling salmon out of the oven, arranging it on two earth-toned ceramic plates next to the vegetable mixture. He had never before had such a colorful meal. “Is this all organic? Do you eat like this all the time?”

“Mmm-hmm,” she said, reaching on her tiptoes for two wineglasses.

“And the salmon is wild.”

“Wild, huh. Like Steve Martin, wild n’ crazy?”

She smirked at him, and handed him a plate. “Just like.”

They walked into the living room and arranged themselves on the blue couch. She didn’t have a kitchen table.

It was delicious. His first thought was that his sister would be happy that he was eating like this.

He had been the last person to talk to his sister. She had called him when she got home from the gym. She went every day and was meticulous about healthy eating. Her heart was expanding, would one day crowd out her other organs. Perfectly ironic for the most generous person he, or anyone, had ever known.

He took another bite and let the fresh flavors explode in his mouth. Being so itinerant, he hadn’t cooked himself a proper meal in months. And his mother was a great cook, but mostly in the vein of *Southern Living*. When he lived in his uncle’s Key West trailer for a few months right before he left for Lucy and London, he had tried to help his uncle out by cooking and cooking healthy so that his uncle would lose weight. It had worked, but the results had been temporary. As soon as he’d left, his uncle had fallen back into his old patterns. Could anyone ever really escape those quicksand-grooves?
The last time he’d had a medley of vegetables like this had been inside a trailer, the briny smell of the Atlantic mixing with various Caribbean Seas worming in through the windows.

The ruby, emerald, rose quartz (the salmon), amethyst colors reminded him of something he’d read. Precious and semi-precious. “Why do you need to supplement if you eat like this?”

“Because the soil is so depleted of minerals that it’s almost impossible to get all the nutrients we need just from food. Even high quality food.”

“You know,” he said, “in the Middle Ages rich people ingested crushed gems, citing the same reasons. And tearing up their organs in the process.”


“So?” Conway said.

“I’ll think about it. I don’t really take them that often, because I forget. Do you want to watch the movie?”

The movie was a bootleg copy Brian had recorded from inside a theatre in Atlanta that showed old movies. It couldn’t hold Conway’s interest. Instead, he watched Mauna’s face during most of it, the way she laughed, the way she must not have realized that they were, in a sense, stuck in the same push-me-pull-you relationship as the characters. She did resemble a rounder, smaller Katherine Hepburn. The timeless, patrician quality. That tremulousness. Even before Parkinson’s had settled into Hepburn’s vocal chords, her voice had a certain aspect Mauna’s had: smart but barely
able to stifle the fierceness of their emotions. As if the music of the spheres – he’d always liked that phrase – was vibrating through them at all times. Even the way Mauna walked was musical, like she drew it up from the pavement through her feet, and it diffused throughout her entire body. That was why it was so sensitive to other senses, sight and touch, the way she drank up his words and he felt that he could see them – his words and her emotional/intellectual reactions to them – throbbing through her, just under that translucent skin.

Maybe if he could think of Mauna as a character, and not a person, not a possibility. A fixed variable. Someone to watch. Her ease with people, including him, although she was off-center with him, he knew she didn’t feel as comfortable or as confident as she was used to feeling. He felt bad about that, and powerful, and also certain that he couldn’t change it that it was her responsibility to adjust and re-collect herself in his presence. He could not control the splintering of truths and of meanings. He knew that she could see him watching her in her peripheral vision, but didn’t try to laugh more demurely or adjust her face into its prettiest aspect. Her face could best be described as classical, and it held up admirably in profile – nothing protruded or caved in and the skin was poreless in a way that suggested makeup but she was fresh from the shower and had nothing on it except a scented lotion that reminded him of geraniums.

“Are all your shampoos and stuff organic too?”

She looked at him, the way they were angled, she had to look over her shoulder.

“Yes, and my cleaning products.”

“Do they work?”

“Of course they work. And I can take a swig of them and be fine. Can you do
that with yours?"

“Just in case you run out of organic broccoli, huh.”

It wasn’t that he didn’t want to love Mauna or was necessarily afraid to right now, it’s that he doesn’t know the mathematical equation for how to stop loving her. If that equation even existed. He might need that equation, down the line. Conway had told several girls about his sister’s death and how much he missed her, but the way he and Mauna talked about things was most in keeping with how he felt as everything was unfolding, in real time. He couldn’t qualify it or philosophize more than that, but it was as if Mauna was inside his head, leading him and letting him lead her. But not out or up or away. To the exact same place of pain and nothingness, of memory and not remembering enough.

He wouldn’t want to love anyone else.

After the movie was over, she wanted him to stay, and he had to again remind her of his plan to drive back to Oak Ridge that evening. He needed to do laundry and Brian’s apartment didn’t have facilities. All of his clothing smelled of smoke since he’d been in bars every single night, with or without Mauna. He wanted to redo everything before he saw her again: work out a bit more first. Push-ups and sit-ups every morning, switch from his beloved coffee to red bush or green tea. He already misses the atomic drops of cream that first blossom in the dark liquid and then swirl into a galaxy. His own private Milky Way.

She turned toward him and then was practically sitting on his lap. Her face, her mouth and breath, those overlapping teeth, were inches from his. He pushed her
shoulder, trying to topple her. She grabbed his huge hand with her small one. “Wow,” she said, keeping his arm steady by holding onto his wrist, and then pressing her palm flat against his. “My fingertips barely reach your first knuckles.”

He opened his legs and she fell through, the trick he used on his cousin’s three year old. She clamored back on the couch, giggling, and snuggled up to him in her golden retriever way – she had kept a little distance from him during the movie – but he re-adjusted his body so that they were facing each other on the couch. She quieted almost immediately.

He felt like the man fitting his body to a circle and a square by adjusting the position of his arms and legs. Each of them one leg tucked up and one leg on the floor. Only the socket of their knees touched. A tangent point: fire. He felt her desire mix with his and go up his leg and then return to that still point. The word that described the feeling was **coursing**. As in, **of course**.

The lights were off, except the one in her bedroom, which didn’t produce a square of light on the beige carpet but acted like a night-light, diffusing the weak light over the dark living room. He could only see her dimly, and knew that she could see him even less because his back was to her bedroom and the light. Behind her head was a window, filled to its lintels with Kel and James’ now-dark house. They had left their back porch light on, for him, probably. The light poured into four glasses on the windowsill, illuminating the designs etched onto them. Each glass – they were probably meant as small drinking glasses for whiskey, had a daisy on it, in four different stages of petal de-nudification. Each glass had the words *He Loves Me*, or, *He Loves Me Not*.

“I can’t do what you want me to,” he said. “I am not in the place to do
that. I don’t want the responsibility of a horrible ending. The night I broke up with Amber. Well, I should say that I was only in love with her and really into the relationship for the first five years. The last three I kept trying to break up with her but she wouldn’t let me – threatening suicide, saying she would die without me, even saying I could sleep with other women.” He thought about the phrase “not in a place” – where was the actual place, the landscape or domicile that perfectly housed courage and desire?

Mauna looked like she had taken a shot of one of her cleaning products and found it to be, if not deadly, then more dangerous than she’d bargained for.

“It started when we moved from Knoxville to Raleigh and then New York together. I just stopped being attracted to her,” Conway said. It still confused him, since Amber was a knockout, and she had looked as good when he stopped loving her as she had when he started, if not better, husky-voiced and Bardot-esque.

The surge from the tangent-point where their knees just touched pumped through him. “The night I broke up with her definitively, we had been living together for a year in New York. I left her sobbing and checked into a hotel.”

Mauna’s face took on a grayish cast, reflecting some cavernous place inside of her.

“It took her four years to start speaking to me again. You see, Mauna. I want you to always be in my life.” He was trying to be jocular, but the seriousness seeped through and he let it. What the hell. It was, in fact, true, even if it turned out to be dodgy and improbable. Scientists attempted this category of things all the time. Moreland had said, “Science is either dangerous or impossible or both.”

She looked straight at him, and he stared back at her. Her
perspicaciousness was sometimes frightening. Were her other boyfriends just that much braver than he was? No, he thought, it’s because of them that she has accumulated so much clarity. For the first time, he felt his eyeballs release from their sockets and drop, \textit{plink, plop}, into hers. Like a bomb rolling off the side of a ship into the ocean, seemingly benign, but ready to gather force under water. Her eyes had just fallen into his, in the same way. He could almost feel, what, her heart? Her soul? Those twin-bombs rattling around in his skull, pinball style. What was that Peter Gabriel song from his senior year in high school? \textit{Jeux Sans Frontiers}. His favorite red in the U.K. had been a New Zealand Shiraz called \textit{Boundary Ridge}, which had always reminded him of the Cumberland Valley. Home, his childhood running around with his sister, which was a kind of home only partially circumscribed by place. If he shut his eyes, he could clearly picture the empty bottles rolling around, under the sagging frame of Lucy’s bed.

She recovered first. “But I have managed to maintain relationships with some exes,” Mauna said. “Hector, my Mexican ex and I email each other on our birthdays.”

He cocked his eyebrow at her. “That often, huh.”

“Well, yeah,” she said, nodding her head down, a defeated bloom. “Also notable, I guess, is the fact that our birthdays are three weeks apart exactly.”

“Another Sag?”

“Yes,” she looked startled. “So was Nigel.”

“What about the big high school sweetheart? The one who’s kept you fresh as a daisy.”

“No,” she looked down, twined her fingers together. “He was an Aries.”
"'Was'?" Conway said. He’s sprouting daisies because you broke up with him?"

Mauna grimaced.

Conway nudged her forearm until she smiled again at him. “What I meant was: how was your post-breakup communication?”

“Oh, you know, really healthy,” she said blithely. “We were on and off for seven years.” Her voice accrued a sort of edge that it normally didn’t have. Not sweet and girlish, not breathless, nor more nasal and tightly strung. It was more ironic and worldly than she usually allowed herself to be. A bit condescending, witty, biting. He loved it.

As soon as he noted it, however, it changed pitch again. Now the tone was melancholic, and the corners of her mouth turned down. “Basically we destroyed each other’s lives, because we couldn’t let go or fully move on.” Her voice caught. “But I still miss him every day.”

“I rest my case,” Conway said, feeling more jealous than righteous or victorious.

He looks toward her bookshelf and the same books pop out at him.

“What’s with all the Art and Physics books?” He asked.

“I dunno. I just really love science. I have a crush on it.”

He bristled at the Humanities person’s urge to turn cold hard science into metaphor. To make even the raw material of a hypotheses is so much work, like farming in the elbows of mountains, and then these humanities vultures – the poets were the worst, he had dated a poet in college for a few weeks – swooped down and grabbed the
sparkly bits. Magpies. They claimed that all of science is beautiful/terrible. And he
wanted to say, sure, when emotion is syringed into it. But meanwhile it has to solve
actual problems in the world. Science was like the Old South, the Research Triangle
aside. It was worked to death and taken advantage of, the good parts taken by anyone
who had a mind to do so, the harder more obtuse parts, the leftovers, left for the die-hards
to beat their heads against.

Conway said, “Science is a delicate machine, and so the training is very
mechanized, while having to be creative at the same time. It’s very...consuming.”

“That’s why I like it.”

“It’s a shoot, Mauna.” He liked saying her name; she jolted every time it
unspooled out of his mouth and he pictured it twining around her.

“A crap shoot, you mean? Or as in a green plant in its infancy?”

“No, well, yeah: that too. Both. But I think I meant it as the literal
definition, as in Shoots and Ladders.

“Ooh, I love that game.”

She would. “Right, as a student in science you get hired to work on a project, you
 teach yourself how to do it, you put in ten, twelve hour days. You’re somebody’s
research bitch, while they take all the credit.”

She nodded, as if she knew.

Conway continued, “I’ll back up. Before that you’re plucked out.
Imagine one of those mechanical claws at a fair, like Pigeon Forge. You’re a colored
ball. And then you’re impelled through tunnels and pulleys and levers to disorient you,
not to change you or teach you anything. And then you’re meant to work, because
you’ve been chosen, and have gone through this process. Sort of a trial by fire. That’s the scientific method. It applies to theories as well as people, especially students. I know from my sister that there’s a lot more freedom in the humanities. That’s why you’re so directed. A dreamer and a doer.”

“How can you say that when you know that my future is unmapped and uncertain, that I’ll have to cobble together a livelihood?” Mauna’s eyes widened with indignation. “In the humanities no one’s watching or telling us to study specific things, according to trends or market value, I know, that’s nice. But no one cares or really supports us either since they have very little vested interest. Hearing ‘publish or perish’ over and over again is not as helpful as someone riding your ass, at least letting you put your name down as eleventh author on a paper.”

“Maybe. Well, why, if you’re so interested, didn’t you go into science?”

“I had a few bad teachers. Mr. Doll in Earth Science stands out, just the luck of the draw. But really I think that because I showed an early aptitude for language, and I was a girl, that I was steered toward humanities. That’s where smart girls went. My friends in high school who did go on to be doctors and scientists were so truly exceptional that it couldn’t be ignored, even if they were girls. But so what if I never got to be exceptional? I could have been trained to do a lot, even if was never Nobel Prize material. ‘A good working scientist’ – like people say about musicians who play locally and make enough money without going on to be stars.”

Exactly what he wanted. “What kind of scientist did you want to be?”

“A malacologist.”

“Huh?” It sounded like a doctor, something to do with cancer.
“I can spell it but I can’t say it.” She took a deep breath and swallowed.

“Malacology. The branch of zoology that deals with mollusks.”

Perfect for a shy girl, Conway thought.

“It sort of sounds like ‘bad ecology.’ Or ‘melanchology.’”

“What’s that?” His heart mushroomed. “The study of sadness?”

“Yes,” she said, softly, “that can be our study. I guess it is already. We know what it means.”
Daisy Chains

Everything speeds up after Carter leaves for the Front.

Elizabeth has always associated him with quickness, his runner’s body and the scholarship that had led him to Harvard, the action that had made them collide in the first place.

He looks so handsome in his uniform, so upright, an upstanding oak spreading his arms to embrace all the saplings that his shadow protected. He stands on the train platform with all of his sisters clinging to him. Elizabeth separates herself from his adoring throng, watches him in his element: the family man. The flat of her left hand lies on belly and she does not even notice as it migrates in a slow circle as the horizon fills in with blue. Carter’s mother jerks her head around, the slush and rustle of the two fabrics sliding against each other alerting her to her daughter-in-law’s gesture.

It is a cold day, cold for East Tennessee, and even Elizabeth is surprised to find herself shivering. All of their breaths fog on the platform. It is three days before December starts, the month in which Carter asked her to dance, the month forever engraved with Pearl Harbor; they have not been married a year.

Elizabeth expects that her mother-in-law will offer up a warm smile, that, even if it grates on Elizabeth, she (Elizabeth) will feel recognized and valuable. In this life. Instead, there is a look of fear and a wariness, as if she knows that Elizabeth is harboring dangerous information. That coiled in her womb is not the fruit of future McKinley generations, but that delphinium, glowing electric blue and angry to have been forced out and uncoiled.
Then the train pulls away, another kind of magnet. Unstitching itself from the platform, from the almost bare ginkgo, a few of its yellow petals flattened against the window from which Carter waves.

Elizabeth is somewhat relieved that Carter is gone, even though she misses him. But what does she miss exactly? His honey and woodsmoke smell, his bark of a laugh, the way he molds himself around her nebulous shape without hemming her in, but somehow containing her so that she does not float away.

But now she is pure illusion, one of the cool mists breathed off by the peaks, caught in the fist of the valley, and yet still managing a vague isolation that has given up the tightly laced molecules of the hotter, solid world below.

Her inner voice that keeps in time with her steps has changed. Instead of the bodiless IloveyouIloveyouIlove you, she now hears What you see here What you do here What you hear here When you leave here Let it stay here after each echoing footfall. These are the signs posted everywhere: in the lab and in the town of Oak Ridge. But she has no one to tell, and so she keeps everything. Not exactly secret but to herself, in herself. She is a repository of so many striated secrets, now. They pile up; they form an escarpment in her: calcareous (fizzy, fertile) limestone, like a citrus slice dropped into a gimlet; sandstone (less fertile but farmable); shale (the poor man’s soil, the unlucky sod).

She has learned many things in her first weeks at 9731. She knows that it is a strong magnetic field in the building that pulls her in the door by her hips (keys in her...
pocket), hair (bobby pins), throat (necklace) and hand (wedding ring). It feels familiar, from long ago. It is a wave, one sinewy torso grabbing her, drawing her in, one watery bicep pushing her away, back to the recalcitrant shore.

In another part of the building, in what was called the basement, although it was up high in the pipe-laced rafters, the converters pumped away. A floating basement. Elizabeth is sent there to find leaks. It smelled sharp, like curdled love, sulfurous confusion. Like crowded people in a limited space, waiting and hoping, conflatable entreaties for some kind of entry, some kind of escape. She finds the leak and folds a sticky tape over the microscopic tear, smoothes and re-smoothes it as if the pipe is a beloved forehead.

A Dr. Morgan convinces her to put a patch of phosphorous-32 against her skin so that he can observe its reaction. She and eleven other “meter-readers” agree to this experiment, even though the welts caused by the patch take weeks to heal. It makes her feel closer, somehow, to the other women, comparing similar pains.

The product that they are all working so diligently to isolate finds its way into the air, is pumped out through the ventilation system, spills on the floor, is ground into the cement under their heels. Loose mercury on shelves and hotplates left steaming in sinks. They are always short of rubber gloves, but the women working in the Recovery Area plunge their arms into vats of mysterious liquid up to the elbows. They are assured not to worry, that the precious, extracted material is practically edible it is so safe.

The two bars of fluorescent light streak across the ceiling, like a rung-less ladder, a rail line.

She is isolated so that she can better isolate. For that is what they are all doing,
the other women and her, in this building so secret it is only referred to as what appears as a random collection of four numbers. For all intensive purposes they are nuns in a cloister, there is the intimation that this precious isolation can be construed as God’s work. The war effort is all heeded and corralled under this category, as are all the people involved with it.

Elizabeth is not versed in the Bible and does not trust any religious doctrine. Not after what has happened, what she cannot think of. But it seems to her that this isolation is divine. In the way loneliness is, and wandering prophets.

Every morning, she hears her heels clack over the makeshift wooden sidewalks – it is a plank, and she is willingly venturing out to its whiskered edge, the swirl of grey buildings smacking their lips for her, newly hungry for her every morning. And she loves being wanted, being hungered for. Appetite is simply, she thinks, the best reason for continual living.

The planks do not carry her all the way from her doorway to the plant, there is always some sloshing through the slurp of mud, which never loses its ruddiness, or its appetite either. The washboard patterns of the mud whorls mimicking the indentations of the valleys and ridges in the Cumberland Plateau, the scarring of the steep sides of the Ridges, and the hollowed-out eye sockets of the Valley, smudged with indigo of exhausted ghosts. She wonders what has already been lost in the muck, what metallic glints will be overturned in some distant day for new explorers to ponder, to treasure, to barter with, to squander away.

Every day she pulls the heavy door towards her, passes under the corbel.
The sacred chill of the cement tunnel. Turns, turns, and turns, always to the right, as if she is dancing and her partner has a lame left foot that drags a few beats behind him. One last square of light, filtered to bright pewter from the stain of gray canyoned building, through the spandrel, the panel-like area between the head of a window on one level and the sill of a window immediately above. The now-familiar – almost craved – electrical embrace emanated by the machines, their silvery hum, their gurgling readiness.

She takes her seat, nods to the women near her. There are more, new faces every day. The swivel stools do not make their slow pendentive vacillation of emptiness, pushed every so gently by the same field that grabs her throat by her necklace. All words having so many opposite meanings: field, plant, isolate.

She and the rest of the women tuck their hair into kerchiefs. Perhaps the others are used to this hairdo from their farm and kitchen work.

Her seat is already warm these days, even though she is certain that she is the first to occupy it that early in the morning. Then again, how can she be certain that the upper echelon scientists are not calibrating the machines deep into the night? Fiddling. One day, she thinks, she will hide out over night and watch what happens to these machines when they are supposedly unattended.

The large open room is nonetheless segregated. In one corner, there are booths where the Booth Ladies sit, closest to the calutrons, always on watch. Every second of every minute of every hour of every day. At least six days. Elizabeth wonders who watches the machines on Sundays, if they are like young, unruly children, and need to be constantly surveyed to forestall imminent disaster, or if they must only be attended to when they are running their purring motors, like, she supposes, cars. Scientists (mostly
male) call down and ask for figures, and the two women who run the lab, statisticians, the first female math graduates of the University of Tennessee, convert the readings from the Booth Ladies. They have “the formula,” it is whispered, with equal parts awe and eclipsed knowledge. Perhaps all awe is simply partially shrouded knowledge, she thinks. Then the “calculating girls” are given lists of numbers to add and subtract. There is a limited number of electrical adding machines in the lab, and instead of setting up a system whereby each girl is allotted an electrical machine on a schedule, there is always a mad grab, a dash, good-natured laughter covering up real chagrin. Pads of fingers sore and often peeling at the end of particularly grueling days. They are all kept separate from each other, these four groups. Some of the younger scientists, blinking through their black-rimmed glasses, look her over, but she is not sure they would ask her to the movies even if she were not wearing a ring.

Elizabeth always sits at the same machine; it is the one assigned to her. She remembers from her schooldays the comfort of taking the same wooden desk every day. In another country, she thinks. Another era, another lifetime. Sometimes a pain so serrated saws her breath in half: his curling hair caught in his collar, his copper-eyes, the cakes for his birthday. December. Winter. Like it still is here, in this hidden valley where she is both safe and forever barred from him. The only thing that quells her desire to smash something is to place her hands on the machine’s controls, to keep track of the scrolling numbers. To stare unblinkingly at the various screens. Then the various streams in her, flow out from her heart in predictable directions, even if they, like the Appalachian rivulets, confound the rules of the region’s oregeny and cut through the
terrain along the hardest to cut through rocks, the opposite of gravity. The French Broad is her favorite, although, unlike its naughty name, it more often than not complies with pre-established patterns of its encompassing geomorphology, moving downward to join the great waterways it is destined to merge with, tumbling over the complex dissected plateau topography.

She has always been able to have her way with anything alive. And this brightly lit monster is more than alive. It will give up its secret purpose if she is caressingly patient, if she bides her time, and observes, which is what she is being paid to do. And what she has always been best at.

She does wonder and worry about her hand in whatever she is doing. She knows that it is powerful, because it is secret. Part of the secret wants to be seen and known, like all jutting monoliths. All batholiths, too, those great irregular masses of coarse-grained igneous rock with exposed surfaces of more than 100 square kilometers, which has either intruded the country rock or been derived from it through metamorphism.

Elizabeth’s experience tells her that the best way to keep a secret is to display it in plain sight, outside. The best safes and locks are hollows, astroblemes, bands of iron around bar-finger sands. Anything found at the base-level. Anything base.

The words she hears as though they are winds in a Greek myth, signifying change, war, kissing around corners. Silvery isotope. Europe. Bond. The force that holds together two atoms in a compound. Oak Ridge as a compound. Bonds derived from the sharing of electrons or from electrostatic attraction between ions. Covalent. Japan. Power built and achieved through two opposite-seeming compulsions. On the
one hand, sharing. On the other, attraction.

Both her hands tremble over the knobs, but her left hand has a more violent
tremor. Causality through metal, the history bound up in goldshine and collection of
precious stones. Germany. Or the man she has pledged this life, this rest of her life that
she doubts will be colored by much rest at all.

As her fingers skitter over the machine, write down the numbers, her mind races:
Do bonds always bind? Which kinds of bonds last longer, the shared energy, and
collective work, the altruistic, the friendships? Or entwined, tangled-sheet, teaspoon of
sweat in the navel, gasping “Oh God”? The pure and therefore untested, just endlessly
re-imagined as divine, as the answer to all unasked questions (curling hair caught under
the pale blue collar). The one who is lost forever, or the one who is in danger? The one
she tried to protect, to save, or the one currently saving her? Or the history she herself is
creating, the squiggles on the Cambridge blackboards alchemized into these purring
silver monsters.

This machine, under her hands. She controls it; she nearly loves it. And to think
that where she escaped from a Jew can no longer own a radio.

The night before, she had opened boxes frantically searching for her Cambridge
notes. On one page she had scrawled: “Element or pure elements had been defined as
substances which could not be further broken down into another compound with different
chemical properties, consisting exclusively of atoms of one element. However, because
of allotropy, the isotope effect, and the confusion with the more useful term referring to
the general class of atoms (irrespective of what compound it may be in), this usage is in
disfavor amongst contemporary chemists, and sees restricted, mostly historical, use. This
definition was motivated by the observation that these elements could not be dissociated
by chemical means into other compounds. For example, water could be converted into
hydrogen and oxygen, but hydrogen and oxygen could not be further decomposed, thus
‘elemental.’”

Pure. Alloy. Element. Isolation. There is something deeply troubling about
these classifications. Deeply unsettling. And familiar. From what Elizabeth remembers
from the faint scratches on the blackboard, half-erased smears, an element is a building
block in its pure state. But without combining elements, the earth would be a jumble of
one-dimensional blocks. As in blockades. It is only through hybridization of plants and
compounding elements that the variegated world shimmers at us.

The lights flash in their predictable/unpredictable patterns, as she adjusts and
makes tiny calibrations, and notes numbers until her eyes burn (with shame or
exhaustion, or the compound isotope between the two?). Elizabeth eats her lunch that is
not sawmill gravy, not grits, not biscuits, not salt pork, but collards sprinkled with
cayenne and turmeric, sweet potatoes with ginger and kale. Her own version of K-
rations, so named after the doctor who invented them, Dr. Ancel Keys. Poor Carter,
forced to eat the real thing day after day: hard biscuits, dry sausage, sugar, coffee,
chewing gum. One of his letters explained that each packet contained a tiny key, called a
P-38 – which sounded like a gun – to open a small can of meat. You and your fascination
with keys.

It is especially during her meals that the other women look at her askance, only
offer timid smiles. But maybe she is imagining that as well.

Interrupting the *Iloveyous*, the singsongy *stayherestayherestayhere*.

Anything isolated, wrenched apart from its culture or context, ripped from its webby ecosystem, must be a portent to evil. Nothing comes from nothing. Nothing ever could. Nothing pure is natural. No forced separation lends itself to life or the life-giving properties. She must, with only partial knowledge and none that is directly told to her, be doing something to destroy the green world. Whatever tiny particles she and the women breathe in are perhaps a necessary part of their task, since they might be malevolent instruments and should perish with their sins, as Moses wished the Israelites who were slaves (implying that they were somehow complicit?) to die off so that only free people would enter Palestine. By imbibing this mystery, this unknown substance, Elizabeth thinks, I might be isolating death, giving it that much more domain or eradicating it, forcing it into an abject realm, disrupting the natural order.

There is one woman who seems as out of place as Elizabeth is. Elizabeth ponders those words. Out. Of. Place. Hasn’t she always been? And won’t she always be, somewhat, straddled between her histories (no future tense for her, it took forever for her to master it and she still finds herself stuttering over it when she spoke, even to Carter, writing to him is simpler – pre-edited passion so much easier to maintain)? Between families, regions, countries. Between. The hot-cold center of the universe, expanding so fast under her feet that she can barely keep her balance or hold her head upright.

She thinks of Blake and the lily, the clod of clay, leading the woman, a kind of Persephone, to her doom. But she escapes, doesn’t she? She only has to stay in her dank
grave for a quarter of the year. And yet it was that woman’s fault, her desire and
curiosity that caused the cold season: she who snuffed out the butter-center light. Did
everything boil down (marshmallow root, St John’s Wort, thistle-do-nicely) to desire?
And not teleological straight-shooting want, lust or hankering, but something inherently
mysterious, twisted, helical, dark. Female desire, the biological imperative, the other side
of which was a blind tumult down the dark alleys of every black hole in the ground.

The woman she looks at with something akin to longing is named Bette. She is
dark-haired and has tea blue smudges under her eyes from lack of sleep or worry. Her
face is paper-pale and her mouth stands out against it like a fuchsia slash, an open wound.

She looks back interestedly at Elizabeth, but both are shy. Still, Elizabeth feels an
undeniable kindred spiritedness with Bette; she seems similarly out of place, twitchy, and
covert. She, Elizabeth realizes, does not look American.

There is another woman who catches Elizabeth’s curious gaze now and then. She
is the unofficial head of the unit, a math whiz. She is neither officious nor rude, and rules
benevolently with gentle suggestions and kind adjustments. She is from Louisiana and
although she exudes a kind of rampant Americana, has hollows under her eyes as well.
She knows, thinks Elizabeth. She is intelligent, and they need to tell her more, so that she
can do her job properly and effectively.

Will this woman, who is nominally at least in charge of what Elizabeth realizes
might be the closest she will ever get to a laboratory – even if it more factory than lab –
tell Elizabeth more about the project? What signs might this woman give that she
wants to share the burden of the secret, the precious knowledge. Perhaps she was chosen
(or intimidated into choosing) because she does not have these needs, a perfect
encapsulation, without any tendrilly shoots of desire?

Elizabeth watches her for any sign of casting about, any vectoring ray that reflects
or joins with Elizabeth’s own isolating encasement, her own blue streak.

But the woman who runs the lab is implacable, perfectly professional, and does
not send any emanations, while Elizabeth and Bette are circling closer and closer to each
other. Any day, she thinks, they will speak beyond the mundane, they will enter furrawn,
the kind of talk that brings strangers to intimacy. An Irish word Elizabeth learned at her
nanny’s knee, several million centuries ago. She could not remember a time where she
had not known English. Could not, in fact, remember a time when she had not been in
love with it. Although perhaps being in love with the English language and being in love
with the person who taught it to her were too inextricable to discern which came first.
She loved the things he knew, which may or may not have been the same as loving him.

It was her knowledge of English and her pale hair that had saved her. The
entrenched stupidity or misremembering of a handful of people who though that a
religion was a race, or even that a race had the same coloring and features. And as if
language could not be draped over one like a coat, stitched into the skin. And yet
shucked off when it was no longer needed.

She overhears discussions of radon with its “solid daughters.” The isotopes,
permutations which are heavier and more substantial than the original element. Like she
is compared to her forbearers, like all children are – that constant generative refining
process that distills and distills into a precious essence, a crystalline drop, a wordlet.
It is Sunday, the one day everyone must have off as a day of rest. Elizabeth knows that her mother-in-law would want her to go to the Chapel, and to be fair, the Chapel housed within the lab does offer religious services in a variety of denominations to honor its diverse populations. The addition of a handful of Jews to the groaningly Baptist area renders it diverse in the county’s eyes. But her mother-in-law is no longer living in the same slice of land as she is, so she goes to the spot she and Carter had made love on after skinny dipping in the murky waters. She has forgotten a book, the Gilbert White she is re-reading. She lies on her stomach (a very unladylike posture, but everyone is at the Chapel) and feels the hump of the ground under her belly. The stiff grass presses against the nest of her pelvis, the ship-in-a-glass-bottle of her uterus. The sun struggles through the winter air and warms it; the almost-warmth caresses the small of her back, pins her to the spot: if she moves, the wind will shove the sunlight aside, but if she just stays still, she can trick her body into thinking it is comfortable.

An arm reaches up from under the lip of the bank and grabs her.

There is just enough sun to make the water droplets lined up like a legion on his rocky forearm glitter and dance. She is surprised, and cries out, but she knows that forearm, in a slightly different arrangement of the palette of muscle and sinew and bone and somewhat dense dark hair covering coppery skin, smooth as the inside of tree bark.

If she tenses up, or grabs the winter-meager grass that tufts like a young boy’s mustache above the cupid’s bow of the bank, he will pull her in; she will topple, tipple, somersault over, and be submerged. So she relaxes every twitching string – of desire, of history – tangled in and around her body, and lets him just hold onto her.

There is a tension created by his gentle tug coming from below her, and the ball
of her shoulder releases a notch shallower into the socket. She cranes her neck not to look down, but up, over the furrows of her brow, her wispy hairline, to the sky. The sun has just settled a notch lower, closer to the socket of space between mountains.

Carl braces himself and there is now just a small pressure, but no downward pull. He begins to trace a pattern from the tips of every finger to her wrist, slowly encircling it with his fingers, the calluses softened by river water. As if he is whitewashing in miniature, he strokes up and down the inside of her forearm, up to the elbow. She feels immobile, but the ground under her heart softens and the grass cradling her knees feels spongier. All of this happens without either of them looking at each other, and neither makes a sound. There is no way to read each other except through the mini wildfires alighting up and down her arm, that must be visible to him, although she herself cannot see her arm to find out how this feeling manifests itself along her skin.

When she senses a sigh or a scream or a combustible combination of both move up her arm and start its direct flight path to her throat and mouth, she yanks her arm out of Carl’s grasp, and scrambles up. She is trembling and has never felt so beautiful, or so virtuous, leaving the scene. One instant with someone she would characterize as a near-stranger, who is forbidden to touch her by the dictates of the laws of kinship.

Carl had been canoeing, undeterred by the slight chill, but the riverbank’s steepness and the fierce concentration of her own thoughts hid him from her. He must have sidled up to the undercut soil, stepped out of the canoe and fit the curve of his back into the long armpit of the bank, anchored his feet into the sticky mud, and reached behind his head for one of her stalk-like arms. Blindly, blindly reaching.
Everything she loves, can’t see.
Conway checked his email at work. Mauna was always trying to get them to an outdoor activity, a walk in her North Broadway neighborhood, a hike in the mountains. After all, she said, they both lived smack dab in the center of the Smokies, or near enough. They had argued about the mountains on the phone the night before. He had said that venturing into them was technically safe only about four months out of the year because of the rampant pollution. She had said, “If we don’t have specific sensory experiences with nature, in the flesh, so to speak, we’ll only be able to guess and assume and generalize about it. And then all of it might completely disappear forever.”

He had even asked her to email him some of her favorite hikes, as if she were the native, since he hadn’t been in the mountains for so many years. He knew that his request made her get her hopes up. But in the end, he couldn’t bring himself to go, even by himself. Cucumber Gap, Arch Rock, Chimney Bluffs were all his sister’s favorite haunts.

Still, there she was, in his inbox, trying again. “Do you want to go somewhere pretty?”

She used the word “pretty” an awful lot. He wondered if it was to make subtle or not so subtle reference to her own prettiness. The square of beauty. And how she saw the world. How differently he saw it, and he feared that no amount of prettiness, hers or the East Tennessee landscape, could change that.

He had to fight the impulse to be brotherly, to tell her, “Don’t flatter
yourself, don’t go at it that way. There are millions of pretty girls in the world, pinging off each other like colliding germs in a Petri dish.” As multitudinous as chromosomes bunched up around a strand of DNA. Her problem was that she adored people before respecting them. Or rather, her adoration forced her respect, before it was earned through the proper channels. Her instant love for people was like The Chunnel, underwater and stealthy to the destination on the opposite shore, inherently dangerous and always, always in danger of being overtaken by a monsoon, a wash of water, a force more powerful than love. No wonder her life was really just a series of half-lives, split and truncated by romantic disappointments. Like his.

Mauna had written an email earlier in the week about an ex-boyfriend with whom she was still friends. She had described him as “someone I’ve known “have” my life, when she had meant “half.” It was just a typo; she was a messy typist. But it had been sort of heartbreaking, that she could equate something so split and eternally aging, something she could never get back to, Zeno’s Paradox perfectly illustrated, as a real possession.

But he had held her off for an entire week, and he missed her. He thought of the Cumberland Plateau, its mix of northern hardwoods and southern softwood needleleaf evergreens. Perhaps he and Mauna could make it work, could form some sort of shared dominance, as the trees had.

The thought that distracted him from her, lovely as she was, was this, If he could get someone like Mauna to fall in love with him...

The possibilities now seemed endless, vectors that reached their elbow-less arms into space, or infinitely, eternally fissioning, scattering in all directions like...
After work, Conway went home and showered and changed. His scope (CRO, for cathode-ray oscilloscope) had come in today, the one he had ordered at cost, which meant that he could quit his job. It allowed signal voltages to be viewed, usually as a two-dimensional graph of one or more electrical potential differences on the vertical axis, plotted as a function of time or of some other voltage on the horizontal axis. This piece of technology was now essential to singer/songwriters because it saved mistakes, stored them on hard drive with seemingly infinite capacity. All those stabs at getting a song right, all the not-chosen routes could be lopped around to, as the impetus for another song, another direction or dimension of the same start, a similar chord-base. It was Derridian with its respect for multiple meanings and outcomes. Multiple departure points, they were actually called, in music – the paths not, at present, taken, at this present moment. Sometimes he wondered if it was not also an excuse for laziness, for a refusal to mark something, commit to it, and truly leave the rest of the “potentialities” back in the dark. Wasn’t the ultimate goal to be a pioneer, to cut a swath through the chattering forests, spinning electrons, and pledge oneself to something, fully leaving all other possibilities behind in an invisible, lost-as-soon-as-you-pass-it wake?

His short Knoxville stay was coming to an end. He had spoken to his mother last night. His grandmother was worse, and his mom had guessed that she couldn’t live on her own again, in the big, old drafty house in Oak Ridge. She asked him to help her go through her mother’s things over the next few weeks, to pack away and sell and dole out
to the various grandchildren. His grandmother had made out a list.

He should plan a visit with his grandmother as soon as possible. How could he have gotten so wrapped up with a city he had only failed in, in someone he probably had no future with because she was ready and he was not, and he shouldn’t be selfish and hold her, keep her just for himself in case, and neglected his favorite member of his family?

The answers to that were simple and multitudinous: Mauna was his path. To her and to a kind of whole life. His grandmother was a trail, spongy with leaf-rot, twisting into the heart of the mountains. Never out of them.

Brian would be back from Myrtle Beach on Tuesday the 21st, so he would no longer have a place to stay in Knoxville. Except at Mauna’s. But too much more time with her, especially time that included sex and sleeping together, and he’d be seriously addicted. He’d be back in the place where he had vowed to himself just three months before, when he had left London, to never be again. Where he’d been with Amber in college, almost failing out of school. He would have failed and not even gotten started on his master’s, if Moreland hadn’t intervened at the eleventh hour and pulled some strings. Super strings indeed, he thought. Or pining for Lucy over email, that most untrustworthy medium of communication. Like a Medium, hovering over everything and varnishing it, making the future seem mystical and preordained.

Back to the cupped palm of the valley cut by the Clinch River. The plain river water that had cooled the hot cells and uranium rods, encased in aluminum to protect them against water corrosion in early nuclear reactors. Clinch: to fasten, secure,
settle. Otherwise known as fuck. Literally. He had done plenty of that kind of clinching, in that valley, grazing his hands over the ridges of various ribcages, the kinds of spines that arched, that bent over backwards. He shivered, thinking of Mauna’s finger resting on his bottom vertebrae.

He had certainly been riveted by all of that, spellbound, immovable, “in the clinch.” But he hadn’t accomplished anything in terms of the more practical purposes, the nuts and bolts, the hasps, to build a future, whatever that was. A life, a house. Maybe he should find something closer to the dam (Norris sounded like a cat’s name to him, not something as presumably important and devastating as the dam), get a job with the TVA – the thing he promised to himself that he would never do.

Oak Ridge. He wondered if he felt as the residents of century-old family farms and small crossroads communities – Scarboro, Wheat, Robertsville, and Elza – had felt, when, scant months after being selected for an agricultural improvement program, they woke up one morning with a note nailed to their fence posts: You must change your life.

Perhaps he should run away again, out of the state entirely, he thought as he walked to Mauna’s red door. Just not quite as far as before, not across an ocean. The sensor light flashed on, and he hated that, hated knowing that Kel and James would know he was there.

He had a hankering for the Victorian bar – they had tried on that first Tuesday after their date, but it had been closed.

The bar was open tonight, but this time there was a bouncer, the kind of self-
satisfied frat boy type that Conway had particularly enjoyed walloping in his college days. This big-headed guy, crewcutted, a stand-in for all those who he had spouted at all through undergrad: “Seriously, I’m going to dislocate your face.” The worst kind of threat, he didn’t even know it at the time. To dislocate, the worst fate, for a face, another repository for the soul. He thought of Mauna’s face, its faintly blue pearlescence.

The cover was five bucks, and he had a crisp ten, but didn’t feel like paying, and the band hadn’t even started yet. “I don’t want to pay for a band we probably won’t stay long enough to hear,” he said to Mauna, loud enough for the bouncer to have heard. Of course he would have heard: Conway and Mauna were the only people in the little hall just past the doorway, the rest of the place was nearly empty.

“Could we just come in for a drink or two if we leave before the band starts?” Mauna asked. She twirled her hair, but it was more of a nervous yank. Yank, the word reminded him of a particularly unpleasant scene he had eavesdropped on in London. He thought that the Rat and Lucy were referring to him as an American, and the Rat said, “You know, sewage.” When he had asked Lucy about it later, if he had heard correctly, she had laughed, “Oh darling, just a bit of Cockney slang to color up a sentence. Like music. You know: Sewage. Tank-Yank. He wasn’t really slagging you off, only your nationality.”

Conway could tell that the bouncer didn’t think Mauna was cute. Which, Conway had to admit, dimmed her trinitite-light in his own eyes as well.

She didn’t have cash, she was explaining to the bouncer, who remained absolutely impassive. She was probably trying to be charming, probably for Conway’s sake, although he didn’t even hear the words she was saying, just watched her
floundering movements: the hair toss, that when she tried running her fingers through her
hair (it was beautiful hair, but fine and tended to tangle), she got snagged by a knot,
which jerked her head back, the smile that was too genuine, although she’d given
Conway her narrowed, cat-eye smile plenty of times, the fingertips played over her
collarbone in too skittery a fashion to be effective.

She waved her credit card around, “Can’t I just pay with this?”

The bouncer didn’t deign to answer. Conway just stood back, watching
her fail, again and again.

As he pushed the oak door so hard that it swung all the way out, Conway
said, “I think you needed to flirt to get us in there.”

She didn’t say anything, just folded herself into the car. Lucy and Amber
would have wound that big oaf around their fingers. Mauna is pretty enough, and she
looks especially good tonight, wearing a black slightly flared knee-length skirt and a
fitted v-neck sweater in the same weird teal-y blue of the shirt that she had worn the last
time they were inside the Victorian bar.

But he still can’t help himself, that bubbling up, boiling. In the car,
heading back to the Olde City, he started ranting about Tina. “She fucking accused me of
slacking because I didn’t push hard enough for a sale today. The guy wanted top of the
line, but he clearly couldn’t afford it, not right now, and so I gave him the choice: either
to save up and come back for it later, or to buy an inferior product today and upgrade
later. So he left, and I know he’ll be back. But instead of being praised for having a long
term view, I get reamed for not closing the sale. Fuck, I hate that fucking place.”

She touched his wrist, lightly, but her fingertip seemed to sink into the
depression between the delicate bones. “You need some lavender oil.”

“Why the fuck would I need that?”

Instead of laughing at him, she cowered. “It helps people relax.”

He brushed her fingers off, reversed into a parking place.

As they were walking toward yet another Olde City bar, she said, “Can we sit outside?” And he nodded tightly.

With a touch of her old spirit, she touched his arm. “Where’s the nice sweet Conway I used to know?” At first she sounded sort of grandmotherly and then, again, that genuineness, that sincerity, got him. The desire to rise to someone’s version of nobility. Hers. He bumped his elbow against her ribcage. “I’m still here.”

After they had sat down and ordered, she said, “I got my hair cut, does it look any different?” A trick question, the oldest trick in the book.

“Did you use one of those curling irons or whatever?”

“No, I never do anything to my hair.” She shook her head from side to side and he was faintly enthralled by the way the mass of her hair dragged across the tops of her shoulders. It did look remarkably shiny. “It’s all-natural. I don’t use any of that stuff, or own a blow dryer even.”

“So if you’re so perfectly all-natural and immune to vanity, why did you ask me if it looked different?”

She gave him a lopsided smile that he couldn’t read. Some combination of shame and pride, false modesty or self-effacement, or the real thing. “Geez, I wanted you to tell me you couldn’t tell I’d had it cut. I always want it cut to look exactly the same as before, only better.”
Conway thought about her wavering string of ex-boyfriends. The guy holding the cat in the picture collage looked exactly like him. The same, but better. Was that ever possible? “So, no Panglossian Spray for you?”

“No,” she was clearly pleased that he remembered it. “Too many chemicals. Panglossian spray really does sound like a pesticide, some ingenuous new form of DDT.” She had done finger air quotes around the word ingenuous, as if he didn’t understand irony. “Plus,” she said, looking almost mournful in her earnestness, “I’m not too sure if this is the best of all possible worlds.” Then she seemed to shake herself out of a kind of reverie, the kind she so often slipped into, and looked up at him archly. He wasn’t sure if that look indicated that she assumed he was in on the reference and therefore the joke, or if it was sort of a version of air-quotes. “With someone like Bush running for President, probably not.”

“Yeah, he said, “I get it.”

“So there are good schools somewhere in East Tennessee, huh.” Mauna was teasing, he knew, but it pissed him off.

“I don’t think there’s a difference between the North and the South in terms of education. I didn’t do well, but that was my fault. And my father’s. Hard to go to school with a shifting Pangea of bruises. I’m sure there were plenty of good teachers and decent classes. I just didn’t show up often enough to find out.”

Why was he positing that? He and his sister had long railed against his ridiculously bad Kingsport high school classes in contrast to hers in Oak Ridge, which were based on a kind of high-end Northeastern model.

“Mmm, you’re probably right,” she said. “Most things are what we make
of them.” Or,” she said, laughing, “some wise-ish shit like that.”

“Well, no,” he conceded. He liked to work her up, even though he usually agreed with her. To see that he could, to fluster her so she wouldn’t ask the truly hard questions. “There probably are some differences.”

A girl in tight, white pants squeezed by him. Her blond hair was clearly dyed and it hung, Barbie-style, straight to her ass.

After she had passed through the space between tables, Conway leaned into Mauna. “Did you see that girl?”

Mauna tried to make her voice blithe. “Uh, yeah...but, not her face.”

“She pinched my butt when I was down in the Olde City a few days ago.”

He paused for her reaction, but her face was strangely blank, although he knew her well enough to intuit her anxiety. “I was just walking along and she did it, and when I swung around,” he was sort of acting it out, “she gave me this look like ‘Yeah baby.’”

Mauna stood up. “I have to go to the bathroom, but I when I come back, we need to talk about what we’re doing here.” She patted his leg a few times, firmly, the way a parent would.

His gut tensed up, as it had in college when he was preparing for a test. One that everything depended on. He looked around for the waitress, who was slow in bringing his third beer.

The girl looked back over her shoulder, staring right at his crotch. What kind of girl leaves the object of her desire in the crosshatches of another woman? Mauna had the unfortunate, unstrategic habit of dismissing anyone uninteresting to her. If she
were a country she’d have been absorbed into an Empire long ago. She had waltzed out
after a declaration that would make any man quake in his boots. And then, Puss-in-Boots
over there read him as undefended. She, on the other hand, was a country. If he gave that
girl anything resembling the eye, she’d be over, rubbing herself against him.

He had watched Mauna take in the girl’s panty line-less tight white pants,
her fried hair, her un-pretty face, devoid of sweetness, piled with harsh makeup, empty of
intelligence except for predatory cunning. Watched her struggle, too, with a twinge of
jealousy at him pointing the girl out, of the girl’s crass desire of him. But then, because
Mauna was vaguely aware of her herness – although she wasn’t as secure as her breeding
and pedigree dictated, why he was drawn to her in the first place – she left, trusting in
something like the best of all possible worlds.

She was smart enough not to believe in an unalloyed rationality, but she
couldn’t help instinctively reacting within its narrow boundaries. In his case, she had
judged correctly. He wasn’t tempted by Barbie. She was probably dirty, riddled with
diseases. But Mauna must have had quite the number of shocks because of this
resounding dismissal. He wanted to tell her, like a brother, for the future: Just because
you don’t find someone attractive doesn’t mean a guy wouldn’t.

It was 80’s night at Hanna’s. Got to concentrate...Don’t be distractive
Turn me on tonight...I’m radioactive...How he missed The Firm. And Kraftwerk.
Radio-Activity. Their only album with absolutely no guitar sound. A band bold enough
to begin an album with a song called “Geiger Counter.”

Her rejection of so much of the outside world was also, he realized, why she was
so damn good at intimacy. She didn’t bother with small talk; she either walked away or
dove right into the heart of things. She didn’t swivel her head, casing for potentially better partners. The outside world, in fact, seemed to fall away, as he remembered it doing when he used to look through microscopes. Tunnel vision that corresponded so well to the literal and figurative Tunnel of Love.

He was used to Lucy’s eyes darting around when they were out, preening when other men ogled her. Other men looked at Mauna, and she never seemed to notice. That was how she created a world, a galaxy composed of two souls. The Greater Conway-Mauna municipality. An isolated inland site with plenty of water and abundant electric power, shielded by mountains. Hemmed in. A place both protected and manageable. As Oak Ridge had been described, when it was chosen to house the nuclear project, although it was hardly an island. Neither were he and Mauna. No, they were surrounded and enclosed by something harder than water. And inside: Atomic City.

When she returned, just as she was pulling out her chair, he said, “My mom asked me what my intentions were with you, she said you’d be wanting more soon, or an explanation why things weren’t moving forward. I don’t have an explanation; I just can’t date you right now. I haven’t had my own bed for so long, I’m not happy with my job. I just broke up with someone four months ago. You’ve been broken up with Nigel for a lot longer. Think of how you would feel in my position.”

“What did you tell your mom about me?”

“That you’re a treasure.”

“Oh.” Her breath was audible. “Thank you.”

Treasure, the last resort. What we sell or give away or use as bribes when
we have nothing else left, what we sew into our coat linings before a perilous voyage.

“But I can’t date you right now. But please let me be your friend.”

Mauna gave him a pained look. “I don’t even understand why you want to be my friend so badly.”

She was fishing, he supposed – she had too many friends to be that unconfident. If she had asked him why she should be his friend he probably wouldn’t have an answer, although it would be a better question.

He said, “Because I respect what you’re doing with your life. Plus,” he grinned, “I think you’re a closet pinko.”

She didn’t smile back. Her mouth turned down in the now familiar way, her eyes softened and took on this quality that gave him the shivers: they looked right through him, but only saw the good parts. If she really could see through to the bottom of his soul, she would run for the hills.

He sighed, “Mauna.”

“What?”

“I’m afraid that when you get to know me better you won’t like me as much as you do, or think you do, now.” That was the most he could give her, or anyone.

“Why?” Such rage-fueling innocence. She was smart enough to call him out on a remark like that. He was saying it like he was especially depraved, but everyone thought that, everyone was worried that the person who adored them would one day find out the truth that had been hidden all along by mystery and danger and delight.

“So tell me why you and Nigel didn’t work out.” Love, rather than some abstraction, was more like some scientific precept, a seemingly solid tenet, one that
someone disproved with new technology, otherwise known as a different perspective, a new lens, so to speak, or a historical event that was perfectly sound until a long-lost diary was unearthed in someone’s attic. “What did he do that made you stop loving him? Because that’s why he broke up with you, you know. He hated you for making him feel, for making him fall in love with you. And then you left.”

“But I didn’t leave metaphorically. I said I would marry him. That we could work it out. I was going to come back. I am almost positive, that I was going to.”

How old was she? “Guys don’t think in terms of metaphor, Mauna. Except maybe me. So what really happened?” An impossible question to answer, but he needed to both gather data and stall.

“I don’t know. He wanted,” she said, and her eyes teared up, but she held them in. Good girl. A crier, but not in public. “me to put on stilettos and walk all over him. Literally. I couldn’t do that. It was his ultimate fantasy. But I just can’t hurt someone on purpose like that.”

Conway was silent, thinking wow. All meanings, spiking off of the image, of the request.

“Is that what you want, too?”

He snapped out of his visual. “What are you talking about? I don’t even talk to Lucy anymore.”

“Well,” said Mauna, “she’s certainly with us tonight and every night. She might as well pull up a chair.” And Mauna actually arched her back, stretched her arms across to the next table and pulled over an empty iron chair so that it was now part of their table.
“Like Elijah. We should get her a goblet of wine.” She gave him her
version of a smirk, which was always a bit too genuine to pass. “What really happened
with her?”

“Are these Old Testament references really necessary?

“Are you insulting my religion?” She smiled. A French Broad River
smile.

“I didn’t think it was your religion, I thought that it was your culture.”

“Well, yeah, it is. My culture, I mean.”

“Lucy’s not here. She’s out in there, in the ether, the fabric of the
universe.” He waved his hand toward the dark, star-studded sky. “Lucy in the Sky with
Diamonds.”

She gave him her unbelieving look. “Hm, for fabric, read fabrication.
And, if the universe is something Penelope-woven-and-unwoven, then she’s still snagged
on it. Maybe the universe is like a fuzzy angora sweater. And Lucy is a dangly diamond
earring?”

He laughed. “Since I don’t wear earrings, you proved her irrelevance even
more succinctly than I could. Seriously, she has no relevance to the situation at hand.”
Lucy, like most Brits, abbreviated in ways that he often found maddening, or clever,
depending on his mood. She would have said, “sitch.”

“No resonance?” Mauna said, her brow furrowed. “But she does. All
failed love experiments do. Love is eternal. Even – or especially – failed love.”

Conway remembered that nuclear magnetic resonance was first described in 1946.
The researches noticed that magnetic nuclei, like hydrogen, could absorb energy when
placed in a magnetic field of a specific strength. When this absorption occurs the nucleus is described as being in resonance. Different atoms within a molecule resonate at different frequencies at a given field strength. The observation of the resonance frequencies of a molecule reveals structural information about its scaffolding.

He said, “I said, relevance, but yes, I suppose you’re right. It’s eternal and if it was especially fucked then I certainly wouldn’t want to repeat, what you so aptly phrased, a ‘failed experiment.’ Which is another reason for us not getting involved, at least right now.” When Mauna said it, it sounded like “field experiment.”

“But we are involved,” she said, firmly. “And I feel punished. Why did you, ah, kiss me so passionately if you didn’t want a relationship?”

“A moment of weakness,” Conway said.

She looked like she had been hit in the face.

“Mauna.” He took a deep breath. “You’re my model for how to act, how to be in the world. You love your friends and they love you. I want to be one of them.” It was the most honest he could be, and stating a desire like that was a precious gift, he hoped that she knew that.

She had her elbow on the grid-iron table: as he was speaking, she put her pinkie in her mouth, clamped under her charmingly crooked teeth.

He said, “What do you want? Sex? Is that what you want?”

There was such longing and – he’d never seen this in her before – greed in her eyes. Then, her glance skated away. “Noooooooooooooo.”

If she had been brave enough to say “yes” in that forthright way she could sometime have, he wouldn’t have been able to deny her, or himself. And there he would
be, again, pinned to the bed, timeless, or in that one-dimensionality of time that
lovemaking occupies. The way he had been in college and his attempt at grad school,
missing classes, accruing debt. One pin through his heart, the other piercing his pelvis, a
bug on a tray. An East Tennessee firefly. Or a chalky-blue English dragonfly, a male
Broad-Bodied Chaser. “I want to do things with my life, the way you have, with my
music. I need to find my place.”

“But I want that for you too. Don’t you see? We can help each other to
achieve things.”

He wished that he could see love that way. “We really get each other,” he
admitted. “Why is it so essential to you that we fall in love?”

She took her elbows off the table, removed her fingers from her mouth, sat
up straight, as if she were giving a sort of salute. “Because it’s the most important thing
to do. It’s why we’re here. Human beings, that is.”

Powerful stuff, and brave, but in the general, not specific, I want you
sense. “Listen,” Conway said, struggling for his footing again. “I don’t know if I will
fall in love with you or when, I might, someday. I just can’t now.”

She bit her lip.

He thought of her reaction when he told her about the toxic glaze on the
coffee cup his mom had made. Human beings were toxic in general, but in East
Tennessee, thanks to Oak Ridge, they were radioactive. In Anderson County, shot deer
could not be eaten, even sixty years after the first, unfettered uranium isolation. Hunters
reported glowing entrails, Orangeade blood, neon organs. And then he was that much
more so. Everything and everyone he touched crumbled into ash. He didn’t want to do
that to her, which is why he hadn’t touched her, really touched her, since that night.

Much as he might have wanted to.

Then she looked up at him with those eyes. “Can’t we just give it the old college try?”

“Can’t,” Conway shrugged. “Didn’t finish college.” Not true, he’d just not finished his MA thesis. But she must have been too upset to correct him. Her mouth’s turning down had even pulled down the outer corners of her eyes.

The night before Conway had dreamed that a woman was driving him. She had done a good job, negotiating mergers and blind curves, heavily trafficked areas, making safe but aggressive left turns. He would prefer to be driving, but he tried to relax, trust her. Especially since she was such an expert driver. And he wondered, with some horror, if the list of people he could “solve” were exactly the same as the list of people he could control. Or love. He could control Mauna, sort of, because she couldn’t hold back love and he could. But he didn’t want to control her. It was exhausting to hold her back all the time, and he knew his success at controlling her would result in his losing interest and hurting her.

“Okay, you want more?” He felt sort of desperate. “Do you remember in *Raiders of the Lost Ark*, the look on their faces when they opened the treasure chest – how it reflected on their faces? That’s how I feel when I look at you.”

Funny that anyone thought you could avoid the wrath of God by being tied to a stake, back-to-back with your true love, screwing your eyes shut, as the colors and lights raged and swirled, braiding around you.

She nodded solemnly, then laughed, “Didn’t all their faces burn off or
something?”
Daisy Chains

With Carter gone, Elizabeth is now considered Single. She moves into the dormitories to make room for another married couple in one of the scarce houses. The woman who will now be mistress of what she was so proud to call her kitchen has a husband with a lame leg. He cannot go overseas to fight. Elizabeth thinks of the years and years of running over hill and dale that Carter has done, training to fight in this man’s place. No, she thinks, they would both go if they both could.

She loves Carter more through his letters. The thin blue paper that pokes through the slit in the door. It’s easier to love something feathery. All of those years hiding and running schooled her as a twisted dreamer, a double helix. What unstable elements will her generation of survivors, of fantasists, add to the nuggets of the world?

She thinks: so this is the shape of solitude. Oblong with hidden spiked edges, and yet smooth enough in places to rub against her cheek. It fits in her palm, pocket-sized. Cold against her skin, perfectly reflecting her to herself. She is singular. A singular event. Shameful and gleeful and lonely. Her life is just her, only a little bigger than her skin, hovering just a centimeter outside the reach of her breath.

It seems that she has been working every hour of the day for weeks and weeks. Oak Ridgers work six-day weeks. On the days she does not pick her way through the mud to the lab, she spends lining up at the faulty Laundromats that are often flooded, and too few and far between for the community that relies on them. Likewise the rationed goods at the few stores. There is always lipstick available, even when flour and sugar are
scant, Elizabeth notices: barium-red, poisonous-looking.

But on this Sunday she eschews her housewifery, her duties. She can wash out
her stockings and underthings, she is nearly done with a new dress that she can wear to
the lab. She needs to be outside for a large tract of time, unbidden; she has not explored
this place nearly closely enough. With her is her worn copy of *Travels of William
Bartram*.

She walks along the Clinch River, noting the plash of frogs and thrilling at the
sight of a blue heron spreading its armoire-like wings to dry them out. The riparian
vegetation chokes the river to a trickle in places. The mud here seems more solid or at
least more suited to its environs here: she does not begrudge its presence as she does in
town. Skirting the soggy ground flush with the water requires her to delve more deeply
into the forests. Their denseness frightens her a little, their shunning of white and yellow
light, but the green breath of the pines lures her. There are places in the forest where
stands of one tree type sidle up against quarries of a completely different tree. The
Tennessee Plateau has a mixture of northern hardwood and southern softwoods. A
combustible patchwork.

Even in this area of admixtures and blurry demarcations between the markers that
indicate such slight variations in climate and regional notation, the forests register even
the most minute differences. She can tell; the acts of sequestering and dissection are far
too familiar to her. The trees in the region have what is referred to as “shared
dominance,” and Elizabeth wonders if this can ever be possible in this world, perforated
by war.

She manages to climb up the hillocks and foothills of the Plateau, the sun like
hands on the backs of her knees. After an hour of slight inclination, she reaches a large flat rock overlooking an expansive cross-section of the valley. She takes out her lunch, a sandwich and an apple, spreads her coat out, and opens her book.

To think: Bartram could have sat on the exact same rock!

She reads: “On the summits one sees the tan-bark oak; lower down, the white oak, and lower yet, fine specimens of yellow poplar; while from the valleys to the crests is dense and varied undergrowth, save where the ground has been burnt over, year after year, to improve the grazing.”

This written in 1791. Everything that can be dissected and named can also be destroyed by fire. And even more astounding, this is almost always justified as being for the greater good, for the future.

Further down she reads, “In the purer plateau land between Cumberland Falls and Williamsburg in Whitley County, eighteen miles away, it is truly called ‘flat woods country,’ and viewed from Tellico Mountains, whence the local elevations are of no account, it looks like one vast sweep of sloping, densely wooded land. Here one may see noble specimens of yellow poplar in the deeper soil at the head of the ravines; pine oak and gum and willow.”

She looks up from the book nestled in her lap, gazes at the mountains in the near distance. Noble specimens remind her of noble gases. Noble gases being present on Mendelov’s first periodic table: inert and therefore hard to combine with other elements; opposite of the noble specimens of trees. Why must humans deem some geography virtuous or royally derived, while others are named “heath balds” and “laurel slicks.” These lowly territories prone to becoming impenetrable jungles. She thinks of the
Lanthanide Series elements, also called rare earth metals, since so few are found on the earth’s crust. Most are toxic.

Elizabeth gasps, slams one hand over the page, the other covers her mouth. Elements from this rare series must be what they are isolating in the Lab. Perhaps they can be sprinkled over, diffused, over precious farmland in Germany, Austria, now Czechoslovakia. Mixed with what – tree sap? Fronds? Moss? If Cerium is scratched with a knife, she knows, it will ignite. How could that translate over oceans?

Bartram called this area a washboard. Ridged and ever so slightly undulating, it looks less domestic and more sinister to Elizabeth. A serrated knife edge, a saw tooth. The gums of some prehistoric animal whose mouth has been frozen open in a silent scream for millions of years.

She touches her own gum line; first with the tip of her tongue, then with her pinkie. Her wedding ring scrapes against the corner of her mouth, where her lips come together and hinge to make all of her expressions, and therefore either create or reflect her emotions. Or both. Part of her lip catches in the facets between gemstones. She tugs the flesh away, licks the dry corners of her mouth to soothe them.

The wind barbershop-poles around her head, lifting the pieces of hair not tucked into the head scarf, lingers on the sore part of her mouth. She pulls her coat more tightly around her, props her chin on her fist, and stares out over the scene. Sunlight collects in the finger joints of trees, but clouds gather overhead and the air is brisk. Hawks wheel and turn, carom from one cliff shard to another. Every time they set off, they seem to fall, lose their footing, get off to a faulty start, and each time they catch themselves, waft, beat their wings, soar. Every bird seems to know exactly what to do. Soon they will
collect around the mouth of the Clinch, the French Broad, the Pigeon, the New River, and fly south. It thrills her to see birds in flight, but when they are collected into their precise chevrons, she feels a drawstring pull, a dangerous knitting of earth and sky. In these moments she feels trapped, earthbound. Nothing in her is stitched so tightly together.

What is Carter doing at this moment? He is flying, she thinks, like the birds. In a machine just barely bigger than himself, with wings. Some sort of dense desire realized by entering the thinner air he has fit himself into, like a slim metal suit. In formation, she pictures a thousand terrible pewter angels wheeling and turning, never knowing what to do, since our instincts, unlike birds, are often dimmed by our inherent aggression and hostility.

She hopes that he remembers what she told him about bees. It was Aristotle who discovered the dance of the bees. If a wasp entered the sacred space of the hive, bees somehow knew that wasps died when the temperature was raised just one tiny degree. So the bees shook their bottoms and this frenzy raised the heat of the hive. Killed the wasp without any wing-to-wing combat.

And below, in this field: horseweed. An erect, simple stem, unbranching below but branching wildly at the inflorescence. Straight, coarse, stiff hairs, much like horsehair. Some have slightly pinkish flowers, others showcase yellow disc flowers like their twin, the sunflower.

Carter, who loves her; Carter who doesn’t know her. But who ever will, and who ever knows anyone?

Everything a sort of fleeting desire, on the wing, as it were.

And what of the other? She puckers her lips around the decaying air. You
changed me so you should remember me.

She had climbed to this exact spot with Carter before he had been shipped off. Out, she reminds herself: shipped out.

Then, the pond off to the left side and a little below the flat rock had a pattern on it, although today it is smooth as an infant’s skull. Carter had taken her arm, turned her towards the pond, tilted her head with his big gentle hands. “If you look at it like this the pond has alligator skin.”

Elizabeth had laughed. “Why alligator? Why not snake? It looks like it will molt or melt.”

“Because,” he had said, admonishing her in their pretend way, “snakeskin is smooth and this pattern is raised, bumpy.”

Elizabeth had nodded. “Well observed.”

Carter had gazed at her with such devotion that it squeezed her throat. “I love how you sound like you’re from another country, or another galaxy, even. My own private Neptune, Ceres, Venus.”

How to choose between indoors and out? She had put her arms around him.

“So close, so far away, always,” he had murmured into her hair.

The middle of the pond is smooth, bronze on this day, the day of her stolen solitude. It is fed by an underground spring, Carter had explained, and Elizabeth can sense the water burbling up from some deep heart’s core of the earth, some reservoir of tears, then passing through all of the rare earths, stealing some of their nutrients and radiance and potential danger, their intrinsic poisons. Shoved up against the bank are
glinting diamonds, whole handfuls of them. If she dipped her head under the pond scum near that bank, she would emerge not wet, but shimmering with jewels.

She gets up, brushes the leaf dust off her skirt, lights a cigarette. Begins to walk, lazily over the rising ground, through the arid air. She does not want to go anywhere near anywhere that she might have to pick her way through slush or mud. She is sick of sponginess, the weak give of the ground, cowing under pressure, intimidated by these government decrees. Lies, she is sure of it. All of them are scared, all comply. But surely the ground should be stronger than the human elements; it should uphold with impunity and grace. Atlas-like.

The cigarette falters in her mouth. She puffs on it to re-center it, to imprint that spicy-sweet ring of fire on the inside – the reddest part – of her lips. The taste of kissing, the reason people kiss. As if kissing needs reason. But it does, she thinks, it does. Everything alive needs reason acknowledged because everything alive expresses reason in its own way. Even the calutron, that churning low in its belly, that mystery, has interlocking reason and desire.

Teach me to inhale smoke deeply into my lungs from all the fires of the world, her veins sing. That way, I will be fire too, and it cannot hurt me.

A branch shoots out and just misses her eye. The branch, the sudden movement like a lover’s surprise cruelty. Off that branch is a smaller, thinner one: the first boy, the one across the ocean, telling her that her loving him is an act of cruelty – branch – the insanity of that statement – branch – the sanctity of that statement. A family tree of reason/desire. Branch-branch-branch... misskissmisskissmisskissmiss....

She climbs higher, her hard breathing covering up her sobs.
The humps of moss-covered rocks are the same as rich people’s bushes sheared into beavers, stags, woodchucks. Those in the natural world just slightly more abstract but still perfectly recognizable.

Elizabeth stops, looks down. From up here, the bare, gray trees waver like sea creatures. Their bleached rootedness a terrestrial copy of coral: its branches, its tenuous hold on the ocean floor. Elizabeth thinks, it’s so hard to remember that air is a thing, too. Like water, like soil.

Batley, Dutch Valley, New River, Beech Grove, Elza, Norwood, Farmer’s Hollow, Red Hill, Black Oak, Frost Bottom, Block House Valley, Laurel Grove, Brushy Valley, Wolf Valley. Were the names still relevant even if the places had changed beyond recognition?

In nature anyway, there is such a thing as higher, drier ground. She exhales, slowly. There is a scent released, of leaf rot and drying branches snapped, she can smell it making its stealthy way over the brush, the ground cover; she feels it like a tremor run all through the understory: the crackle of dying grass. Xylem, torus, griffe, spur.

Someone is coming.
Conway had woken up that morning, in his grandmother’s house, in the guest room. It was the nicest bedroom, with a huge bay window with several trees crowding up to it. The alarm went off, more war tragedies and fuck-ups, more desperate election pleas from the Democrats, poor sods. He banged it off, and turned his head just slightly, so he could watch the sane world coming to life outside the oriel window to the right of the bed.

The sun pushed its way through the leafy oak tree branches. Blue circles, green circles, yellow circles, all perfectly round. He reached for his glasses on the night table, put them on, and was instantly blinded by the glints knifing through the spaces between leaves. He took his glasses off – he usually wore contacts but his eyes were bothering him, plus he came off as smarter in his specs. He gazed out again, and the sparks had transformed to clusters of perfectly round orbs, winking at him, throbbing with life. Atoms. The spaces between them changing with wind-alterations, just as changes in velocity and viscosity inside a cell effected movement and placement of everything inside it.

He had dreamt of Mauna. Their arms were around each other, but instead of her apricot skin, her arms were her scrolled brass headboard, which, like a triptych, enclosed him in the bed, becoming a golden gate, then unbelievably high steel, laced with barbed wire like the one still around Oak Ridge National Labs.
Conway arrived at the Halloween party hosted by Mauna, Kel and James with
trepidation, holding tight to his six-pack, he wasn’t planning on sharing any of it. Earlier
in the day, while he was at work, Mauna had sent him an email that used the word
“relationship,” so he planned on keeping his distance. If he could be honest with himself
he would admit that the part that scared him most was not the word “relationship,” by
which she meant all kinds of relationships including friendship, but the last line: *Don’t be
afraid of you, don’t be afraid of me. Or the fragility inherent in anything worth anything.*

Beer would help him. It always had.

He didn’t see her when he pulled up, but the lawn was covered, throbbing with
costumed people. Conway realized that he was a good ten years older than most
everyone here. He walked around, noticing the stand-outs: a girl as Tom Cruise in Risky
Business, Alex from Clockwork Orange, a skinny blond girl as Dolly Parton, another one
as a transvestite hooker, with a sock poking out the front of her dress. Cute. Matt as a
scarily feminine Michael Jackson, and Kel – who he thought might hug him – was a
jailed Martha Stewart, complete with platinum wig. She had written on one of the white
bars of her striped pajamas, “It’s a Good Thing.”

But no Mauna.

Kel introduced Conway to her childhood best friend who was up for the
weekend, a girl in a sexy-kitty costume, attractive but in a hard-edged way. He wasn’t
surprised that she was divorced and lived in Atlanta and was in high-level sales. Her
boyfriend was a slick guy dressed as Jesus.

He met a costume-less couple, the girl was a good friend of Mauna’s, he
gathered. Her boyfriend, an adjunct Prof at the community college, was from Syracuse.
Even though he’d only lived in the East Village for a few years, and mostly on other people’s couches, he had a New Yorker’s dismissal of the provinces, starting with the four other burroughs. The guy, burly and, he was relieved, at least five years older than him, asked him right away where he was from, the competitive prick. When he said, “Tennessee,” the guy said, “Where else’ve you lived? You don’t have an accent.” Just to mess with him, Conway said, enunciating even more than he normally did, “No, I’ve never lived out of state, and I’ve never even been out of the country. Except for Asheville for a few months but that doesn’t count, right?”

Conway remembered a California trip he had gone on with his dad when he was about 15. It was right before the divorce, right before the scandal, right before everything changed, forever. He hated his dad, but he hated the people who assumed that his father was a hick because he had an East Tennessee accent even more.

The only other person not in costume was a girl with short boyish hair, no discernible makeup, and indigo eyes. She was sitting in a wheelchair, the prop for the guy who came as Larry Flynt. Gorgeous, with a country accent, workman’s blue jeans, and a wedding ring. Perfect.

Mauna came out when he was still talking to the girl in the wheelchair. They weren’t actually talking; she had that not talking thing down, and was drinking as steadily as he was. Beer. He was sick of Mauna drinking white wine because it was supposedly healthy. He’d fallen for the girl who had ordered a double Dewar’s on a first date, and paid for it and his beer as well. Indigo-eyes (the name of a favorite Peter Murphy song) was clearly a guy’s girl, no female friends, no prissiness whatsoever.
Mauna was wearing a hot pink dress made of some kind of stretchy material and a long ratty blond wig. A VCR hung from her neck by the tape. “Hi,” she said. She seemed, as usual, embarrassed and jauntily bold at the same time.

Before he could ask who she was supposed to be, she leaned back and said, “I’m hot,” with her brand of an unfocused faraway look. Not stupid or in character, but distracted and sad. She was good at parties, but he guessed that it took a lot out of her to diffuse her intimacy, to spread it like a mantle over so many people.

She tugged at the hem of the dress as if someone else had decided what she would wear, and she had simply accommodated them. “Isn’t it a perfect match? I mean, really…,” she scowled, yanked her wig off and tossed it toward the porch; it landed in some spindly bushes and draped there with almost pornographic aplomb. “I think she’s awful, not pretty at all.” She put her hands on the shoulders of the girl sitting in the wheelchair, “This right here is the prettiest girl in our department.”

She didn’t look at him or the girl as she spoke, but frowned vaguely in the direction of the porch. The wheelchair-girl demurred, said nothing. It drove him crazy when girls didn’t acknowledge compliments about their looks, so he grudgingly gave them out. He remembered lying beside Lucy after a particularly steamy lovemaking session, looking over at her with all the love he’d withheld from far more beautiful and deserving women, telling her she was beautiful. “I know,” she’d smirked, before rolling over on her stomach to sleep. The next day he’d left a message on the answer phone to tell her he’d be late, but he’d arrived back at the flat – her flat – before her. He played the message back, and heard his voice, weedy from the constant cold the London dreariness gave him, tinged with an English accent, and was disgusted. He erased the message and
left a month later.

“Someone in your department looks exactly like her. With some Virginia Woolf thrown in,” he said, gesturing toward Mauna’s get-up. Why on earth would she dress up in a way that she knew would put him off? Her lack of strategy was unnerving, and annoying. As per their earlier conversation, she was no strategician.

She regarded him, looked straight into his eyes, as if she had heard his unspoken thoughts as well as his speech. He felt the string between them tighten.

“That’s really funny,” she deadpanned, sucking on the words as they left her mouth, as if they were sour balls. “I know exactly who you mean.”

He had no idea where the girl he’d been drinking with had gone during this interchange, and didn’t see her for the rest of the night. No matter, this, Mauna, was what he’d come for. Being able to watch every nuance and shift of someone’s emotions and inner thoughts, as if they were streaming on the Web, a constant, reliable, and utterly mysterious candor. “What about the quilt of beauty and sisterhood and all?”

“Well,” she said, looking at the ground and smiling. “Not everyone can be a square.”

She sat down somewhat wearily in the wheelchair. Flashed him another thousand-joule smile.

He almost bent down to kiss her, on the mouth, right there in front of everybody. The everybody that was milling around, drunk, not paying them any mind. But as he bent from his waist, felt the slight crease in his abdominals from a few too many beers and no sit-ups, the long way down he would have to go to get there-there, he panicked. Where had the washboard he didn’t have to do anything for gone?
He straightened up again.

He went in to get another beer. Kelsey was in the kitchen, her kitchen, sifting more chips into a wooden bowl. “Hi,” she said, her mouth was large and it stretched even longer into a smile. He again noticed that she had an uncommonly wide tongue. “It’s great that you came,” she said, tilting her chin up at him. “Mauna was worried that you wouldn’t.” She had one of those saccharine-y voices that seemed to go up even a few notches higher around a man, any man.

“Well,” he said as flatly as he could, “here I am.”

He hated this feeling, of being in a fishbowl, judged and talked about. He had no one to do that with, and Mauna had so many.

Kel’s friend, the one from Atlanta, came into the kitchen. She came up behind Kel and squeezed her waist from behind, then planted a wet kiss on Kel’s cheek very close to her mouth. He couldn’t help thinking that this was somehow for his benefit, which was confirmed when she gave him a hard stare and a blatant once-over. This was more his kind of girl, brittle, trendy, overtly sexual wearing shiny thigh-high boots and a tight black dress and fishnet stockings. Pale lipstick, lots of eye makeup. Lucy-esque. The opposite of Mauna. Used to battling with men in the boardroom in that strange version of sultry, just-one-of-the-guys-ness. Of course, he realized a bit ruefully, this was his type because he couldn’t get it longer than a few nights. These women wanted money and fancy jobs and cars, ski cabins, boats, the works. She leaned down to get a beer from the fridge, and came up swigging – he didn’t even realize she had an opener in her hand, distracted by the arc of her back and her long swoosh of hair like a flourish on a letter in medieval manuscripts. She had a small, uneven mouth; it resembled the µ in physics.
Her lips still hovering around the lip of the bottle, she said, “So, it seems we’re one of the few people not in Cultural Studies at this party. What do you do when you’re not pretending to be a grad student?”

His least favorite question. He was saved from answering it by the arrival of her boyfriend. He found it almost unbearably funny that the guy dressed in a white robe was supposed to be Jesus; he looked like a Hare Krishna-frat boy at a debauched toga party. He realized with some panic that the person he most wanted to share this with was Mauna. Maybe because she was the only one he could.

Kel bustled back into the kitchen, brushing past him. The white fibers from her wig tickled his nose, she was that close. He wandered into the hallway, peeked in the bedroom, that exotic terrain of married sex. Clothes piled on the bed, heavy mahogany furniture too large and stately for the small rooms in an old house, few personal effects, and a distinct smell of dog hair. He had seen a dog hair in the salsa tonight. He wasn’t much for animals, anyway: he would choose cleanliness and order over animals any day.

In this bathroom there were recognizable products, although they were in the pretending-to-be-natural variety that were sold in the Co-op down the road. He picked up a bottle of shampoo that proclaimed itself as “Organic.” Yep, just as he thought: dodium laurel sulfates galore, under different guises. What a scam. Mauna was making him notice personal care products, and, intermittently, feel good about himself. What an odd combination.

He was about to retrieve another beer, when Kel accosted him in the narrow hallway.
“Oh there you are.” She smiled at him sweetly, but it wasn’t real. He couldn’t figure Kel out. *She’s like the worst parts of me* was the closest he could come to a conclusion. Kel put her hands on her hips. “Mauna thought you’d left,” she said.

“That’s strange, since my car’s still here.” Mauna thought he would leave without saying goodbye?

“Yeah, well, you know, she really likes you so she’s probably a tiny bit insecure, you know.” Brightly: “I’ll go let her know you’re still here!”

He didn’t know or understand that much about girls and their friendships, but he had a feeling that Kel had just broken an unspoken law. A natural law, thermodynamics. Even after he had aced Moreland’s test on it, that law had always first thrown up an image of people in long johns around a campfire, someone strumming a guitar.

He really did have to break things off, if Mauna was already that into him. He was bound to disappoint her, somehow, very soon.

Conway went to get another beer from the fridge. He’d drunk all of his, and several others besides. He peeled back the tab and was calmed by the small explosion. He wandered into the living room. Many of the other revelers had left. James was slow dancing with the girl with the Syracuse-boyfriend, who was nowhere to be seen. Conway took it to be innocent, since they didn’t alter their movements at all when he slumped on the futon in the same room. He leaned his head back against the unpainted pine: it would be nice if Mauna came in and curled up next to him, tucking her feet underneath her, tipped her head onto his shoulder. He waited, but she didn’t come.

He wandered back outside. He was at least a head taller than everyone else at this
party and one of the only people not in costume: he would let her find him.

He wove through costumed people standing in clumps. He bet that he could almost, by discerning the political groupings of people here, foretell what would happen in many of these relationships. It was easy to shut out everything, all the buzzing chatter, and just interpret gestures. Or, even past all that noise, to the flashes of energy people tossed back and forth, and hid, ions blinking and flashing. Distress-desire.

Lightning, he had read, re-established the electrical equilibrium of the universe. Everything was energy and light. Observing, lording over a scene that he was not a part of was such a powerful, not just feeling, but also a job, an obligation. Lonely as it was, he preferred it to being ensnared, to being a point of light in the complicated web that undulated with each tying and untying of knots, of each new pattern, endlessly made and unmade with the same materials, yearning and fear, and waiting before each new discovery that would be obsoleted, paved over with the next unbuilding/erecting of a theory in action.

Scientists, after all, are trained to see, to find or to superimpose patterns, to get past all the static and find a few clear notes that they can call a new chord. There’s a certain amount of contortion involved, as with all data, as with anything outside the actual body of evidence. Fingers spayed, wrist cocked at unnatural angles, holding something curved and wooden to your chest, like a secret. But then the thing becomes you, fused, when you couldn’t tell where you stopped and the thing – beautiful or terrible or both – began.

He shivered. He was standing under a huge black oak tree, leaning on it, with his
right foot flat up against the bark; he could sense the nubbiness of the surface through his flip-flop. The wind had just picked up, May-poling around him and the tree, which were, for the moment, fused. Something above him, dry seedpods or a squirrel, rustled. Starlight crackled in the branches.

They shouldn’t have gone to an open air bar on Friday night. The sky, grommeted with stars, had been perilously close, the fresh air rinsed through them. He had never felt closer to her. One more night like that and he would be lost, forever.

And now here she was, loping toward him, her arms swinging, exaggerating the casual gait he knew was a put-on. Someone as self-conscious as her, he doubted that she had felt anywhere near casual a day in her life. What with her constant monitoring of everyone’s – including her own – minute shifts in direction, shades overlapping other shades: veils before her eyes that she could both see more exactly through and that obstructed her. Every sense, in fact, being filtered through her, whatever machine she was. The mechanisms of which she displayed as if she were one of those clear plastic watches popular in the 80’s – his sister had owned a Swatch; put it around her ponytail if he remembered correctly – all the bright primary colored gears visibly but silently clanking away.

What man except him would want that multi-dimensionality? And even he wasn’t sure he wanted it. Well, he did, but not if it meant being similarly translucent.

“Hi.” She said. If she was able to look at him he couldn’t tell, it was dark and they were standing under a particularly leafy thicket of branches. It had been a long, hot Indian summer, and most of the trees in her neighborhood, as well in Oak Ridge, were still brimming with greenery.
Conway wondered if Mauna thought he was hiding from her. Had he been, just a little, under the wings of the shadowed tree? Had he been trying to lure her away from all of her familiarity, and hide out with her? “Well hello there,” he said. It was impossible not to be drawn to her.

He was in the mood for her to put on a bit of a show, to flirt and cajole, to pose and pout. Here they were in the dark, under a tree, mostly hidden, with people unaware of them, clueless and nearby. He might just do it, he thought, he might just let himself go.

“See that?” He put his hand on her shoulder, pressed her down and turned her so that she would see a gold shape through the low leaves of the tree. In sales, the trick was to gently lead people in the direction that you, and not they, wanted to go. He remembered Kel saying that she knew she could get her students to agree with her if she could just explain her own position well enough. Arrogant, but somewhat true.

“You car. Yes?”

“Kel said that you thought I left.”

She blushed a similar shade as her dress. “I couldn’t find you anywhere, even though I did see your car…I dunno.” She had put the wig back on and started twisting a long blond strand. Then she tugged on his sleeve. “Hey, let’s go jump in that huge pile of leaves.”

He stayed rooted to the spot.

“No? Well, I’m gonna go.” She pivoted a quarter turn away from him.

“Suit yourself, but it’s probably full of rats.”

All the light was snuffed out of her face. “Oh.” She didn’t leave.
Halloween. He’d had some crazy ones, especially in Knoxville, although he’d never been one for dressing up, even when he was younger. His sister was the creative one in that category, and always cheeky, always with the cleverest costume in the neighborhood, or the room, and she’d never resorted to slut-devil costumes either. 5'10", with their grandmother’s cheekbones and heavy, naturally blond hair, she had never needed to.

He hated holidays anyway, all the forced cheer. What if all you wanted to do was sit in a dark corner and get quietly plastered? Even if it was Christmas, New Year’s Eve. Amber had sort of ruined that one for him a few years back anyway. She had sort of ruined all holidays, since for eight years they had spent every one together, even during their years abroad when he had been in Germany and she had been in Switzerland.

But it had been one particularly drunken New Year’s, three years back, the one after his sister had died, when Amber had confessed that she had gotten pregnant the first or second time they had slept together. He told this to Mauna.

Her eyes opened bigger and wider as he was telling the story. Her mouth had dropped open and she couldn’t close it, the way Lucy couldn’t collapse the oval of her mouth even – sometimes ten minutes passed – after she’d had an orgasm.

“What – what did you do when she told you?” He thought it was interesting that Mauna usually asked about his actions, not his feelings, even though that was, of course, what she wanted to know. “I was relieved,” Conway said. “I was glad that she made the decision, that I wasn’t burdened with it.”

“So.” Mauna gulped at the air. “You would have...”

“Yeah,” he said as sharply as he could. “A ten or eleven year-old kid.”
Relativity, the perfect equation that started it all. All String Theory did was to try to prove Relativity more decidedly, by enhancement, by describing with greater specificity the workings of the universe. By unifying Relativity and Quantum Mechanics, gravity and electromagnetism. *Gravitas* and electricity. Seriousness + lightheartedness, sustained intensity and quickies, long term commitment + the shooting sparks of momentary, ephemeral chemistry. The heavy orbit of daily life with its jobs and bills and childcare. And romance, sex, six-hour make-out sessions, bumping and grinding. The dance.

It drove scientists crazy that the math for Quantum Mechanics, even with all of its frantic electromagnetic chaos on the subatomic scale, perfectly adheres to mathematical equations in probability, and the mathematics of Relativity was elegant and perfectly described big, heavy objects, explaining gravity more beautifully (by describing it more fully) than even Daddy Newton had done with his mythological falling apples (interesting that that fateful fruit was the one that “fell.” The thing that caused the fall was the thing that fell. How often does that kind of symmetry happen in life, or politics. Not nearly often enough). But that describing anything slightly smaller or lighter than planets, or slightly larger than atoms, the math almost completely broke down. And even if the mathematical anomalies had been somewhat de-kinked, strings weren’t deemed science because they didn’t fit the qualities of science: something testable or observable.

When Conway was a real scientist, it drove him crazy too. But since his easement out – he was not quite as thoroughly banished as his father, but it felt the same – the disparity started making more sense to him. Yes, the universe, from the tiniest packet of
energy, a quark, to the heaviest planet, Jupiter (his and Mauna’s ruling planet), was formed by the same raw materials. An atom with its rounded nucleus and spinning electrons was a microcosm of a planet with its moons blurred to a swirl, a platinum wedding band. But now, to Conway, the vast disparity between the two systems – it was nearly a polarity – explained the warp, the disconnect, the mess. The quantum of no-knowledge, just chance, probability. The unimpeachability, the positivism of Relativity. No/Yes. And how was any gap bridged? Through empathy, compassion, communication. Somehow scientists had to make atoms and planets care about each other. If they could see a planet as male, say, and an atom as female, a kind of yinyang of the Universe, and then find the equations to teach these entities how to love each other….

He had to get out of here, he was seriously going nuts.

Moreland told his 95% male class to think of space-dimensions as women. “Stay with me here. Relativity tells us that there are three dimensions of space, one of time. It’s a lot; even one dimension/one woman is a lot. There’s a lot packed in each one. Do you know why?” Conway had felt his scalp prickle in the hot lecture hall in Ferris. Moreland had looked around at them, his mouth ironed straight, but his gray hair tousled from his running his hands through it so often. Even from the back row, where Conway usually was, he chose it because he could usually get an aisle seat and could stretch his legs, the sparks flew off his professor, pinging off all corners of the room. Conway could see them, shooting off to even the “cool kids bleacher seats” as Moreland mocked him and the others who tried to take refuge up there. Everybody, everybody, waited.
“Are women one-dimensional?”

A few beats of silence. Did he practice these lectures at home to get the timing down? Time, the most powerful of the dimensions, the one that, in the end, however lovingly and elastically, expansively space was described, determined everything.

“I’m sorry, you must be stumped, I don’t mean the women in glossy magazines, who are literally and presumable figuratively one-dimensional.” Nervous laughter. “Real women.” He said more softly; there was a definite sense that all 300 of them in that lecture hall leaned just slightly in. “Living-breathing, un-airbrushed, complicated women. The ones that make everything worth everything. More precious than jewels. Or, ‘joules,’” he scrawled it on the board just to make sure everyone got the joke.

More laughter. Then, he seemed to shake himself. His next words came out less overly dramatic. “No, women are three dimensional creatures. I would say, ‘as men are,’ but I have more faith in women for this example.” One side of his mouth lifted.

“So, if we think of three space-dimensions as human, female humans, as I prefer, then what have we got?”

“Nine,” Conway whispered under his breath. So did lots of others, so that the combined whispering was audible to Moreland, up on his stage, hands resting calmly on the podium.

“Bingo,” said Moreland, almost beaming, “Nine. The same number as the Muses, the timeless Muses. Each unit or dimension of space is actually three-dimensional. The word dimension might have been chosen as arbitrarily as any word, if
that’s even possible. I know this is not a linguistics class, although it is important to note that early grammarians were the philosophers of their day, and as you know, scientists were called natural philosophers, so from the beginning, words and science were linked.”

Moreland stared off into the space he was describing for a few nanoseconds. “No, dimension was the perfect word. Of course Einstein would choose a word that was equally descriptive for the heights of his own knowledge at the time, but also, because he was wise and modest, he knew that even his understanding had limits, and so wanted a word that was also expandable, like he must have guessed the universe was. Perhaps infinitely, perhaps even beyond the three-dimensionality we apply to human beings, to any living thing. See it how you want to: length, width, height, if you want to be literal, and,” he grinned, “since you are so concerned with those descriptors on your own anatomy.” Giggles. “Or, to be classical, the Fates, The Furies. Or as a space, rather than time-based past, present, future – again, rolled, or collapsed into a space-ball. Really, any magical – no that sounds like hocus-pocus, and this is the real deal – mystical, Three. The three-legged stool that holds up nearly everything.”

The good doctor thrust both hands boyishly in his pockets, rocking back on his heels, said: “It all goes back to that guitar string, which is just a metaphor for the ones whom we use it to woo: body, mind and soul. In constant interaction, and flux. Vibrations to rattle, cosmic music to rival an eon.”

Conway and Mauna walked back to the teeming center of the party. Conway did so reluctantly, almost shuffling his feet. Back to all of these people whom she knew and he didn’t, who loved her and would protect her, who probably saw his reticence, who
worried about her. Whereas he had no one.

Besides, they all knew what they were doing; they had plans, goals, assignments. He felt his aimlessness heightened around this mass of people, all, or most of them, in school. Not that being in a humanities program was real work. It wasn’t as if they were tethered to a supercomputer with a research grant looming over their heads; or shouldering T-, U—and I-bars on their shoulders, fitting pieces of wood or metal or plastic into other pieces. The image of him and Mauna that night in her bed came to him. They had been so flush: tongue-and-groove, dovetail. He had held her against him tightly, squeezing the breath out of her practically — although she had been too asleep to notice — not letting up even when she had wriggled in her sleep, as if she were a coat filled with down and there was a whirling blizzard outside. Wringing out all of the space between the molecules that formed her, crushing even the particles in the atoms together, forming neutrons, those particles of instability, spinning lopsidedly in their orbs. In the morning, he had opened his eyes to find that she was a neutron star, more massive than the Sun, but only about as big as a city. In the morning, he had been almost surprised that she was still whole, that she hadn’t disintegrated into a handful of jeweled dust.

A drunken girl in a ladybug costume came up to Mauna. “I’m leaving,” she slurred. “Fab shindig.” She put her hand on Mauna’s forearm; her fingernails were painted red with black dots, and leaned into to her. “Good job, by the way. Your new boyfriend’s hot.”

He didn’t even hear what Mauna said. She could have said, Thanks, or she could have mumbled something illegible, it didn’t really matter all that much. He was furious.

264
At the drunk girl, at Mauna, at himself. He felt his heart, the muscle that most resembled a fist even under calm conditions, ball up even tighter, its knuckles whitening.

Mauna sat down, with a sigh, in the wheelchair again. Who knew where Larry Flynt had gone off to; Conway had not seen him in the chair all night. Was she trying to come off as a victim? Unbeknownst to her she was aligning herself with one of the creepiest coincidences he had ever heard about: Amber had dragged him to the New York City Ballet one time for a retrospective on Balanchine that included “Apollo and his Muses,” the piece that narrated the tragic tale of a woman felled by polio. The ballerina was Balanchine’s lover and muse. Several years after she had stopped performing, she herself was actually struck with polio and died soon after.

The wonders of the passive voice. Used exclusively – and correctly – in science. No need to know who was speaking or to attempt to assume their supposed motivations. Therefore, no responsibility ever needed to be taken.

Jesus strolled over, his robes floating up behind him. No sign of the sexy-kitty. Or, Larry Flynt, for that matter. Mauna was drunker than he’d ever seen her. Not out of control – she would never be, not completely – but hazy and unfocused.

“You guys make a very attractive couple.” Jesus leered at Mauna, who was slumped in the wheelchair, her dress hiked up. Conway muttered “We’re not a couple,” under his breath.

Jesus tipped his head back, his long tangled hair now reached almost to his waist. “Wow, look at the stars, they’re having a party too. “Or,” he looked at Mauna again, and Conway could see the glint in his eye even from the side, “an orgy. An orgy of stars.”
Didn’t a poet write that?”

Mauna lollled her head back and looked up as well, the sky falling around her face. She wasn’t saying anything either, just murmuring and sighing.

“Hey baby, what’s your sign?” He asked her, only pretending to joke.

“Sagittarius,” she said, dreamily, rolling her head to the other side of the chair.

“So is Conway.”

“Me too,” said Jesus. “With Scorpio rising.”

Mauna lifted her head off the back of the chair. Some of her hair was caught in the screws. “I think that’s my rising sign too, and my moon sign,” she said.

“Oh boy,” said Jesus, backing away dramatically. “Then I know all about you. Everyone thinks you’re so bright and cheerful, optimistic. But you go so deep that you’re not even really here. Your real life is your secret life, submerged in all that dark water below that sunny surface.”

“When’s your birthday?” He asked Conway. Conway was curious; he couldn’t help being, a bit. But he would never deign to answer this prick, who had just completely invaded his space, his girl.

“December 21,” Mauna answered for him. “We’re inverted.”

“So that’s Capricorn rising. Complicated, cerebral. Man.” Jesus gave an appreciative whistle, “You guys must be unbelievably hot in bed together.”

Conway was used to living with a slow burning, simmering fury, a Bunsen burner on low. But his hands clenched.

“Watch this,” Jesus said to Conway. Mauna’s eyes were closed and she had the smallest smile on her lips. “She’s in the perfect state to do this to.” Jesus took her hand,
unclamped it from the heel of the chair-arm, and turned it over so that it lay in his palm.
He began lightly rubbing her wrist in a circular motion with his thumb. “Do you want to
go forward or back in time, baby?” Her skin prickled, Conway saw it as a wave, like
flush it spread over her arm, but each prick was a particle. Everything is like light, he
thought, everything is both a wave and particle at the same time. He was utterly
transfixed, rooted to the spot as if generations of his kin had built homesteads under the
exact square of land his two feet circumscribed.

“Back,” Mauna said. It would have been breathless except that she was
practically asleep.

Jesus circled counterclockwise. “Like that? That far back?”

“Yes,” she breathed, her back arched. Her face was upturned; it was full of light
as if spotlit by a star.

“Okay, let’s try forward,” Jesus said changing the direction. “Into your future.
What do you see?”

Conway glared down at her, and she seemed to sense it, even with her eyes
screwed shut. She struggled to sit up, rubbed her face, blinked open her eyes. “I’m
dizzy,” she said, squinting through the starlight at Conway, as if every cavity in his body
was illuminated, as if the starlight was as radioactive as an X-ray. “The future makes me
dizzy.”
Daisy Chains

Elizabeth holds her breath.

In the space of her waiting, the unknown intruder’s identity combining with the soft but insistent crash of his or her footfall, so there is a known quantity alchemized with an unknown, connected by a kind of shadow function, as in $f$. In math, if the unknown is negative and the known is positive, would the result be + or −? Which way would it tip? That seemed to her the great mystery of life. And the equally compelling question was why is any pairing of negative and positive so much more powerful than any coupling of positive only (or, for that matter, two negatives)? The power of the coupling of opposites was arguably the most powerful alchemy on earth.

Was that what was being harnessed in the lab, the energy produced from that binary kiss?

When she glimpsed the numbers crumbling into chalkdust, disseminating into the stuffy air of the Harvard classrooms, she could squint and she believed that she could see some sort of shadow that the lines of symbols cast. But when she blinked, they disappeared and she felt a sadness, a loss so great, she had to dug the heel of her hand into her lap, a very unladylike gesture, but the only one she could make that made her feel she would not fly apart into millions of particles, blown to the highest reaches, the sun, the moon, the stars.

Perhaps the shadow is somehow the sum of the pressure she puts on herself, and thus on the people with whom she is intimate. Not obvious weight, worse, some invisible entity, like pressure or gravity. Air. How much did air weigh? Was there even a
mathematical gesture towards that equation? She shakes her head from side to side: impossible to calculate, there might be stabs at quantifying emotion with equation, but there can never be a true solution in this method. Too many variables. Even something as stable-seeming as the weight of the atmosphere varies, according to distance from the sea and the sky.

The entire atmosphere weighs five million billion tons, but doesn’t choose to crush us because it disperses itself like seedpods over a prescribed area. But if the weight is distributed – supposedly – evenly over the surface of the Earth, then why does she feel much more than her allotment bearing down on her, from all sides? The average force is fifteen pounds on every square inch of a body. Carter, and his family, and everything that they collectively represent lay heavy hands all over her. Something she wants: shared sensuality, family, love, community, some sort of fit. And she should be able to accommodate that weight because part of her craved it, the safety, the warmth, the belonging. Why does she often feel so light and unsubstantial, so airy? Perhaps because she has always grabbed at so much, and therefore is used to more than her share (abstractions are surprisingly heavy) and it is not evenly dispersed around her body, like a second skin, as it should be, but a concentrate around the center of her heart.

The atmosphere on Venus is heavier than it is on earth. Ninety times heavier. That must be why love, all kinds of love but mostly Eros, pushes down so heavily, makes her limbs feel as if they are stuffed with sand.

She has to divulge to someone, it does not matter who. And that will make it easier to tell Carter when he returns. No, sooner, in a letter. She smooths her hair, re-
tucks the stray pieces back in her kerchief. No, she thinks, she can’t be seen in such a state of disarray. She unknots the cloth, fluffs her hair, folds the square into a tiny triangle, crushes it into her palm. Four dimensions into three, then two, then one. She promises that whoever it is coming up to the rock, the overlook, she will tell. Everything.

Elizabeth stares the blurry dot of light into a shape with specific mass and edges. It is a woman. The late afternoon light is bent so that as the figure haltingly climbs – jut, sway, scramble – it is serrated, punched out around the woman’s hips and grasping hands.

It is Bette, the woman in the lab with the magenta lipstick and tired eyes. As she draws closer Elizabeth can tell that she is wearing dungarees and a bright red head scarf and sensible walking boots, a man’s button down shirt with a frayed collar. The light catches the tiny threads poking out of the rest of the fabric, making them dance, turning them electric. A fisherman’s cable sweater is tied around her waist.

“Hidy,” Bette says, sitting heavily down next to Elizabeth on the rock.

“Hello.” She wants to say more but her throat is stuffed with what feels like cloth. The one hanging in her window, the one she has carried with her everywhere she has flung herself.

Bette fills the silence. “It’s beautiful up here. You can really see, you know? Stuck in that war-factory all day every day, I’d forgotten what the land even smelled like this time of year.”

“It’s a lovely day.” Elizabeth searches for something to say that will help ease her into the divulgement. Draws a blank. Ekes out, “I had to get out too. Laundry, housework…”

Bette laughs, showing the gap between her front teeth, the canines that stuck out
charmingly like awnings over her lips. “Yeah,” she says. “Laundry be damned.”

They are silent, sitting. Elizabeth feels her flesh settle deeper into the rockface. If she stays up here will she turn to anthracite? A collection of rare earth elements in the ankles of the sedge? Is it her imagination or does Bette lean ever so slightly closer to her?

Bette gazes off into the distance. “Could be a frog strangler heading our way.”

“Pardon me?”

Bette giggles and her white breath mingles with Elizabeth’s, lingering in the chilly air. “Heavy rains, a storm.”

“Oh,” Elizabeth says, shyly. “I like that. What other expressions can you teach me?”

Bette’s mouth turns down and a squiggle, $f$, appears between her dark eyebrows. Elizabeth realizes that she is being rude, treating Bette as an artifact, a curio. Oh, it’s just…” She falters, “My husband would like it. And it would help me communicate with my mother-in-law and sisters-in-law. Especially while he’s gone.” Why she doesn’t mention Carl she has no idea. When she thinks of him it is like entering the lab, a dark corridor with a secret room, flashing with a code she desperately wants to understand and would do anything to forget exists.

“I don’t know them as expressions,” Bette says. She is still wary, but looks at Elizabeth more kindly. “It’s just how we talk.”

“Yes of course,” Elizabeth says. “I’m sorry.”

“No need to be. We all know you’re new.”

“We?” Elizabeth feels her separateness clump and then diffuse over the damp
“The girls in the lab.” Bette pauses, squinches her face so that it changes from a primrose to an aster. “We know you’re a Yankee. Even more, that you seem like you’ve spent a fair piece of time rollin sand in your shoes.”

Elizabeth laughs outright. The girl’s long vowels are most pronounced with o’s and comfort her in some strange way. “What on earth does that mean?”

“That you’ve done a fair piece of traveling.”

If she’d been waiting for an ideal segue, then this is it. The shadow question, the one that Bette is too polite to ask, hovers over the benign statement is evident: Are you American?

Why is it so hard to just be herself? Now that she is safe, or relatively. Isn’t she?

Maybe it is only crying she is afraid of now. The luxury of safety and being released from persecution, or narrowly escaping it, is that the emotions take center stage, prominence, whereas there had not been time to feel anything but fear before. She allows herself a wry smile in the corner of her mouth, the x=0; y=0 coordinate between her two lips; the origin. So this is freedom, she thinks. This is America. The pursuit of happiness implies all of the second string emotions, littered along the way to the collective dream. Americans get to feel them all.

But, then she remembers how little they like “furriners.” No wonder this activity of isolation comes so easily to them, the work that they are doing in the lab. Isolating some small, precious part from a larger, less rare whole. What will happen to that discarded whole, the majority, after every valuable aberration has been extracted?

A ray of sunlight nudges a cloud out of the way and beams down, slaps her out of
her reverie. Bette is waiting, expectant, curious, but kindly. No foot tapping is involved or implied. Elizabeth takes a gulpful of the sweet light-imbued air. It burns her lungs, a cold fire, a tray of ashes instead of microscopic dust particles.

“I wasn’t born here,” she says. “And neither were my parents.”

“Where were you born?”

“Across the ocean.” Why can’t she just say it? But what would it mean to Bette, born and raised and never having left this one cupped palm of land? Would it matter to her if Germany, the Ukraine, Russia, Poland, or France shot greenly out of her mouth? Hungary? All these names are green bullets of rhododendron buds. How could she encapsulate the connect-the-dots constellations of her ancestors, her family, her own trek, in a tidy enough bundle so that it too could be transported, secreted and somewhat secured into a new place, within the silk lining of some lucky coat, scratching against the worn wool of some survival fairy tale. “England.”

Her last port of call.

“Oh,” Bette says.

Elizabeth’s lungs feel like they are clacking together audibly, as if they are dry seedpods dangling by one filament on a branch. During a wind storm. Strangled frogs indeed.

“Well,” Bette says, when it seems clear that no more will be quickly revealed. “I was born right here. Not, mind you, on this rock, or even outside. We weren’t that poor.”

She laughs her particular laugh. “But in Anderson county, Elza. Or what used to be.”

What used to be. The saddest four words in English, in any tongue. On any tongue.
“The town that is no more,” Elizabeth says almost dreamily, as if to herself.

Bette glances at Elizabeth and then averts her gaze. “Strange to have your homeland disappear in an instant.”

So she understands, Elizabeth thinks. I don’t have to tell her anything else; I don’t have to say everything. She understands.

Would everyone? Would Carter?

“I knew your husband,” Bette says. “I mean, I know Carter. Growing up in the same small town, it would have been impossible not to.”

There are several questions that vector out of this divulging. Elizabeth answered the first one that hung in the air between the two women. “I’ve just had a letter from him, in fact. He’s fine. Well, not fine, of course, but alive.” Fine being a false function if there ever was one.

Bette nods. “Good.” Wipes her palms down her dungarees.

Because she had not wanted him to ask her too many questions, Elizabeth realizes that she had not asked her husband very many, and even though his nature was open and prone to revelations, she somehow had quelled his impulses of sharing his own narrative.

“What was he like?”

“You mean as a boy?”

“Yes. And even as a young man. I barely know him,” Elizabeth catches herself. “Rather I barely knew him…” Her voice trails off. “Before we were married. And then he left so soon afterwards,” she finishes, swallowing her shortness of breath.

“You know that he got a scholarship for Harvard, a real feat for a country boy. It was his grades, and also his running. Everybody thought he was crazy for running miles
and miles on this rocky ground. But he always did, early before milking, or after the
day’s work was done. Sometimes both. Said it soothed him like nothing else.”

Elizabeth nods. She is surprised by her hunger for facts about her very own husband. Not facts, there aren’t any. But snippets.

“But I’m sure you know all that.”

Elizabeth remains silent so Bette continues: “I bet you don’t know this, though, since he, well, since he’s modest, even though a…city girl like you would appreciate it even more than people round here. “When he was eight, he was chosen – no one quite knows how, if his parents sent something in, or if was a random drawing of some sort – to go to New York City.”

“To New York? What for?”

Bette shrugged, cast her gaze over the bumpy foreground. “Some kind of art camp. Painting. The boys, I think it was all boys, were trotted around to all the famous museums and given materials and instruction and whatnot. Copying the masters, Rembrandt and them.”

Elizabeth exhales without knowing that she has been holding her breath again, but she doesn’t speak.

Bette turns toward her, and then quickly away. Her eyes are shining. Caused by the extra membrane made by unshed tears, or something else? The deep caverns of each and every one of our own private histories, Elizabeth thinks, are fathomless. Each speck of dust and bead of soil has ancestors, too numerous to count, impossible to order.

“I’ll never forget what he said, it was so pretty, even if I only could partly understand it.”

276
Bette fastens her sight on the rough-cut flank of the nearest cliff, and Elizabeth follows it with her own. Angles of light ricochet off its sharp juts and collect, nestling even, in the hollows. Everything is shadows and light, yellow and gray, yolk and chalk.

“He said that when he was in the Metropolitan Museum, have you been there?”

Elizabeth nods. Should she tell Bette how it felt more like a place of worship – condescending and exultant – than anywhere she had been?

“Well, of course he was only about yay-high” – she stiffened her palm and put it up close to her waist – “all the painting were that much larger and grander. And from across the room, he saw a painting of a woman with the brightest, most sparkling diamond broach in the vee of her lacy dress. He wasn’t a thief, but he thought what good he could do for his family if he had that diamond. So he walked toward it, slowly, his eyes absolutely fixed on the spot. As he got nearer to it, the jewel began to spread and blur. He rubbed his eyes and blinked, but with every step, it got fuzzier, ‘til his face was inches from it and he saw that it was just blobs of paint. Just a blob of paint. He said he wanted to cry, and stumbled backward, and as he backed away from it, he saw it reassemble and take shape once more as a jewel.”

Elizabeth felt a longing for her husband as sharp as the pain in her navel when she saw the shadows, the numbers-under-numbers. And Bette must love him, she thought. Anyone would love a boy who said those words, who noticed the world that way. Who painted it with strokes she had hitherto assigned solely to science.

“What a beautiful story. I’ve never seen any of his paintings, or seen him painting.” She glanced at Bette. “Have you?”

“He painted me, once. But that was long ago.”
Elizabeth swallows. “Do you have the painting? Would you show it to me?”

“No, I don’t,” Bette says, and Elizabeth cannot tell if she is concealing the truth. After all, it is her right to hide. “He kept it and I never saw it after he let me have the tiniest peek. I don’t know what he did with it.”

All Elizabeth can do is stare at the woman who has de-coded her own husband to her, or at least hammered out a chink in something she had once, even just minutes ago, assumed was perfectly solid. And, by nature of that solidity, if not stolidity, could never truly know someone as variegated as herself.

She leans away from Bette in order to unstick her flesh from its dormant position on the rock, so she can pivot on her tailbone so that she is facing the woman. They looked nakedly at each other. It is almost like staring into another version of herself, her Appalachian twin. Even their names are similar. When Carter looked at her, maybe when he had first set eyes on her (Elizabeth loved this idiom, as if eyes could be a vase of flowers set on a mantelpiece) he saw the shadow of Bette just behind her. It is surprising how peaceful, even comforting this vision is to Elizabeth. He is not her one and only, and neither is she his. They are both singulare, with a hall of mirrors multiplying them in every direction away from each other. And so their coming together seems less straightforward and therefore more fateful and magical. Carter has a prismatic past, he has forged through the plum-dark night sky through a constellation of miniscule decisions and swervings and arrived at her particular corner of Damson-darkness, thrown himself at her feet. But the journey to her still smoked behind him, a bright tail. The yellow brick roads of shooting stars.

Carl, even with his intense gaze, is just another version of Carter. And the
Calutron (all Ca’s she thinks, the abbreviation for Calcium, the foundation of all organic material, all life). So she will not need to seduce her husband’s brother to bring her closer to Carter. And she doesn’t need to dream about the calutron every night in order that it will reveal its secret purposes to her and her alone.

She almost convinces herself to let the myriad of connections go, as if she will be content enough to follow the streaks, the *afters* rather than the *befores*.

She reaches out and strokes Bette’s cheek. “Thank you for telling me. About the painting, about the museum. I will try to find the painting, and if I do, it’s yours.”
He was late to work again, and Tina chewed him out.

“Conwayyy,” she said. “This is ridiculous.” Every woman in his life had expressed this annoyed but still intrigued exasperation, this strangely victimized stranglehold. He had felt sorry for them, for Amber especially, but ultimately it was their responsibility – their feelings, hopes, projections, to adjust. Hadn’t he always righted himself, all by himself?

When he explained that he was late because he had to vote, that the lines in the Oak Ridge polls were long and slow-moving, her face stretched into a false smile, “I would forgive you, but since I knowwwwww” – here she poked one of her sharp fingernails into his chest – “you voted for the wrong candidate, I am going to have to dock you, hon.”

It was payday. He would leave, after snatching what was rightfully his, and never come back.

Tina bustled away, an officious sway in her tight Country Club hips, her too-tan everything.

There weren’t any customers this early anyway. He didn’t have anything to do so he re-counted the till, starting with the bills, working through the coins, quarters on down.

He didn’t respect Lucy anymore, not one jot, (although he was at least partially aware of how much she had affected his speech patterns), wasn’t attracted to
Amber, hadn’t been for years. But they were still with him. Deeply. The last thing he wanted was another failure (love, science) embedded in him, that the years made go so deep and get so compressed (compression, like compassion) that it turned from something dark and flammable to a jewel, so precious that it blocked his blood in its frenzied paths, crowding out his necessary-for-survival anger and all of his other organs.

What he understood, and respected, and distrusted and despised was the enduring quality of love. One just accumulated it as one got older; it didn’t peel away in onion layers. Instead, it stacked up under a life, any given life, lucky/unlucky enough, as he had been, to have tasted it and have had it offered to him, over and over.

Mauna-Mauna-Mauna...Her email from Friday night had also contained this line: Haven’t you been waiting for me? Because I’ve been waiting for you.

Love, that feeling one thought was dependent on respect and desire, was in fact wholly separate from any nobility. Instead, love was its own sovereign entity, defying attempts at a definite end, a finale. The feeling itself was eternal: the players might change but the game remained the same.

Conway had emailed Mauna that he had written a song, but she hadn’t asked to hear it. He was rebuffed but also wondered if it was a sense of privacy that she was respecting in him. The way she worked was to reveal herself, lace-like, and then, without being overtly demanding, sat back and allowed, or encouraged him to reveal himself to her. Natural time, the way all the best experiments unfolded. Wasn’t that how it had worked that first Saturday night date? The only Saturday night date; the Halloween party didn’t count, reversed them, tipped the Petri dish over, spilled its (fragile, liquid) contents on a sterile counter, the counter....
Midway through the pennies, those impractically archaic tiny copper disks, not long for this world, he raised his head. The front window was filled, as it was twice an hour, by the snout and belly of the #22 bus. Twice an hour lumbering north, twice an hour belching and squealing south. A square. Like everything else on Einstein’s space-time continuum. Four sides of faulty, antediluvian transport, always empty or nearly empty.

This one was northbound, so it came up right alongside the store, squealed and juddered to a stop, expelled Mauna. Conway had seen Mauna walking to the bus stop on the other side of the street, although not for a while. He wondered even if she was self-conscious after he had told her that he had watched her before. But he had yet to see her on her way home. She was wearing the same teal-blue shirt and black skirt that she had been on Friday night. The skirt was very flippy, and as she was stepping down, picking her way as carefully as if the street turned overnight to red Tennessee mud – a blue girl in a red state – a gust of wind caught the hem and twitched it up. She was wearing underwear. And her hand slapped it down immediately. He might have been the only one to see it. He hoped so. She didn’t even look up; if she had she wouldn’t have seen him staring at her anyway, it was a glary day. But blustery, like the people who all the fuss was about, the candidates. He craned his neck and watched her as she crossed the street, and turned down a side street, instead of doing her version of dreamwalking down the street that housed both Carl’s and her little shack. She was going up to the library to vote. She bounced a little as she walked and tripped almost every other step, as if she was stepping over giant guitar strings.
Maybe he had dreamed her up. He vaguely remembered a scene with her that he
couldn’t place in any kind of time sequence that made sense to him, so maybe it had been
a chord from a dream: They were driving around together on their way to hear a local
bluegrass band at Preservation Pub. He was circling and circling, but couldn’t find a
parking place. She was anxious. He had gone around and around looking for a place to
stow the car, and she had gotten so impatient that she asked to be taken home. “I can’t do
this.” He decided to ignore the larger implications of her words, pretended that all she
was talking about was the dizzying quest for a space large enough to fit them in, not too
far from their destination. He whipped the car around by jerking the wheel hard to the
left.

No, he couldn’t have dreamed up everything, because there it was, three hours
later: her tentative knock on his door (Brian’s door), the barrier that was so solid and
heavy he would never have heard her if he hadn’t always been waiting for it, with his ear
practically flush against it. He knew that she was angry at him about Saturday night. He
could always tell when she was mad, because her email responses were terse, but he was
surprised that she was at his door at 6:45 – before dance class – and not 8:05 when she
usually came over.

She looked miserable, her face awkwardly folded in on itself like a
complicated manual for some piece of machinery that no one read, just shoved into a
back kitchen drawer, in case of emergency. Although when that “emergency” or really
breakdown came, the last place anyone would look for answers is in a manual. We just
take our broken pieces to be fixed by someone else. A very un-Appalachian gesture.
Her hand was out, not as much offering him something, although there was an object in her fingers; her wrist was upturned, all the blue veins racing across its pale canvas. It was like she was finally taking something away, wrenching it from herself and from him, and it pained her to do it: “Here. Thanks.”

He took the object. It was the Costin Miereanu CD he had lent her, instead of making her a copy like he’d promised.

“I know you’re mad, what’s your deal?”

“Um, Saturday night? The way you treated me, the manner in which you left?”

“That guy pissed me off. Royally.”

“But I’m not him, and you took it out on me. Again.”

“Mauna.” He gave her an ironic look, but she didn’t follow it up with one of her own. He jostled her arm. “Snap out of it.”

“I just know that I can’t even be friends with someone who reads intimacy as ownership.” She was proud of herself for that line, she had practiced it, even. She managed to look self-righteous and prim through her sadness.

He shrugged. “That’s your binary.”

Mauna started at the word. “Did you vote?”

“No.”

“No?” She was speechless: opening and closing her mouth, her hands in fists by her hips.

“It doesn’t matter; they’re all the same. I voted for the candidate my sister would want me to vote for, the one she would...She would want me to vote.”
She exhaled. “Thank god. So that is a ‘yes.’ ‘Yes I did vote.’”

No/Yes. How similar those words were in this context. In any context, perhaps.

“Let’s go get a pizza at the place we went to the first night,” Conway said, grabbing her hand.

She beamed, but on a low, cautious voltage. “I guess the results won’t be in for a couple of hours anyway.”

At the bar they were steered toward the exact same booth that they had sat in the first night they’d gone out. He sat in the same spot, but instead of next to him, as she had been that night, Mauna was across from him, in Kel’s place. She slumped down in the banquet. Did all the bars in this town have polished wood pews as booths? She put her feet up next to him, as she usually did. He would always think of her as horizontal. Like the horizon, a flat line that he could never reach; an expanse, an idea, a notion, and he could not ever inhabit her.

Mauna took a deep breath. “What do you....” She had to stop, her eyes sinking ships.

“I think of you as a treasure.”

She crumpled, pitched her head into her cupped hands. “But a treasure is not something,” she shook her head impatiently – at herself, “you live with. You put it on a shelf, you don’t touch it, you keep your distance from it, you admire it from afar. You preserve it by disuse. That’s not what I want, and that’s what men always want from me.”
The waitress came over. “What do you want on your pizza?” Conway asked the crown of Mauna’s head.

“I don’t care, some kind of vegetable.”

He had to smile. The world could be ending, probably was, and she was still mongering after vitamins and minerals.

“How about something different? How’s about red pepper?”

She raised her face. It was not tear-stained. Shrugged.

“What kind of red peppers do you have?” He asked the waitress. How many break-up scenes had she witnessed? Had she been working the night that he and Mauna first met, had she seen the sparks and thought to herself, In three weeks exactly these two will be back here in the same spots as if nothing had happened, as if everything had. “Do you have that roasted kind?” He looked across at Mauna, “Is that what you want?”

She looked hard at him, “Yeah, sure. That’s what I want. Roasted red peppers.”

She was pulling on the neck of her long sleeved Tee shirt. It was some kind of blue-green, the color she wore most often, faded already and sporting tiny holes, a kind of pearl necklace around the neck hole, and frayed hems at the sleeves. When she pulled it away from her neck, and shrugged her bare shoulder out of it, there was a satisfying ripping sound that didn’t sound like fabric being torn. It sounded like a series of raspy pops that a photon must make as it travels up and out from the core of the sun making its million year journey to the surface, its quest for detection that strong. He remembered that buzz, closer to his ear, when, on a hot Manhattan street, Amber tore the
tee shirt he was wearing in half after she had found out he had slept with one of her friends.

By the time the pizza was set down between them, Mauna had already worried the holes in her sleeve so that she had separated the hem from the rest of the arm. It hung there like a shredded bracelet, a stretched out elastic of a moon trying to steady Jupiter. The fabric of the universe.

In her driveway – Kel and James’ driveway – he left the car running. Strange phrase, that, he thought, the word running, when it was usually standing skill, not moving, idling, in this context. Mauna scrunched down in the seat, wiggled to get comfortable, settled in as if they were going to have a whispered furtive chat, a make-out session. The car grumbled beneath them.

Conway told himself that he was holding out for that teenage feeling, which he hadn’t even had as a teen. Mauna had. The chemistry that would never wane, that would fit him and fill him, always, in just the right amounts. That would make him feel whole, but not stagnant or heavy. Or frantic and untethered. Unified. The four fundamental forces aligned.

“I feel sort of feverish,” Mauna said. She unclamped his right hand from the steering wheel and, with both of her hands, pressed it against the curve of her cheek, which was overly warm, and smooth as glass, soft. “Don’t I?”

The thing to do was to just let his hand uncurl; it would naturally form to her face, the underside of her fox-like pointy chin, his fingertips brushing her ears, the hair that grew back thickly from her temples. But he couldn’t or didn’t – who knew
which verb was the more accurate, which the stronger. The strong nuclear force or the weak nuclear force, the one that glued nucleons together, held quarks together long enough for them to form protons and neutrinos (“strong” was the strongest but had the shortest range – the particles must already be extremely close for its effects to be felt – with a force-carrying particle called a gluon). Or the “weak” force with its boson, its impossible responsibility for beta-particle emissions in radioactive decay. A tight embrace or an unraveling.

His hand tightly enfolded into itself, refused to cup that sweet, sweet part of her. His fist chucked her under the chin, grazed that smooth skin. “No.”

She dropped his hand and it fell, a block of suspended concrete with its cables cut, with a thud in his lap. Gravity again, doing its graviton-best to hold matter together; our feet just barely pinned to the ground, for example.

He felt like a high-temperature superconducting copper oxides, a cuprates, with its ability to lose all electrical resistance at transition temperatures far above those of metal superconductors, even though scientists still do not know why they work. Or was that her? The electromagnetic force that herded electrons in their prescribed orbits around an atom’s nucleus. What gives matter its rigidity.

Still frowning, she turned her head toward him. They always come back for more. The music in her voice was a Tarzan-vine, a rock climber’s belay. “Can’t you turn it off?”

“Why?” He looked stonily ahead. “I’m leaving any minute now.”

“I used to love to sit in the driveway, in high school.” There was a rustling noise as she pulled her jacket out from under her. “I was the only one who had a curfew,
so I was home, technically, but still out, you know? Inside and outside at the same time.”

“I didn’t really have any friends or girlfriends in high school.” He was doing what he most hated in others, because it was such a large part of the way he saw himself: exaggerate, play the victim card, make people, girls anyway, whose heartstrings he could pull so easily, feel badly for him, and therefore not expect anything from him. Make every particle of a smile and shallow wave of desire a gift, a treasure. Unattainable but seemingly touchable; close, like a star.

“Well.” Mauna shifted her weight for the umpteenth time, readying herself to leave.

“I can’t believe this is over,” Conway said, staring ahead, his hands gripping the steering wheel. “Fucking three weeks, that’s all I ever get.”

“It doesn’t have to be, I don’t want it to be,” she said softly.

“I don’t want to be your boyfriend and you don’t want to be my friend.”

“Friendship is not what we have, not what we are. When things are shoved in containers they don’t belong in, they get all twisted. When desire isn’t allowed to express itself, it doesn’t go away, it’s still present, just hidden, beaten down. It’s like this.” She raised her arms and intertwined them: in, out, in, out, she wove the air.

Like a genetic characteristic crouching, curled up like a fist in a cell, Conway thought. Her arms, fluorescent-white in the light, like DNA strands. Double-helix. Sounded like a curse, slurred it sounded like hex, or a hoax, rather than the basis, the secret of life. There had to be a way around, over, through, out of this set of circular implosions, a daisy chain of nuclear reactions, of possessiveness. My. The abbreviation for a million years.
“Maybe we just…miss each other,” Mauna said. Her hands crossed each in the air.

The next thing she said sounded like she was quoting from a period movie or Masterpiece Theatre, and yet it sounded so right coming out of her mouth. That cameo mouth. “Will you shake hands?” She asked, looking not at him but through his windshield to her house’s dark windows.

“No.” He kept his eyes forward, his hands wrapped around the steering wheel, as if it would save him, as if it would clasp him in return.

She was still staring through his windshield through the dark night at the square of her dark, red-rimmed bedroom window. The one he had promised to fix. “I put my hand through that window,” Mauna said, lifting her chin in the direction of her house. Her voice was a hoarse whisper; there was a hint of almost macho pride in it. “I told Kel and James that I was smashing a bug, that the window broke because it was old and therefore thin, fragile. But I punched it out. On purpose. I was that mad.”

Conway was born in 1968, the year of the moon landing. He thought of Io, one of Jupiter’s moons, expelling parts of itself and drawing it back into its own orbit, the ultimate sado-masochism. He must have high concentrations of Yttrium, used in color phosphors, ceramic superconductors, and found in high concentrations in lunar samples.

“Why don’t you like music?” He asked.

“What?” Her arm shot out so that her wrist was under his nose. Musk. Her wrist with its faint topographical lines was wrapped in a pylon-colored bracelet.

“What’s that from?”

“Last night.”
“You went out on a Monday?”

She hiked a shoulder up to her ear; the opposite corner of her mouth lifted as well as if there were strings connecting some parts of her body to other parts of her body. “Everybody needs a drink before the war. I mean, the certain continuation of it. Plus it was one of my favorite bands, Over the Rhine. Why would you assume that I don’t like music?”

“You don’t talk about it. You’ve never played it at your house. I was planning a night out for both of our birthdays,” Conway said. It sounded to him as if his voice was coming from far away, or that someone else was speaking through him. “Klezmer music. But then I thought that if you didn’t like music that wasn’t what you would want.”

“I love music, and I would have loved to do that. With you.”

The car filled with silence. Sadness thick as smoke. But there hadn’t really been an explosion. There was never any closure; just a plugged stoppage, and then it continued, in some dark, rankling way of its own.

She sighed. “Music is just really intense for me. It sounds stupid to say that. Of course it’s intense, that’s its definition. But when words and instruments combine and snake together, I can barely handle it.”

She stopped, shook her hair over her face.

“I swear I feel it as if each of my cells is its own concert hall. The only time I cry is to music. And flying.”

“Flying?”

“Uh-huh, in a plane. Being suspended over my life.”
She looked over at him, heaved herself to a sitting rather than slouching position, inclined toward the heavy door. She turned her face toward him, it was lit up by the outdoor light; they must have alerted the sensors. “The daisy-guy had an Impala in high school. His dad’s. And he broke up with me the night before he left for college. I was devastated and wanted to make a dramatic exit. I was seventeen.” She tried to laugh apologetically, but it came out a squeak, a teenage boy going through puberty.

“Anyways, while he was talking at me, spewing all this bullshit, breaking my heart, I was concentrating on my exit, the one that would make me seem like I didn’t care. Totally, untouchably cool.” She fixed her eyes on his. “To die for. So he finished his spiel and I didn’t look at him, I just threw my whole side against the door, and of course the angles were all wrong, because of course the seat was back because we’d just had sex in the driveway. And I heaved up and out, and slammed against the door. I wanted it to swing all the way out and then I would have the satisfaction of banging it so hard that it would shake the car. The twenty-two thousand pound car.”

He felt her look over at him, and nodded curtly for her to continue but didn’t, couldn’t look at her. He wanted her to leave so he could go soak up these familiar/unfamiliar feelings in the usual concoction of fermented grain and trilling vibrations. “So there I went, about to make the exit of a lifetime.” Out of the corner of his eye Conway sensed that she was acting it out, her arms waving about in contained mimes, her torso hinging from side to side. “But the door was locked. So I slammed hard against it with the lever or whatever pulled up all the way.” Here she tapped her shoulder against the window and flicked the door handle, “and it didn’t budge. And of course I had to look sheepishly over at...him, and he’s cracking up, and I start crying but
I’m also laughing semi-hysterically, and that’s how we left things. That time. After we
got back together after that, we didn’t break up again, until I went away, across an ocean.
The ocean seems to ruin everything for me.”

He wished that it was just water he could blame for ruining his life.

“The thing I love most.” She curled her lip into a sort of half-smile, half-grimace.

“What did you drive in high school?”

“What? Oh, an ancient Datsun, a Honeybee. I could see the street through the
floorboards. It was basically me, only a little bigger.”

“And went, what, fifty-five miles an hour?”

“I think I made it to seventy, once, but every single cog was vibrating. Like one
more mph and, well, goodnight Irene.”

He laughed, she was such an old lady and such a kid wrapped up in one package
of parabolas.

“Part of me just wants to crawl into your lap,” she said.

He wanted to ask her which part wanted what, and was it a part she was proud of,
or just a slice of impulse, of momentary desire, or the deepest, most secret part of her.
But how would she know? He didn’t either.

She opened the door to its poodle-skirted curtsied widest, got out of the car, and
then squatted next to it on the broken-glass gravel. He could hear her fingernails scraping
between the bits of rock, tracing their edges. It must have hurt, all of those sharp, uneven
surfaces. Her face was perfectly centered in the window. “Thank you,” she said.

“Really. For everything.”
He managed to move his mouth; it felt like it had been frozen for 60 years. “Me too,” he said, his eyes straight ahead.
Daisy Chains

What explanation would matter? What definition could encompass everything—
everything that was meant to happen, and everything that just happened, out of anyone or
even anything’s control? Things got out of control, someone said. Things do, was the
silent answer.

Telling Bette some things and letting her infer the rest, even if it was
wrong, even if she had lied, had been somewhat satisfying. People assume what they
want to anyway; you can rain your fists against their chests, wavy as washboards, cry,
scream, curse, promise, vow, tell them that you will do anything for them to forgive, to
spare you, but they believe what they want to. Human beings are not wired for mercy.

Bette is native to this place. She must have her secrets too. More than just loving
Elizabeth’s husband and openly, in that moment on the rock, mourning him. But
Elizabeth realizes that no human can absolve her or understand her. She does not want to
be listened to. She just wants to speak into a secret tunnel, a vacuum. So that she will
not be judged, or remembered. She does not want anyone to remember her, ever again.
She wants to be singular, but only to herself, contained in her mirrored symmetrical
aspect.

The calutron. She cannot stop dreaming of it, even though she tries to,
wills herself before sleep to empty her mind. She wrenches her mind away from the lab,
the machines, the thrum of adding machines, chatter, the formula – that people would
quite literally kill for – floating around their heads, twining itself in their curls, always
just out of reach.
But then her mind swerves toward perhaps more dangerous images: Bette, her broad, kindly face smooth and cool as glass. But then Bette had shifted her weight back against the rock, away from the exploding sunset in the near distance, away from Elizabeth’s cracked palm. The sun’s rays, unblocked by Elizabeth’s torso, illuminated Bette’s face powder – like chalk dust laying thickly over the gummy air of the Cambridge classrooms.

Underwater dreams where she is on her back, frog-legging through the water, arms lazily over her head. As if she is being made love to by the water or the reflections it swallows and burps back up as reflections. She can breathe better under the water than she can on land, but she is not a fish or a mermaid, she is a woman looking up at the clouded sky and drapery of trees with just a slide’s width sheet of water over her. Sheet having the implication of bed, invoked in the words riverbed and bedrock. Endlessly re-invoked.

The calutron will understand. Will not judge, will not weep. Will even love her for the empty vessel that she is, being one itself. Both of them empty except for secrets. Her secrets too are finely milled rock dust. Rare earths’ sloughed tears. Flakes of something whole, a piece of the land, of history. Above her, beside her on her watery bed: rocks and clouds like fingers, hair tresses, high-heeled shoes. Peep-toes.

She thinks that she has overslept, although the sky is still velvety, stunned with stars. She must hurry from her dormitory to 9731.

Rushing across the land bridges, slippery from previous morning traipsers, she
can barely see the wooden slats and often slips into the mud. Her shoes will be a tell-tale mess. Tattletales, she thinks. This red earth tracks us like Indians. All we are, all we can be, are frightened deer.

She has been downgraded, because she is deemed “single” – in one swoop, her married status is wiped from her. She has a roommate in the dorm, a woman with crooked teeth and flame-colored hair, Betsy. Why do the only other women she speaks to on any kind of regular basis have variations on her name? Or at least the name she thinks of as hers. Can names, like land, ever be truly owned?

What had Linneas said? That the naming of names was a process akin to Michelangelo coaxing out the figures imprisoned in marble, as if they were horses, with sugar cubes. All both men had purported to do was to remove the neutral material surrounding the true object, straining to get out. Easier to picture with stone, less so with language. Her own true surname, Bernstein, meaning amber in German but in America just meaning dangerous, burdensome, distrusted, slyly different, Jewish. They are all amberized, her people and the world. Caught in smoky sepia glass like a prehistoric fly’s wing. Waiting.

She has nearly forgotten the first half of her name. Erzsebet hid. Elizabeth Bridge.

It is hot, July-hot, although it is not yet July; it is not yet May. She is still barely showing. Here, spring starts early and what she thinks of as spring months are already summer in terms of weather. The green bullets of magnolia buds have exploded, so close in color scheme and fragrance to Stargazers. The grass wore their dropped petals as fancy hats and then sucked them in for their own lush purposes. The pears have flared up
in their white lightening heat, and then dried and browned. The red buds are now only a pinky halo around the branches and dogwood are past peak but still hanging to the bark by their filaments. Everything in advance-retreat.

Carter has been gone since late January, after the curious holiday called Thanksgiving, celebrating a land grab as devious as Hitler’s, and after Christmas, which she had celebrated for the first time, sidestepping every question about her own family’s rituals and traditions. It is all the same: lies layered on top of lies, plowed under, but recombined into the next crop of people and plants. The same lullaby whispered to each escarpment: *I love you and therefore I want to own you.* The landscape itself is similar. Kissing cousins. One of the reasons the Cumberland Valley was chosen is because it closely resembles the land being fought over across the ocean, especially France, the last stronghold (in the Underground Resistance), the final betrayal.

It is not morning; it is night. She is not late. Or, perhaps she is late for something, but not for her shift. She throws her head back, paused and poised between slats. Even the moon is snuffed out. There are only a few stars like squinted eyes, watching her. But there are not enough of them to serve as witnesses. She knows she needs to see the machine sleeping, with no one else around. How her desire to touch the sleeping calutron connects to her underwater dream, she has not yet deduced, but she believes that there is a correlation. There is a live wire between everything. Pythagoras heard three tones made by metal hammers and imagined ratios into being, harmony the equations’ aural representation. Thesis, Antithesis, Synthesis itself is triangular. Synthesis is the hypotenuse. He envisioned ratios/harmonies as taut strings, vibrating
between loci, animal sinew, its sacredness unstrummable by humans because the string
that connects an animal’s insides needs to remain inside the live animal. Elizabeth
briefly wonders what the old cosmologist would have made of, say, the Cherokee, who
used sinew so unsparingly, attuned to its melodious power.

The metal of the machine. Just thinking about the sleek silvery square makes her
palms prickle. Whose skin will it resemble at night, this night? Its metal sheen or
Carter’s oaky one? Or even Carl’s, riverwet and puckered hands that had stroked her
from the inside of her elbow to the underside of her wrist as she dangled her arms over
the riverbank. Who she has so far willed herself not to kiss. Who periodically sends
messages through other employees but who she hasn’t laid eyes on since the time before
the day at the river.

Or will the calutron most resemble her own skin; she who is more a machine than
any of them. Not born but morphed into something hard and shiny, able to check her
reactions and hide her desires and pretend to be one of whomever anyone wants her to be.
Pure flower, pure symbol. Every unalloyed particle carefully folded away. She who can
live even though she knows, has proof of unthinkable torture that is being exacted right
now – beat – and now – and now.

When she reaches the doorway to 9731, she heaves her whole body against it. It
does not budge. How can she get in? She needs to see and touch, place her cheek against
its pewter heart, listen for a pulse, with no one else around. She slams her palms hard
against the cold steel door. Well, she must find another way. Another way in. Inside.
Elizabeth picks her way to the lee side of the building, dragging her hand along the wall for balance, and to remind herself of her mission, to steady herself. She feels like she is walking on water, or melting ice. Isn’t that how Jesus walked on water? The Sea of Galilee was frozen. A blip in the geomorphology of the earth, a mini Ice Age. So the sea was more than half solid, and he was a spiritual man, he knew how to balance his weight so that it was distributed with perfect equilibrium over a surface. He was a dancer, even if he professed to disapprove of dancing. Who had told her this about Jesus? Oh yes: him.

He who had loved her and hid her. Were those possibly the same actions? He who because of her was betrayed and now presumably dead.

A beam of moonlight mixed with starlight illumines a purple cluster, and Elizabeth bends at her waist, then squats, in order to see it more closely. It is loosestrife, so prominent in summer with its purple flowers massing the edges of lakes and swamps, deflatingly inconspicuous in its winter habit. Few people ever guess the real identity of the dried weed. In winter, loosestrife’s slender branches reach out and bend up beside the thin main stem. They are punctuated at even intervals by surrounding sets of flowerheads. The plant is a strange mixture of geometry and numbers. The main stem tends to be hexagonal, the side branches square. Even more relationships between the plant parts exist, lengthy to describe but easy to discover. Purple Loosestrife, a native of Europe, is now the most widespread of its genus in North America. The generic name means blood from wounds. Bright red leaves in fall. Loosestrife grows near water, fulfilling much the same function as cattails, slowly filling in sections of marshy areas.
There are no windows, the doors are all impossible to budge. What is she thinking? It’s a plant, planted, rooted. Not a train. Of thought, and/or full of human beings.

November 7, 1940, the Tacoma Narrows Bridge had fallen down because of unexpected nonlinear resonance effects. Had there been a train crossing it at the time? And if so, what was it carrying? Was that disaster in response to the other, more stealthy train crossings across the ocean? Did trains have sympathy for each other as well?

She squares her shoulders, lifts her chin to the night sky, stars like capital cities on a World map: London, Krakow, Tokyo, Algiers, Moscow, Cairo, Berlin, Paris, Milan, Kiev, Tunis…

Venus flares up just to the right of the moon, both trying to outshine each other and therefore nearly obscuring each other. Light darkening light by its very essence. It is a searchlight, a ladder, a snake stiffened to a staff, a slide of melted diamonds.

She scrunches down, her back pushes against the concrete shins of the building. She wraps her arms around her knees. With her eyes closed against that silver light, she imagines 9731 under its concrete skin, its cement skin.

A whirr of gears, engines pumping away. Wreaths of powdery smoke in its wake.

Elizabeth wakes with a start. She is in the same position as she was in her last moment of consciousness, her back frozen in a concave curvature. She tries to arch, pressing her lower spine against the rough cement of the building’s outer wall, digging her fingers into the dirt by her hips.

She should go back to her bed in the dormitory, the endless, mundane tasks of
womanhood (even single womanhood) and the endless, mysterious toils of the lab. But she does not move, just traces a galaxy on her belly, feeling the static and sparks made by the twin fabrics, connected by four slender threads, one at each of the stitched panels that make the circle of her skirt. If people, pre-Columbus or whoever actually convinced the general public that the Earth is round, had paid more attention to the construction of skirts and dresses they would have understood the flat-made-globular properties of the planet.

Gravity presses a divine thumb into the crown of her head. She is rooted; she is entrenched.

There is a square of light pushed out from the window above her. Pushed gingerly, as if it is wet dough, being carefully prodded through a cookie cutter. It could have been a star, a heart, if the window’s shape was imagined differently. If a woman could design building, she thinks. And why shouldn’t we be the architects, seeing as we engender an entire species and we ourselves were created from one single bone? Another example of men’s desire for Immaculate Conception, the only way they can attempt to wrench ownership over something they can’t control or make by themselves. Our ability to conceive is what has saved us from extinction: if women were not the essential doorway to continuation, we would have been weeded out long ago.

Is that the calutron’s fear? That for all its recognition and heaped-upon honors and reverence, it will be tossed on a junk heap somewhere, when the world decides that separation is no longer the primary motive, when theories of breakage – for Elizabeth has gathered that much of what they are desperately chasing in the lab – are replaced by a quest for unity, something that would explain both War and Love.
The junk heap that might have *Antiques* shingled over its door or *The Metropolitan Museum of Art*. Anything old and no longer in current use deemed either unsalvageable or still preserved in those vault-like tombs, those ice boxes. Saved so that we can still be saved by them.

Her hand stops swirling over her skirt.

She hears voices. Men’s voices escape like thin smoke from the cracks in the concrete. The plants were erected hastily: of course there are cracks.

*What does this have to do with Relativity?*

*Of course everything’s relative.*

*But we have it, they don’t.*

*They tested it.*

*In the lab and in the desert.*

*It went off.*

*It’s non-splitable, but when irradiated produces…*  

*Loneliness.*

*Loveliness?*

*No, fissionable plutonium-239.*

*Mass spectrometer.*

*Eve, atom.*

*(laughter)*

*Mushroom, fractal, daisy chain.*

*Another name for Eros,*

*sprang from the egg of Night*
Heeded distractions of...

Isolation and uranium-235.

Underestimated.

The way slivers always are.

Nein?

Elizabeth remembers the crude drawings on the Cambridge blackboards labeled “atom.” The shapes resembled blackberries, bulging with juicy seeds. Around the fruit, which she colored in indigo blue in her mind against the (actually meadow green) board to make it more true to life, more digestible, there were circular pathways, dotted with what was named “electrons.” Tiny galaxies.

And now they were being split. Blown apart, scattered like the seeds they resembled. Like her, and so many like her.

Splitting atoms. Was it the same gesture, did it require the same apparatus as splitting wood/up/town/hairs? The act of wrenching apart produces such a powerful energy that it can blow up, well, anything that appeared to be solid. How has it taken them so long to figure out this most human of actions – pulling apart, loss (of a few electrons to make something radioactive or of love housed in the fragile membrane of human flesh) – is powerfully destructive?

It is as if the air and earth are cohorts in this scheme, allies and enemies, shifting as fast as the ground does, far more overtly, far more perceptively. As quickly as love blooms, withers, fades, and, yet, lasts and last, printed indelibly on a body, a landscape, the topography of blood. Memories and imagined memories. The latter being just as
relevant – more so even – as facts, which are, after all, just collected first person accounts. There is no solid ground, anyway, anywhere, Elizabeth thinks, so why not do away with it all, with us all?

But, that reedy voice inside her asks, *what about the plants?*

Not the buildings. But the green pushing up, year after year, over and over, out of the coppery dirt.

*Love me anyway.*
Conway had succumbed to a job interview at TVA. It was the job he had tried to escape since what seemed like his original entry into the world. When he had thought about how horrible it would be to be sucked into the centrifuge of TVA, the entity that had created and destroyed so much about Appalachia – that water pumped in to people’s homes came at such a steep price: the loss of an entire culture – he thought of working as some high-level engineer or scientist. And even that would be akin to drowning, mud choking every opening, plugging every departure point, musical, lyrical, or mathematical.

He couldn’t work at ORNL, because his dad would be working there, presumably. But even taking the TVA option like so many of his Oak Ridge and UT classmates meant being trapped in the region, and he had always wanted out.

Or, rather, he had desired escape ever since he had been banished.

And now, TVA was the only job that he was qualified for, after all the years striving towards something airy, equational; a hand-over-hand climbing of a Jacob’s ladder of numbers and Greek symbols.

Taking a job at TVA as part of a construction crew was such a frightening proposition that he decided to extend an invitation to Mauna. “Taking” being a malapropism, in any case. That demonstrated agency, and he was empty of agency of any kind. His mind had always snagged on the phrase “take place” for similar reasons. What exactly could be taken in this context? He doubted that something as elusive and mystical as place could be picked up, carried under an arm, moved without its own
tectonic (perhaps even Teutonic) volitions and volutions.

That he should fall into what he most dreaded could perhaps be offset by hanging out with Mauna. In any case, being with her did not seem so monumental, as fraught if it was offset by something truly terrible. And right before Thanksgiving, his favorite holiday. How had they left things? Oh yes: she had played her final card. She knew he wanted to be around her, but she would expel herself from his midst unless he cracked himself open in the ways she wanted him to. In the ways that were natural for her. But a process that took a factory crew, an assembly line of women’s hands and focus and patience and attention to detail, and eyes for what wanted to remain hidden and yet showed the glint of itself in order to be found, for him. An observatory that jabbed into the sky (where it was thinnest, bluest, at the inside of the elbow and wrist), a reservoir of starlight-colored uranium.

He wanted to have the advantage of being able to survey relatively large amounts of reciprocal space to locate where the interesting correlated effects were occurring. One last time that would somehow follow the rollercoaster loops of time as it double-sided taped back on itself, and so stretch one last time into forever. The chain of spectral peaks.

Mauna readily agreed to meet him, was holding her breath practically on one of their numerous phone calls since their breakup while he was talking about having to come to Knoxville to drop off his application. She told him that she would be conferencing with students all day and be in the mood for a drink, anyway. He told her to stop by the Sunspot when she was done.
Conway had been waiting for her for about an hour, reading about advances in spintronics in *Nature*. The idea behind spin-charge separation is that electrons behave differently when their range of motion is restricted to a single dimension.

On TV, a commercial for Vegas came on. *What happens in Vegas stays in Vegas.* A postmodern code of silence. Conway had a sudden image of dressing Mauna up, literally choosing her clothes, something as over-the-top slutty as her Paris Hilton dress, and arranging her on a bar stool: legs crossed, face wide open. Would he tie a piece of string around her wrist, and hide? Tug it if someone he wanted to see her with (certainly a girl) stuck to her mute beauty? His own personal Tar Baby.

The Talking Heads (how he missed that band) were yammering about the polarity of the country after Bush’s hairsbreadth victory. Conway wondered if any of them – the pols, the supposed experts – even knew the real definition of polarity, or the nuances inherent in the idea of “magnetism.” Kerry’s lack of it, Bush’s fake-hearty ‘just one of you’ charisma. In atomic and nuclear physics, the moment is associated with the intrinsic spin of the particle and with the orbital motion of the particle in a system. For a system of charges, the magnetic moment is determined by summing the individual contributions of each charge-mass-radius component.

Moreland had told them how symbiotic a magnetic polarity was: Each pole is the source of magnetic force for the opposite pole, which only weakens with distance. Since magnetic poles come in pairs, their forces interfere with each other because while one pole pulls, the other repels. The ultimate tragedy.

A strategic girl would not have shown up after back-to-back meetings; she is
frazzled and dry-mouthed, a cacophony of hastily-spritzed patchouli oil.

He went to the men’s room and when he returned she was reading a magazine that
she put away hurriedly, blushing.

“What’s that?”

“A stupid fashion magazine.” She dug it out of her backpack and flashed it at
him: Lucky. “I’m embarrassed to have bought it, but since I don’t watch TV I need to
ingest junk every once in a while to rest my brain.”

“I used to read Amber’s when I was sleeping on her couch. For the sex articles.”

“I don’t read those.” She looked up, a hint of her old bravado sparkling in her
dark-ringed eyes. “I know how to do all that. What I need is how-to’s on eyeliner
application. Emphasis on the word ‘need.’”

“Doesn’t eyeliner fall into the non-organic category?”

“I like to look at makeup even though I’m morally opposed to it.”

“Isn’t that moral relativity?” He was smiling at her, the circle of bar-light pooling
on the crown of her head, but she didn’t see him, her attention pulled into the pages. He
remembered a poetry reading some girl had dragged him to in The Village. The
pompous male poet had put his eyeglasses on and taken them off several times during the
overly long reading. After he had pushed the spheres back against the bridge of his nose
for the umpteenth time, he looked at the audience sheepishly. “It’s either you or the
page.”

If light from the Sun takes eight minutes to reach Earth and light from the next-
closest star takes more than four years to get here, then pumping vibrations into a star’s
surface to probe its interior in the same way that geologists use earthquakes to find out what’s happening inside Earth can only take stabs at what stars are made of and how they’re put together. Tongue and groove? Dovetail? Conway pictured rusted joints, mini craters where screws had come loose. Construction and De-construction, Daddy Derrida had been right all along. Perhaps physicists should return to the science as philosophy model after all, as in Newton’s day. Maybe the Unified Theory of Everything was not string theory, M-theory, but a philosophical tenet. After all, what did Doc say “M” stood for? *Mother Membrane Magic Matrix Mystery Masturbation.* This had been the last time Conway had seen him. It was 1996 and he went to tell Moreland that he was leaving physics “for good.”

“’For good’?” Doc had smiled, although his eyes were flat, uncrinkled. “Do you mean to imply that this science is somehow tainted, somehow evil, and that you are gliding off into the Sir Gawain mist in search of nobler endeavors?”

Mauna would agree with the three quantum gravity buffs who used to be English majors: that the thing that explained both gravity and electromagnetism was love. She and Doc would have gotten along well. Conway, on the other hand, wanted something testable. No more squarks, bosons, sleptons, or selectrons.

“Look,” she said, turning the glossy pages so fast they crackled. She turned the bent-back page around for him to see, like a teacher opening a storybook she was reading to her class so that they could see the pictures.

The page she opened to was devoid of girls. Instead, there were four different sections of pigment, pencil (presumably eyeliner) scrawls, pink powder, oil slicks of gloss, all arranged by color, according to skin tone. Chilling that “shadows” could come
in a nuclear sunset of shades. How could they then be differentiated from their
chiaroscuro-loomng? He saw that the lipstick Mauna usually wore (it was mostly
rubbed off now which made her look even younger, and slightly blurry around the edges)
was in the Latina/African-American category. Showed how much they knew. And how
stupid to hold up any attempt at a rubric for anything, since any system always had
exceptions and, therefore, was an imperfect model, at best. As with political polls,
scientists know more about the collective behavior of a system of particles, so
fundamentally different from that of the constituent individuals, rather than the
individuals themselves.

“See?” Mauna said, clapping the magazine closed. “An artist’s palette.”
“Where are the hot girls?”

“Oh, don’t worry darlin’, they’re in there.” Sometimes she just did everything
perfectly and he thought, *Yes, this is the girl for me. She won’t let me get away with too
much of my shit. She’ll appreciate me, just enough.* “Wait, isn’t that an ad? ‘It’s in
there!’ Scary how I know that and I’ve barely watched any TV my whole life. It’s not
Pop’s Secret is it?”

He arched an eyebrow at her.

“Do you like this one?” She flipped open to a page and bent it back for him to see. It was a picture of a very young looking girl, scrawny and hollow-cheeked, taken from the (nonexistent) chest up. Conway had never seen anyone look more like an alien: her eyes were so wide apart they were hugging her temples, a blade runner chin, cheekbones like pickaxes.

“Jesus, what’s wrong with her?” He shuddered.
“Oops, bad example.” She kept looking, a frown making a wavy dash across the bridge of her nose. “There are so many models from Russia and the rest of the former Soviet Union right now.” Mauna looked up. “God. I just thought of the fact that Chernobyl happened in 1984. The models are probably 20, so they were born that year. That’s probably why they look like that. Fallout.”

“Thanks for ruining models for me,” Conway tried to tease, but he was properly spooked. He’d been sixteen when Chernobyl happened, when his world had splintered, but it was hard to compare his tragedy to that scale of disaster. Still, that was when he started living in fear – no longer as afraid that his father would go too far and irreparably hurt him, but that he, Conway, was getting taller and stronger than his father, and might kill him. It was the year when his strength was about to outpace his oppressor, and the tyrant was about to topple. It was the first and last time they would ever be this evenly matched.

“Hey have you read The Tipping Point?” He asked.

Mauna was still absorbed by the pictures in the magazine. “Mmm-hmm.”

“Really? You have?”

“Yes, of course,” She said, looking up. “Great book. I love the essay about Paul Revere, and the one about the different kinds of smokers.”

He was expecting her to be impressed by the fact that he’d read it. But then again, in her world, everyone had. What was strange was that she automatically slotted him into this world, when he was so far away from it, except in tangential points pinging off his bookshelf.

“Man,” she said, looking around disapprovingly. “This town is so lacking in
fashion sense.” She glanced down at her own clothes. “Not that I’m one to talk, at least today.” She was wearing an olive green long-sleeved T shirt and black jeans that were a tad matronly in their attempt to be RocknRoll. The shirt made her eyes the exact color of olive oil, green-gold.

“Speaking of fashion, the pants I’m wearing are so soft.” He was proud of these pants; he’d found them in a thrift store in the East Village. They were perfectly worn lightweight wool, suit-style, and yet didn’t have any shiny spots.

“Sounds comfy.”

“You have to feel the material.”

Instead of touching his knee while staring at him suggestively, which is what any other girl in her position would do, to take advantage of the magnetic moment, she ducks her entire head and shoulders under the table, grabs a flap, folded flag-like near his calves, and, without making even momentary contact with his skin, rubs the fabric between her thumb and index finger.

Why wasn’t she acting like kudzu, twining around his leg, trapping him in a chartreuse embrace?

Any girl in that moment would be an exotic species, like kudzu itself, an import, beckoned over, invited to invade. As if he was Czechoslovakia in the 1930s. The image that Bush wanted to photocopy, as if the Iraqis desired invasion. The cost of liberation is always higher than anyone expects, just look at America’s coltish beginnings.

Of course, the magnetic moment of interference is greatest when the poles are close to each other. Chromosomes swim to opposite poles, all 23 pairs of them. The age he had guessed Mauna was. Since she was actually the exact inverse, didn’t that
make her 23 as well? Everything contained its opposite, and its inverse.

When she comes back up to the surface, her face is quite red, but that could be the result of her contorted posture, her head upside down near his feet. She rakes her fingers through her hair, a familiar gesture that happens so often it cannot be read as special nervousness or an attempt to be sexy. As usual, her fingers get caught in the tangles near her nape and she tugs them through, wincing. “They’re nice.”

What was he thinking? There was nothing salvageable here; there was too much here. Detritus, fallout. Wasted electricity. Nuclear resonance, which was radiance buried where it couldn’t be unearthed, could only pollute new growth, buried in the understory, puffing out her sad eyelids and the exasperated apples of her cheeks.

An ad for Oppenheimer Investments flashed on one of the four TV screens. Well, Conway thought wryly, we’re the proof of all that investment. The accumulation of the walking dead, stacked under an ideal quest gone so, so awry.

He peeked over the top of the magazine again. Why was she reading it in front of him like this? She hadn’t even asked him how he was, and so he hadn’t told her about the dreaded TVA interview. Part of him wanted to tell her, for her sympathy, so she would understand how unhappy he was, how incapable of giving her love. The bent crown of her head was burnished by the dim light-smoke soup bouncing off the bronze light fixtures in the bar.

“Oh come on, admit it, you’re jealous. At least a tiny bit.”

She raised her eyes, still caressing the thick, glossy pages between her fingers. He was quite sure she had no idea of this action. “Jealous of what?”

He half-stood up and placed his entire hand over the page she was reading.
She blinked back innocence. “Really, Conway. Of them?”

A delicious frisson every time she said his name in her flat, Yankee accent. The magnetic moment is considered to be a vector pointing along the axis of the magnet, from South to North. “So you’re not?”

“No.” She said, closing the magazine, although her thumb kept her place. “I’m worried that I’m not smart enough, or talented enough. Or good enough. I’m jealous of people who win Nobel prizes, Pulitzers. Who write great books. Who score fantastic teaching gigs.” She slowly, reluctantly extracted her thumb from the pages, a gesture that oddly turned him on. She turned the magazine over. There was an ad for Lucky cigarettes on the back flap. How fucking ironic.

“So you think you’re beautiful enough?”

“I don’t know,” she said. “But since I’m not a model or a movie star, then it’s sort of irrelevant, you know?”

She had left herself wide open for a cutdown.

She grinned at him. “Or a stripper.”

“What?” Sometimes she really was off in her own orbit.

She practically wagged her eyebrows at him. “I forgot to add that profession to my list, a job where looks matter almost exclusively.”

“Don’t tell me that you’re one of those feminists who’s ‘offended’ by strippers. You’re more broad-minded than that, I’m sure.”

She shook her head from side to side. “Nope. I’m not anti-stripper. Hey,” she grinned, “that could be a political party. Somewhere in between the Dems and the jerks.” Adding dryly, “Emphasis on the ‘in between.’”
Oh here they were again. A snaking, as-yet-undiscovered element on the swishing tail-end of the periodic table. If an element hadn’t been discovered, was it there all along? Or did it have to at least be dreamed up? Was it invisible unless it was isolated?

“The jerks who won.”

She put her head in her hands, spoke into her palms. “I can’t believe it, I just can’t believe it.” She shook her hair out of her eyes. “We’re so divided, so polarized, so entrenched. It’s like we never climbed out of the muddy First World War. It’s that mud-slung, that antediluvian.”

“Of course you wouldn’t be offended by strippers,” Conway said, almost to himself. The magnetic moment is a measure of the magnetic flux set up by the gyration of an electric charge. “They’re dancers, after all. Like you.”

Her face turned the color of the Terror Alert Spectrograph these days, which, he believed hovered somewhere between Volunteer Football Orange and Prom Rose Red. “Hmm, I’m not quite sure how to take that. I’ll just point out the obvious, in that I don’t pole-dance, and I keep my clothes, or most of them, on, when I dance.”

“That’s two problems right thar’,” Conway faux-drawled.

Her gaze water-spidered away from his. “But I truly believe that the man I marry won’t have a bachelor party that involves strippers.”

“So you’re not going to let him do what he wants? You’re going to dictate what he does on his last day of freedom?”

He didn’t know why he was being a dick. He couldn’t help it. It was either that or snap her neck like a tulip stem. Or shove his tongue down her throat.
When moving through one dimension, electrons are lined up head-to-tail, making the repulsive force between their negative electrical charges overriding dominant. Which is somehow what always happened with him and Mauna.

“Oh no,” she said, calmly. “It’s not something that I’ll have to tell him not to do. He won’t want to.”

“So where are you going to find this perfect guy?”

“He doesn’t have to be perfect; he just won’t want…that from…strangers.” She rallied a smile. She was miserable, though, he could tell; he was wearing her down, grounding her into ash under his heel for no other reason than she was something on slow-burn. “There are plenty of guys who don’t like the idea, not because they think that it’s degrading, or yes, because they don’t find women degrading themselves sexy at all.”

“Plenty?”

“Well, my dad, my uncle, a whole bunch of my cousins, I’m sure.”

“All people you can’t marry. Unless you’re harboring some seriously hick qualities.”

She giggled. “Noooooooo.”

He opened his hands. “I’m waiting.”

Her chin stabbed the air. “Okay: James,” she said with a flourish. “Not that I can marry him, either, or want to.”

“Yeah, James is so perfect I bet he doesn’t even masturbate.”

“What’s wrong with masturbating?” She tried to say it nonchalantly, but her face turned pink.

He had an image of her on her crazy-quilt. A corner of the quilt was bent back,
the underside of it was the exact peach shade of the skin on the inside of Mauna’s
dorm. And just as silky. The satiny holon that contained all the possible worlds, the
best of all possible entries and departure points.

“Plus all the silicon and grossness. Fake tan, fake hair, fake boobs, inflated lips.
Yuck-o.”

“You’ve obviously never been to a strip joint. They’re not all like that. I am
totally against any injection, anywhere.”

“I knew a stripper once, and I was way prettier than her.”

He decided to ignore that. “What is your ideal bachelor/bachelorette party then?”

“One of my cousins had a joint –“

“A joint? Well then. Now we’re talking.”

“Ha. I can’t ‘speak to’ that, as they say in the long-assed critical articles that I
often have trouble understanding, or, shall I say, spelunking for a semblance of sense.”

She really talked like that.

“What I was saying, is that they had a co-ed river rafting party. Doesn’t that
sound fun?”

He looked at her incredulously. “Maybe,” Conway said, “we should establish
what purpose a bachelor party serves.”

“A loving release into what will now be the primary relationship.”

“Right,” he said. “That’s exactly how I think of it. Which is why it can’t be ‘co-
ed.””

“You can do whatever you want,” Mauna said. “All I said is that I don’t think the
man I’ll marry will want to go to a stripper.”
“What if his friends make him? Are you going to control his friends too?” The moment is usually negative, in the polar sense, indicating it is diamagnetic, and equal to the energy of rotation divided by the magnetic field.

She genuinely looked hurt and her voice was shrill with withheld tears. “No, what are you saying? I’m not trying to control anyone or anything. How can I prove that to you?”

He looked down into the bar, caught in the vortex of its swirls.

“I don’t know,” she said, waving her arms somewhat wildly around. “Maybe I will marry someone who…fits me in so many important ways and he’ll want strippers at his bachelor party. And he loves me so much, so it won’t matter at all.”

The creation of spinons and holons in one-dimensional systems will also validate using the spin of electrons as the basis of data storage and movement. Rather than solely their electronic charge, the way we’ve always measured it. And worshipped it, thought Conway, looking at Mauna’s small hand curled up like a leaf on the table, a string on an x,y point where x is space and y is time. Clutching at the object from whence it came: oak wood, air.

“I wouldn’t want strippers at my bachelor party,” Conway said, still staring at the galaxy trapped in wood. “I think they’re gross. Some random girl’s naked, sweaty, probably diseased body rubbing on me is not my idea of a good time.”

Her mouth opened and closed, but no sound came out.

“Let’s get out of here,” he said, before he knew where he would take her.

She looked a bit startled, but she would acquiesce, always. “Okay.”
Daisy Chains

There is a blinding light in her head, but the voices have stopped. All noise has faded away to nothingness, the sound-space of a shallow inhale, of the timeless no-place of whatever the Universe was before it was itself, as it breathed itself into a kind of Being. A black hole, ant-tiny in relation to what was to be everything else, but incredibly, incredibly dense. Heavy, lumbering and stupid. Yes, the universe would be driven by instinct, not thought, she is sure of it. Einstein is wrong: God is a gambler.

A word reverberates around her skull. Did she hear it or imagine it? August. August. Like the Roman emperor, like gold-wind, gold+wind; important; bounty and wealth plus change. August will house the day, she thinks. Soon. She has to see it. It is the one event that can jolt her back, the one place where she can see her multi-jointed sadness mushroom out to its limit and then burst. The joining of earth and sky.

She hears footfalls. They are cautious and deliberate, trying not to make a sound. She scrambles to her feet, but it is too late to run. She will look guilty if she moves quickly and makes noise. Better to stay where she is, leaning against the cool cement. She looks down at her hands and starts picking at the skin around the raggedy nail of her ring finger, as nonchalant as she can appear seeing as she is slumped against a building throbbing with discreet light and whispers and secrets in the dead of night.

Her mind races with reasons, excuses, rationals. She was taking a walk past curfew because she could not sleep and heard voices. But she did not hear anything, as curious as she was. As anyone would be.
A male shape, silhouetted by darkness and the dimmed starlight, turns the corner of the building, his head and upper body blocking out the low moon.

It is Carl.

They both start when they see each other. It is instant recognition, the kind that lovers have, probably more of a scent or a feeling than anything to do with shape or a particular arrangement of arcs and lines.

“Elizabeth?”

She almost corrects him; she almost says her real name.

“Yes,” she whispers.

“What are you doing here?”

She flaps her hands, churning the air in front of her belly. Her pale pink explanations lose hold, fall, scatter, decompose. “I was listening.”

It is the first time she has told the truth and without hesitation in so long. It coats her tongue and makes her teeth furry, as if she had been gnawing on the velvet blackness around them, although that is perhaps the result of the brief nap she took. Was it minutes or hours?

Carl does not smile. He does not ask her what she was listening to or for what purpose she was out of bed, out of the dormitory. He looks at her. Open secrets. Doorways and windows, shutters and locks fly open when she looks back at him, his eyes are dark, twinned black holes, and fathomless.

“And you? What…”

Before she can finish, male voices from inside the building float down to them.
...Germans or their allies are close.

“You weren’t in your room. I kept throwing rocks at the pane until that red-headed woman leaned out and let me have it.” His soft chuckles throw embers into the darkness.

Her face had been turned toward the window with its square of light, but now she swivels it toward him, as if her head is the seat of her stool at the lab. She could ask him why, or she could say nothing. An equal amount, no balancing of equations required.

“I was looking for you.” Each syllable has a stone attached to it with frayed rope, gravity yanking them toward the core of the Earth. If the darkness were liquid, she would hear the plunk-plop of each of the sounds falling and hitting. The slight froggy bounce of contact before the sink.

“He’s alive. He will come home,” she says.

She has read that we do not live on the surface of the planet; neither do plants and animals. No, we are all buried three hundred feet deep in the biosphere, wading through molten rock and the chalky dust of ash and minutae sloughed from the Earth’s core.

“Yes.” Carl’s voice falters slightly. “I hope he does.”

Elizabeth cannot drag her eyes away from his face. It is like an old book. She wants to hide it in a mountain hollow or drown it in the ocean.

“You’re beginning to show.”

She wills her hands not to touch her body, anywhere. The inside of her palms itch. “What?”

He puts his hand out. The flat of his palm rests against the billowing that seems to grow out of both of her atria. The swell of the soil; the swell of the soul.
She puts her hand over his for a moment before plucking his fingers off. They snap back against it, reflexes, machine fire, guitar strings. His palm is stuck to the fabric.

Her voice ekes out in a hushed croak. “Just too much…” She was going to say “dinner,” but stops herself before the pale pink blooms unfold out of her mouth. “Too much” is the still truth, or, rather, the soon-to-be-kicking-truth.

Still the truth. Yes, she could do that, although it is probably already too late, and she does not know how, anymore.

What she wants to do is talk, but the window above them is cracked open. Even in this day in the Late Industrial Age, weather continues to conspire. For or against us. Like matter. If the night were not so hot she would not have been able to hear, nothing would have leaked out. And what does she want to say? What more could be said to elucidate anything? What she wants is something metallic or leafy crooning her name, her real name, her first name. Repeating it over and over as if to varnish the wind.

Carl’s hand is still clamped to the front of her dress. The hand slides down, his wrist is cocked as if he is holding an instrument; his fingers pointed downward. Five arrows. Arrows/Eros. English, with its infinite combinations and abominations, its indigo-petaled heart.

The dress is held together by an inner string tie and a wider tie wrapped around her mid-section. Almost infinitely expandable, and no one has so far been the wiser. Like the universe is said to be.

Until now. Her blood surges forward like a wave to connect with the lines on the inside of his palm. He must feel it, not as a warmth, more as a prickle. Whatever is moving under his hand is made of thorns. Or is covered with them. Although, in this
case, she thinks, metal spikes are more likely.

“Whose is it?” His face is shaded by a sheet of hair falling forward. His hair is cut so that it is longer on the top and shorter underneath; it resembles a mushroom cap, but less puffy, sleeker.

She attempts a kind of cool, even fury, but her answer comes out more like a startled bark. “Mine obviously.”

He straightens up and unpeels his fingers from the thin cotton of her dress. She wonders if they have left damp marks, indiscernible in this light, but perhaps visible in the blinking knobs of the calutron. She wonders if the moonlight has thinned the stitches of her dress to a kind of airy web with translucent space between the triangulated lines, dewdrops at the apexes.

Moonlight and starlight are liquids, she thinks, like the green-gold of chlorophyll. Each with their own viscosity and can harden or thin out as the climate dictates. Sunlight itself has always seemed to her more fibrous, stringier; more like celery, unpeeling from the sky in a sort of back dive to Earth.

Carl is still here, staring at her through the silvery veils and pewter shadows.

“What are you going to do, then?” His voice is soft. It sounds less like words and more like the wind shushing through a pine forest, the vaporous hiss crocheting the trees tightly together. The same art used by the mountain people of Zakopane to knit the rough wool sweaters bought for her at the end of the summer holiday. She remembers stuffing the bulk into her valise, all of the cold promises of winter condensed in the folds. And unpacking, she half-hoped that diamonds or something glittery, even a glass snowflake would have been forged under that locked pressure during the journey back home.
Carl is looking at her expectantly, as if he is the one with something half-hidden under his work shirt, as if he is expecting to be torn in two.

She snaps the silence, a brittle twig over her knee. “What was it like, before?”

“Do you mean before you came? Before Carter brought you here?”

“Yes, all of that,” she says, picking her way as if through red mud. “But first tell me about the land. What was here before this” – she waved toward the building looming beside them, also expectantly, like the hull of an ugly square ship, hardly ocean-worthy, in all senses – “was here?”

“Carter would remember better than me. You know he has an ace memory, I’m sure it’s helping him out a lot over there.” A trenches gouges the bridge of his nose deep enough for moonlight to fill. It glows, a kind of troubled third eye. “But probably a grove of trees, a drained marsh. Look,” he says, squatting. “It still looks hollowed out, not from the scoopers but from ice and wind.”

“But you don’t remember what kind of trees, or if it was a dry or marshy area?”


“And neither do I,” she says. “So you do understand.”

“But Elizabeth.” He is still such a boy. His voice rises up, hurdles over the moonlight, wavers in the air within the reach of the square window’s stubby arms.

He must stop saying that word. It clangs wrongly in her ears. “Shhh, they might hear.”

Carl lowers his voice, it now rustles among the small round stones at their feet, rotating them on their tiny axes so that they softly clack against each other. “What were you listening for, anyway?”
She does not answer.

“Do you know what we’re making?”

All the possible answers to that question make her dizzy. “No.”

“It’s something to do with breaking apart an atom,” Carl says. “But how could that cause an explosion bigger and stronger than a bomb dropped by any army now?”

“I don’t know,” she says.

“Do you want to stop it?”

“No, it cannot be stopped. Nothing that is started or created can ever fully stop or disappear.”

“What will you do if it comes before Carter returns?”

Carter. The runner, the flyer, the lover.

“Elizabeth? What will you do, then?” He takes a step closer to her which moves them both closer to the wall.

It would be easier to take each of his hands, hanging heavily along his flanks, and place them on her body. No language barrier, no act of translation, no periodic tables or charts or graphs, botanical descriptions or higher mathematics. Always a start and a stop, even an implied stop, to touch. One must get on with the rest of the day, the rest of life. Even if touch is returned to, the same two people, the bee and flower-mouth, it has two discernible points, an origin and an endpoint, some kind of birth and some kind of death.

The co-joining of the tangible – literally – and the abstract, the ephemeral.

“It’s not yours,” she says. “How could it be?”

She turns to face the cool gray exterior. Her breath does not heat it; rather, the air is chilled by its brief contact with that unyielding surface. When the wall breathes it back
to her face it is as if the air had been trapped in a tomb for centuries. A kind of amberized oxygen.

She can feel his stony gaze at her back, tugging at her waist, reaching under her dress.

Stony-eyed. What most Americans do not realize, unless they have traveled widely or studied Classics, is that the Romans painted their statues, and most still have flecks of bright colors in the corners of their eyes, around their nostrils, between their toes and caught in their genitalia. But one would never know this from textbooks or film. In their representations, they are pure white, pure marble, the no-color of crushed and re-constituted stars.

The no-color of snow mixed with mercury, forgetfulness and the eternally spinning color-wheel of memory. Her grandfather tore out each page of a paperback after he had read it, so that he would not be tempted to return to it. He had said that it was a mostly futile task, that he had already instantly committed the words to memory, in some way. “It is impossible to forget,” he had said. “The idea of the world is solid, hard, but everything alive, everything in or on it, under it or hovering over it is liquid. And liquid always finds a way to carve new channels. Liquid is always stronger.”

She whispers what will sound to Carl like nonsense – and maybe it is nonsense after all – into the porous ears of the wall. The names of everyone she knew and loved. Other languages, other lives she has lived. Their truncated lives, half-lives. Her half-life. She can only be made whole by being fissioned, by being split, like a ripe plum, in two.

Maybe her voice will travel all the way inside. To the machines, throbbing all
through the night and unattended. The other possible builder, the other Ca. Calcium, the gray-white architecture, the admixture of forgetfulness and memory, of place and desire, of molecules and microbes, of mercury and ash.

The machine, the calutron winds its (his?) silvery voice into her ear. Or is it the men inside explaining their secret discovery to each other, groping through the dark to articulate what could barely be believed or grasped.

*Unstable atomic nuclei*

*Emit subatomic particles as radiation*

*Decay occurs in the parent nucleus*

*Produces a daughter nucleus.*

*Completely random process*

*Impossible to predict*

The men and the machine are fused, and she is the product of this alchemical interaction. The daughter.

*Breeder reactors*

*Uranium-238*

*Breed plutonium-239*

*Can be used*

*...a weapon*

“I love you anyway.” Carl sounds as if he is calling to her from a bridge, while she is being washed over by the waves below, silver spikes lancing out of their crests.
She puts her hand on his arm, feels his rapid pulse through his work shirt, pulls him close and then pushes him away.

“Please let me.”

And then she understands what they are making. Everything is fashioned by the twin forces of attraction and loss, magnetism and fissure. Elements lose their tiny twirling particles to become radioactive, super-attractive, so much so that they burst. Loss transmutes to desirability, decay transforms to a flower-cloud. After all, attraction in the terrestrial and astrochemical worlds is the same as love in the human world. Heavenly bodies can’t discriminate between the forces of desire and the pull of love. A flower’s heart is its glands and organs.

It is the same as what she is making.

*Radon and her daughters.* The daughter nuclide of a decay event is usually also unstable, sometimes even more unstable than the parent. If this is the case, it will proceed to decay again and form a decay chain producing in the end a stable nuclide.

A local habitation and a name. She presses her lips harder and harder into the cement.

*Erzsebet hid Erzsebet hid Erzsebet hid Erzsebet hid*

She will blend in. Her hair is the color of the sun striking the earth, as if with a hammer, as if it is a hammer. The color of the spark that is released from that violent contact. The color of the momentary blindness after an explosion. Flaxen sand. The tallow of the desert will hide her. She will be hidden one more time, and then she can emerge. She will be able to both expand and crush. She will form something by tightly
containing it. The duality of creation, the push-pull of love.

It is already united; it is here, there. And everywhere in between.
My grandmother died this morning.

Conway turned on the car, filling the space with noise. The space resembled tiny squares, lined up in all directions like a legion, marching in formation on a sheet of graph paper. All he had to do was color them in. Just pencil them in.

“Oh Conway,” Mauna said. “I’m so sorry.”

He eased them onto the interstate going west. He hadn’t visited Saphira since his first week back. He merged into the fast lane. “She left me her house.”

“Wow,” she said. “Were you expecting that?”

“No,” he said. “But my mom said that it was her plan all along.”

They were silent for a mile or so.

Then she said, not looking at him and frowning slightly, “Are you going to live in it, then?”

A constellation of choices, a galaxy of decisions, all nictitating at him madly like a console. What a strange word that was. Which definition sprang first to a person’s mind determined so much about his/her personality. He was sure that Mauna’s first thought would be the verb, caring do-er that she was. His was the noun, as it related to a computer.

He glanced over at her, slumped as usual in the seat like a ten year-old. She must have noticed him looking because when his eyes glazed over her again, when he had to check out his blind spots to change lanes, her head was turned as far to the right as it
seemed like it could go, her face almost pressed against the window. She was probably trying to hide her hope that he would stay, whether or not he stayed in the house itself or sold it and grounded himself in the area, in his own dwelling. Now that he would have the means.

The side of her throat, a slab of marble coaxed into resembling something flowing, alive, the double-helix of an ivory candle tucked into a cathedral’s cranny. No, he thought, Mauna’s throat was a galaxy, the Milky Way. Her esophagus must be papered with starpowder, lying on her voicebox like dust; that’s why her voice was gravelly. Entering it was impossible and dangerous. He couldn’t even kiss her again.

He had woken up thinking not what his future may or may not hold, but about the recent Beslan massacre, 344 people killed total, 186 children in all. What power lay in numbers themselves? His grandmother had lived 95 years; he would be 36 in less than a month. 116 elements on the periodic table. Even though elements 113, 115, and 117 are not known, they are colored into the table to show their expected positions. And since there were “unconfirmed reports” for the observation of elements 114 (ununquadium), 116 (ununhexium), and 118 (ununoctium), these elements are also included. Like hope, expected but wholly unconfirmed, that at some point the empty shot would be filled with its rightful dimensions, four, ten, eleven, or according to one theory, twenty-six. What was the difference between unknown and as-yet-unconfirmed?

And then Star Date frothed up into his thoughts. New discoveries in dark matter. EROS or Expérience pour la Recherche d’Objets Sombres. The search and the study of dark stellar bodies, brown dwarfs or MACHOs which belong gravitationally to our Galaxy because of their unique and spectacular gravitational microlensing effects on the
light from stars in the Magellanic Clouds that enclose the Milky Way.

“Are you taking me there?” Her face was still turned toward the window, and her breath made the words almost visible; they hit the window and bounce back toward her.

He didn’t answer, the Oak Ridge exit stood in for a reply. He could turn around at any time: the reports for 118 (ununoctium, a Noble gas) were retracted.

They passed scruffy fields, old barns, the Golden Girls Diner, haunches of bushes, the Museum of Appalachia. If he were nice he would have taken her to Hot Bagel, although it was probably closed. Shapes of things hunched against the deepening plum of the sky: blush to red (Methley, Ozark Premier, and Elephant Heart) to indigo Damson. His grandmother had put up plums along with every other fruit and vegetable that grew in her garden, but plums had always been his favorite, especially Damson plum jam. The fruit that was so intensely purple it was almost blue-black. It stained everything, his teeth and tongue, any surface and fabric. He had read about an African tribe whose indigo batiks had dyed their skins blue-black, the color infiltrating even their genes.

That tart-sweetness. Mauna’s. If opposite poles of tastes could merge so easily, why not those damn equations? Flavour/flavor in particle physics indicates the number of elementary particles compared to their weak interactions. In quantum chromodynamics flavor is a global symmetry. Just add a shot of color and it balances the wobbliest of equations.

His grandmother had put the glass jars aside for Conway’s visits by placing them on the highest wooden shelf in her kitchen; when he finished growing he was the only one who could reach that far up. He had snuck down there once in the middle of the night – he must have been about 11 – and climbed up the dinette stool, tipped a glass jar
toward himself. He had missed catching it and it broke with a terrific crash, nearly cracking his head and forcing him to jump back to escape flying shards, dyed to stained glass the color of dried blood. He had waited, heart-pounding, listening for those who he had woken’s heavy footsteps, but none came. So he had picked through the glass sparkling in the lone bulb’s emanation for unscathed plums, praying that embedded glass splinters would not tear apart his insides.

From what he could tell, there had been no ill effects, but now he wondered if part of his problem all along was that there were still sharp edges making small cuts in his essential organs, where love and the ability to console leached out, invisible and unbeknownst.

They passed the trees that served as a land-moat around the lab. “That’s ORNL,” Conway unclenched his hands from the steering wheel and knocked his wrist in the direction of the hulking buildings, hidden behind the darkening sky and groves of sweetgum.

“Why…,” Mauna started to say, and he was certain she was about to ask him his reason for showing her the house, but she either changed her mind or he was wrong, “does it still seem like a fortress?”

“Because it’s still a nuclear lab, don’t let the tour guides fool you into thinking that they’re just making better dental shields or whatever.”

“Dental shields?” She laughed for the first time, the sound being pushed and out of her mouth as if by force. “Okay, I’ll try not to…I have no idea what those are, anyway, but they sound far from benign.”
The streets in Oak Ridge were circular, tangled, impossible to navigate. Constructed with the express purpose to obfuscate. From the beginning: the founding fathers of this town, Groves and the rest, wanted to ensure that no one could traverse boundaries, slip in or escape easily. Oak Ridge hadn’t appeared on a map until 1949. The American Museum of Science and Energy (originally called the Atomic Museum) opened its doors the same day the gates around the town were removed. Acknowledged as a place the same day it was enshrined and entombed.

He turned onto a street near his grandmother’s house. In any other city or town, this neighborhood would be described as the older section, the houses gabled and peaked and Tutored, with spaces in between them to allow for ample, sloping lawns. But in Oak Ridge, the oldest houses were the pre-fab ones, delineated by the first five letters of the alphabet. His grandmother’s neighborhood was a result of the second wave of scientists descending onto the area, a prime postwar boom job. They wanted East Coast style houses and lawns, and so were catered to, to attract more of their ilk. His grandmother had married one of these men; Conway was a third generation scientist. He liked that he was from a place, not only seeped in science as well as now-hidden, smudged out Appalachian lore and customs, but where all the storybook clichés – even simple ones like what a big, old house denoted – were diluted, deflated, turned on their heads.

Mauna was watching everything, straining against the dark to see into inky clusters of trees and spattering of businesses and spouting housing developments. He was glad he had only the back of her head to contend with, since he hadn’t figured out why he had taken her here or what he was going to say. Or admit. Her hair was half up and half down, the way he liked it best, although the style made her look even younger,
and a bit Alice in Wonderlandesque. Which made him what? The Cheshire Cat?

“I can’t believe I’ve never been here,” she said. “And it’s so close.”

He couldn’t tell if there was some passivity aimed at him, or even a beseeching question as to why he hadn’t brought her here before. But it wasn’t like Mauna to be churlish. Or not accept a gift when it was given to her, or to report on past failures of attention. She would have made a good scientist, Conway thought. As obsessed with rereading the past as she was, she always looked for solutions, and was rarely bogged down, or caught, as he had been, in circular revisions. She personified the postwar optimism, the jaunty push up your sleeves and get to work. The work of loving the world. Or trying to control it. Even “the same but better” sounded like a subset of the Scientific Method. New experiments, after all, usually follow the model of their predecessors, and “keeping everything static,” merely changing one tiny variable to isolate a response, was the most efficient and economical strategy.

He had wanted to spend his time imagining ideas that could not even be called “reinvented wheels.” Otherwise what was the point of all of that disappointment and toil, failure grafted onto failure? Why not just be a plumber or do carpentry? But he had not been good enough. Only a genius or a fool would have the endless time to entertain entirely new wheels; most scientists spent their whole lives trying to understand the bend or joint or screw embedded in one segment of one spoke.

Spoke. Again, Mauna would first think of the verb. Especially if the word was uttered by him, the person to whom she spoke and listened as he spoke to her. To decipher code, to break silences (as if silence was a Mason jar on a top shelf, filled with gelatinous plums).
Words=mystical elements. The most powerful force in the universe, so far able to rouse basically lazy and benign people to war; strong enough, too, to repel or at least detour any meteor shower intent on spallating Earth to a trillion-trillion stars, each element floating over the solar system like snowflakes. Conway firmly believed that what repelled comets headlong into the planetary embrace with the most beautiful girl at the ball, Earth, was the energy (dark and non-dark) emitted by talk, conversation, language, text, words. That even without a musical undertow, words themselves contained the music of the spheres, and radiated a protective shield, an invisible moon, around this planet, made of sea glass and sludge.

He should have ignored Doc telling him that he was good enough, that he, Conway, had the potential to be a great scientist; that is: physicist; that he could be great at anything that he wasn’t naturally good at, that required sustained, concentrated effort, like distance running, that didn’t just rely on some sort of haphazard collection of natural talents. Something so far beyond just surviving, or picking up girls.

He should have transferred out of physics and into geography, not philosophy, which just taught more circular thinking, offered him new grab-bags from which to choose. He needed to learn how to train or be trained into, if not tunnel-vision, something more limited, less orbital: pathways that at least gestured toward a kind of linearity.

Geography could bridge the chasm between the sciences and the humanities. Now it was a science, but in the recent Old Days, geography was considered a humanities major and therefore was peopled with women, like Mauna, who had inclinations toward
science but had not been encouraged into diamond-hard physics and the like. Or literally
turned away. But Geography’s straddling of the “art” and “science” in the College of
Arts and Sciences made it easier for those in-betweens like him, and Mauna. Even a
Cultural Studies or Philosophy major could make these back-and-forth transitions, would
feel at home on this faultline. After all, most everything can be reduced to topography,
placement, miniscule movements, naming. Politics and history. A pinch of artistic urge
(shape-shifting of nations, continents, escarpments) sifted in.

    So no one knew which department to slot Geography into, sure, no one really
knew where to house it, but it served his needs being either/or in the way that strangely
made him feel both safe and excited. That’s it, he thought, I’ve got a hard-on for
geography. He was smirking, but Mauna was still faced away from him, her reflection
emerging more clearly the darker it became. Her white face was moon-round in the
window’s mirror, the way the moon must have looked as it came rushing towards the first
astronauts on that first plummet towards its silvery, pitiful, pit-ful pull.

    Conway turned the car into the sloping driveway. His grandmother’s house sat
back from the road on its haunches, always watchful out of its multitude of windows.
Grudgingly inviting, the only truthful way to be welcoming. Back in its
inception/conception, all that Oak Ridge mud had let too many people in at once. The
spongy give of the land, stripped of its culturally determined recalcitrance, accepting all
of those footsteps, churning them under its own watery crust, so that everyone, everyone
was anonymous, and could not be followed, neither properly praised nor indicted.

    Mauna opened the car door, winced a bit as its creaking joint cut the
silence surrounding the house. It was very, very quiet in this town after dark. She tipped
her head back and the darkness rinsed over her face, dyed her hair black. “It’s so still and starry out here,” she said. Her voice sounded little-girlish, awed. Scared. And, somehow, Southern.

Conway clutched the key ring, the antique key arrowed into the darkness. Old fashioned keys were no weapon at all, their blunt ends would hardly help a woman stave off an invasive presence. Was the shape of locks and keys altered to fit the needs of women in a more persistently violent – or more visibly violent anyway – society? Or did the sharpened instruments, used as weapons in desperate circumstances (better weapons than their predecessors anyway), make grocery lot attacks more prevalent? No way to know, of course.

There was a soft click, and he pushed the heavy wooden door open. Hung back to let Mauna enter first. She stepped over the raised door jamb, a strip of highly polished oak, and he turned on the light. The house was simple in its presentation, but it did boast a somewhat formal entryway, with an ornate scrolled mirror suspended over a small baroque marble table. Conway dropped the key ring into a bowl fashioned from scooped out bark, the dark covering scrubbed off.

“Here we are,” he said.

If he knew Mauna at all, and he knew her well, she wanted to be shown everything: where he slept when he was a boy, where he and his sister had played, the kitchen, the attic. Her face was brimming with a kind of detective curiosity, as if he had just opened a casket or a trunk. She wanted to dive in. But she was shy, and polite. And fearful. If she hadn’t been, everything between them would have been much further along, whether he was ready for it to be or not. It doesn’t necessarily take a village to get
a love affair going, really going, it just takes one person brave enough to grab at another, and hold on even as she was being shaken by the scruff of the neck.

He was suddenly exhausted, being here with her, her silent, greedy questioning, her out of place-ness, the fact that they were so firmly on his turf (if turf could ever be considered firm, even for a moment). He didn’t want to tell her anything else. They had used words, and it had gotten them nowhere. Or if not nowhere, words had drawn them together and flung them apart over and over and he didn’t trust them to do just one consistent movement that would accumulate and endure for longer than an evening in each other’s charged presences.

Plus, his sister was peeking out at him from the clock vestibule, in their old whispering hiding place under the stairs, in the lines between the wide planks that made up the hardwood floors. She was everywhere. He couldn’t live in this house, with Mauna or anyone else. He would have to sell it, and soon. If he stayed he would never be able to escape.

He would never be here with Mauna again, that was for sure. He would, in fact, he realized with relief, never see her again after tonight. And since there were no more words, the only thing to do was take her hand and lead her down the dark, chilly hallway, narrow as a tunnel, as a trench.

So he took her hand, the hand that was, after all, not a place, a piece of place. She was not from Michigan, and therefore did not hold her hand up as a fleshy map the way Michiganders always annoyingly did. For once, she was silent. She had been the quietest she’d ever been in his presence because she was no longer trying to convince him or bully him or persuade him to do anything. Allowed herself just to be with him, in
this ark, this dark house.

He realized that she had never asked to see this house, or for more details about his sister, or his father, or even slightly more neutral, but equally tellingly personal questions about the lab, about what it felt like to play a piece of music he’d written, about staring into the cavernous mouth of a slide under a microscope, or the graphic imaging on a computer screen of a nano particle, blocky and color-coded like one of Brian’s paintings. All she’d ever really asked for was this, physical closeness, the stand-in, the formula for everything else.

Conway steered her into the guestroom. Her legs buckled a bit as his knees nudged against the backs of her thighs. The cotton covering the duvet was chilled with somewhat stale, refrigerated starlight. They lay down on the bed, side by side. Mauna’s arms were tangled up, held closely to her chest: a briar patch over her heart, but she was breathing fast, and her pulse fluttered as he turned her over on her back and placed his hands over her breastbone and spread his fingers out so that his fingertips fell into every hollow of her throat. Moonlight eked through the curtains. His hands looked like eagle wings. There was a solemnity that draped over both of them; gone was the studious, desperate glee he had felt on their first date. Every caress was a letter covered with foreign stamps, every kiss a line handwritten in perfect nineteenth-century one-room schoolhouse script: a goodbye forever and a plea for the ultimate return.

Because that was the thing: the sky and the earth are seen as separate, but even the Greeks and Romans said they were sibling gods. Each realm is constantly infiltrating the other. The atmosphere and stratosphere as strong as a ream of unfurled silk. No barrier at all. Humans launch rockets, send space probes, fill satellites with something like
helium to keep them afloat, invasive pods poking the red dirt of Mars.

Fifty years ago an eight-and-a-half-pound meteorite crashed into a woman’s living room as she was napping on her couch. It left a big bruise on her hip before it skittered to a stop on her vanity, shattering the mirror into a starburst. Falling, it had created a streak of light that was visible across three southeastern states, trailing tiny particles of rock and dirt in its path; cosmic grains of dust. One fragment barely missed a Comet Drive-In Theater in Sylacauga, Alabama. Conway always pictures Picasso’s “Sleeping Woman” when he thinks of this story – told to him by his father. His sister said she was jealous. She’d said, “It’s every girl’s dream to be roughly kissed awake by a falling star.”

It was as if love was a country, but so secret and shrouded its name could not be mentioned, as if it were a Jew-turned-refugee during the occupation, living in her own country as a stranger, under a false name. He and Mauna had never spoken it, the actual word, to each other, it just spun around them, double-helixed, orbiting above their heads, the space cultivated between their bodies, bound up in science.

Conway’s father had told a story to impress upon his family the crested history of ORNL: “The day they dropped the bomb, August 6, 1945, workers left the machines minding themselves, clogged the streets shouting, “They dropped the bomb! We made the bomb!” The scientists themselves ran around town yelling “Uranium! Plutonium! Atomic!” like they were dirty words. And then when the second bomb dropped, Everyone was stunned, ‘From we did it!’ to ‘What have we done?’ No one thought that the second bomb was necessary, and it wasn’t. We’ve been paying for that act of deadly braggadocio forever. Your great-grandchildren will be paying for it, mark my words.”
How could words, those plows, those diamond-tipped daggers, not leave marks? Everything was a ritualistic mark-making, especially in science. How else could those barely human lab-rats gouge out a place for themselves in History? Even the race for the glimpse of a graviton, proven to exist only by its absence. Would its presence be felt or detected, would it literally disappear in a wisp of smoke? And where would it first be espied: in the underground tubing of the CERN superconductor that wound around the Alps, or under cow udders in the farmland around Fermilab? Conway had his money on the Swiss. The original tamers of time.

He would sell this house, take the money and run, as the saying went. He would move somewhere close but not too close, snatch up dilapidated houses with his grandmother’s legacy, the legacy of this whole tangled town, and rebuild, improve, modify. On what was already there, a cracked foundation. The Scientific Method applied to concrete, wood, shingles, windows, stairways. Anything was possible if you thought of gems as something patiently made by a long, hot terrestrial embrace: hadn’t they grown French-quality truffles in Chuckey, Tennessee?

She smelled like sweet dirt. She was solid, or at least fused, glittering with mica, stardust. But then she dissolved into cool air, a missile whistling past his ears, and when he lifted her hair off of her sticky neck, the great silky mass of it crumbled into stars in his palm.

If he didn’t make love to Mauna, the possibility of coming back to her again and again was certain. He would never leave her, or this house, or this town, region, Southern chain of pain. Appalachian. That eternal, insulated, isolated loop. Nothing could be finished between them if they didn’t mark their collision with the ultimate
entwining. In the moment where every beginning is emplotted and every ending is possible.

Her skin burned his fingertips, then froze them with what might be sweat, might be her skin soaking up the moonlight that nudged aside the curtains, flattening itself silkily (cat-like or rat-like) down to one dimension, a fall of nickels and dimes clattering through the slats of the blinds. The weird light pooled in the satellite of skin around her navel (she had a small, delicate innie). He traced it with his tongue and she dug her fingers into his hair. Her belly was a basin, a place of cleansing. *Bathtime for baby.*

But it was impossible not to hear the phrase “circling the drain” echo in the four chambers of his heart.

He was building; he was razing. She was a red supernova, about to collapse into herself, and then glowed blue, stabilized for a moment, until she caved into space again. There was no means to hold onto her: she shrank and grew too quickly. She was a shadow and a hologram, a half-shimmer of something faster than light.

She gasped and sighed, lifted her hips so he could pull down her jeans, unbuckled his belt, shrugged out of her bra, unbuttoned his shirt and dragged her nails over his shoulders as she forced it off of him, as if he, his true form, was emerging from marble. But she didn’t say a word. His hands, his mouth, his breath, his memory passed right through Mauna or sunk too far in. He was too close, he was light-years away. They might as well have been on different planets.

Conway had deliberately not bought condoms since he had returned to East Tennessee to help himself not succumb to what was the most natural and the most dangerous of acts. For him especially, but as he slipped into the celestial embrace, the
tidal galaxy that drowns even the most intrepid traveler, her arms swirling over his skin, mixing it as if he had turned completely liquid and mutable, he thought, Maybe. Maybe this act will determine everything, like in the olden days. Each star (the origins embedded in every crosshatch of her skin lit up at soon as he touched it) a nucleus in a constellation of dark atoms. The multiverse. The membrane of the atmosphere expanding and contracting around them like a cell wall. And then, the crown of his head broke through. The effortless forge, that glittering mountain pass that his head cut through as easily as if the mountains had softened, melted. The atom-thin membrane separating this world from the one right next door. The only way to get there was doing this. With her.

He felt like he was fucking the Milky Way.

What would he remember of this one? What kind of diffracted radiance would she sift over the rest of his thoughts and his life? Or would she disappear into a series of ever-shrinking half-lives? He wanted to elide into a wormhole, be the proverbial fly on the wall and watch her going about her days in her as yet unlived life. From a certain distance, he imagined her as the center of a crystal. If he could only mash her down to three, four elements, collapse her into one dimension, like one of the photos in her collages. She would never change, never age, landlocked between the slide-slim glass sheets.

He and Mauna were the creation of an incorporated landmass that was slowly, painfully, unwillingly, viscously wrenched apart by Continental Drift. That finally broke off. And there would be emissaries that were allowed to travel over exotic terrain that
was once his home; their neighborhood. And he would never be able to cross over to it again. Nevermore. The toll was too high. Worth it, in terms of value, but he would have to beg, steal or borrow from some submerged vault, guarded by a monster who expelled secret fire through its secret openings.

Others might come back to your sunken country, laden with spices and silk, jewels, laced with the roads from conjecture to principle. But you were forever banished, to pluck the sinews of waves, the notes perched on the crests of the roiling baritone of the ocean, *Oh my Laurentia, my once-whole land.*

Walking away from him she was slant-shouldered, her backpack heavy and round with books on her right shoulder, pulling it down toward the gravel: the rungs of a busted ladder. Surely they would meet again, in the way that everything endlessly doubled back on itself, until it was folded into a tiny enough shape that it rested invisibly in the lines of your palm, so that you didn’t know what was there, until it fell from space.
LIST OF REFERENCES
Primary Sources

-----. *Teaching a Stone to Talk: Expeditions and Encounters*. New York:

**Secondary Sources**


VITA

Jessica Weintraub was born in Rochester, NY, and received her undergraduate degree from Boston University in International Relations. She attended the University of California at Davis where she wrote a creative thesis in poetry and received her MA in English. It was at Davis, through the Nature and Culture Program and through courses like “The Rivers of California” (in Geology) that she honed her interest in scientifically-derived metaphors. After a year living in Edinburgh, Scotland, and another stint in Boston, she entered the doctoral program at the University of Tennessee, Knoxville in 2003. She received the PhD in English in May 2007. Her poems have appeared in Poetry Scotland, in*tense (St. Mary’s), Spark (UC Davis), and others.