Even buried in our synapses, memories change, and the past that shapes us shifts. In his February 2012 article for Wired magazine, “The Forgetting Pill Erases Painful Memories Forever,” scientific journalist Jonah Lehrer describes a neuroscientific model for memory that proposes “a molecular explanation of how and why memories change.” According to this model, the “chemistry of the brain is in constant flux,” and “the very act of remembering changes the memory itself.” Lehrer describes how past memories are affected by present emotions—a process called “reconsolidation.” Characterized by a constant process of revision, reconsolidation means that “every time we think about the past we are delicately transforming its cellular representation in the brain, changing its underlying neural circuitry.”

Neuroscientists have discovered the crucial protein that would allow human beings to erase painful memories, everything from our earliest memories of pain—Lehrer calls them the “cliché cinematic scenes from childhood”—to “the persisting mental loops of illnesses like PTSD and addiction—and even pain disorders like neuropathy.” Such conditions could conceivably be deleted through the administration of a protein-inhibiting drug. Here’s how that deletion might look as a scientific procedure: to forget a traumatic experience, a subject would be asked to go through a series of steps, including writing down the memory and “retell[ing] it aloud several times.” After this recounting, the subject would be administered “a drug that blocks PKMzeta,” a protein that stabilizes neural circuits to create memories. The painful memory would disappear entirely, while leaving the other parts of recollection intact: “if the drug is selective enough and the memory precise enough, everything else in the brain should be unaffected and remain as correct—or incorrect—as ever.”

While this part of Lehrer’s article presents a rather breathless vision of a world without PTSD, childhood trauma, or addiction, messing with our memories may cause more problems than it solves. Though we might be
tempted to turn away from them, painful memories orient us, shape our thoughts and habits. Reminding us of past mistakes, they allow us to change direction as we navigate the unpredictable pathways of our lives. Lehrer’s article, though, seems to suggest that all memory, far from being the dutiful recording machine people imagine it to be, is fundamentally unreliable: “though every memory feels like an honest representation, that sense of authenticity is the biggest lie of all” because “the very act of remembering changes the memory itself” on a chemical level. This phenomenon of reconsolidation, Lehrer tells us, is nearly chemically identical to forming an initial memory. Memory is like wet clay—touch it and it’s impossible not to leave a fingerprint, impossible not to alter its shape. Every moment, we’re sculpting what we remember, remaking it as we put the parts back together, so lost in the process of remembering that we don’t realize we’re changing the form of the memory.

Perhaps because we’ve always known how selective and unreliable memory is, we’ve invented dutiful machines—such as cameras and other recording devices—to help us remember, to give ourselves a false sense of permanence. According to recent brain research, each of these machines is far more faithful and accurate than our own brains. During reconsolidation, Lehrer reminds us, “the structure of [memories] in the brain is altered in light of the present moment”—in other words, feelings distort one’s view of the past. People warp the fabric of memory every time they recall something, though often the alteration is subtle. Think of an artisan making a mosaic, using a photograph as the template for the thing he’s piecing together, tile by tile. Memory is a composite experience of many things—emotions, suggestions, narratives, sensory flashes—and the picture thus produced cannot be identical to the original experience. Each time it is reproduced, the original is in danger of being changed beyond recognition.

Other complex networks—cities, for instance—mirror the structure of the brain on a more massive scale. In her essayistic short story “Portrait of a Londoner,” Virginia Woolf portrays her subject, Mrs. Crowe, as a vital synapse in the neural network of London. For six decades, Mrs. Crowe has been reconsolidating the memories of not just one life, but thousands of lives: taking stories from her guests, she assembles the parts into a “lively, comprehensible, amusing and agreeable whole” (119). Resting “in an armchair by the fire,” always with “someone in the armchair opposite, paying a call” (117), Crowe is a like a pre-digital Wikipedia, endlessly gathering pieces of the city’s information, preferring “conversation” to “intimacy” (118). Through her fireside chats with visitors and her “deftness in extracting” sharp particu-
lars from them, she assembles a portrait of the vast, unknowable place that is London (119).

But in making that portrait, the parts change. Woolf tells us that to merely “record the fact” is not enough for Mrs. Crowe, who adds “a sprinkle of amusing gossip” to the recollection (119). Embellishing “bright and brilliant” pictures representing “the pages of London life for 50 years past,” she cannot produce an exact replica of events as they occurred (119). Mrs. Crowe has a powerful memory, but even still, the sheer quantity of information proves too much for her. With the passage of years, “her knowledge became, not more profound . . . but more rounded,” and if someone was too specific in their account, or said something “brilliant,” it was considered a “breach of etiquette” (118–19). She’s already consolidating so much information that one fact more would push another detail out.

Assembling the memory of such a large, multifaceted place is probably always a doomed project—destined to be forever incomplete—but Woolf insists that for certain inhabitants of London, Mrs. Crowe comes to embody their city to such an extent that “nobody can be said to know London who does not know” Mrs. Crowe (117). Using her powerful ability to understand and catalog such a vast amount of information, she is able to condense into a digestible form the essence of London, “making the vast metropolis seem as small as a village” (118). But this process is probably more dilution than “essence.” Mrs. Crowe’s history is actually a composite of many stories, stories that undoubtedly change as they get passed on. Yet Mrs. Crowe’s sources, “her own cronies,” are essential despite their fallibility (119). They allow her to round out the story of a place much larger than herself. Perhaps, then, we can say that such reconsolidation of memories comes not only from within ourselves, but from those we depend on to fill in the gaps in our shared experiences. Woolf’s “Portrait” reminds us that memory is socially as well as neurologically constructed. Though we like to think of ourselves as the protagonists of our lives, our life stories have many authors. We depend on others not only to give us different perspectives on our shared experiences, but to fill in the gaps of what we haven’t experienced or can’t recall.

My first memory is not a comprehensive whole—it’s a jagged piece of a much larger event, like a fossil I can dig up but not fully understand. When I was four years old, camping with my parents near Sacramento, I was stung by wasps—or so my parents tell me. All I remember is the buzzing and the removal of the stingers: the before and after parts of the experience. I don’t remember the actual pain of being stung; having the stingers taken out seemed much more agonizing. As irrational as this seems to me fourteen
years later, the synaptic pain of being stung persists. Even now, buzzing wasps seem to live in some part of my brain, and my body remembers in flashes: head ducking, arms flying up, torso hunched over, stomach churning. My parents, of course, remember the whole thing, and have given me a context for knowing why even hearing a buzzing sound can make me flinch.

Maybe what’s more intriguing than memory itself is the way we make memories. Hearing this story recounted, attributing to it this set of bodily instincts, my brain sets to work filling in the holes, reconsolidating this information as if I recalled it myself. I cannot be sure if I am recalling the event itself, or if I am recalling a picture my mind created after hearing about the event. It is possible that the emotional memory is real and the visual, pictorial representation comes from my parents, but the two cannot be distinguished with any certainty. Once alerted to a gap in memory, reconsolidation attempts to rebuild the lost picture, taking fragments of its new mosaic from anywhere within reach, then solidifying the result as its own. In testing this phenomenon, the “psychologist Elizabeth Loftus has repeatedly demonstrated that nearly a third of subjects can be tricked into claiming a made-up memory as their own. It takes only a single exposure to a new fiction for it to be reconsolidated as fact” (Lehrer).

Bernard Cooper understands the unreliability of memory’s structures all too well. In his essay “Labyrinthine,” Cooper describes how aging corrodes his memory, making it malleable, adding bits that do not belong while pushing others into an indefinite fog. As a child, Cooper feels empowered by his love of mazes. “Even when trapped,” he feels “an embracing safety” within the walls (345). His parents refuse to solve these mazes with him, especially his own sprawling creations which consume entire sheets of shelf paper to accommodate his “burgeoning ambition” (346). As he grows older, Cooper finds this dynamic inverted. Life itself becomes a maze filled with uncertainty and discomfort. He tells us that he feels “lost in the folds and bones of [his] body” and has trouble with memory (347). To his dismay, “remembered events merge together or fade away,” leaving a “jumble of guesswork and speculation” (346). Due to his inability to stop this process, Cooper begins to feel helpless, his tone becomes resigned: he begins with phrases like “When you’ve lived as long as I have” and “I suppose it was inevitable” (346-47). Instead of wishing for his memories back, he shows his grudging acceptance of fate. Cooper feels too sharply the reasons why his parents were unwilling to “get mired” in his mazes; his “days encase [him], loopy and confusing” (346). He feels “tiny, pungent details poised on [his] tongue,” but they never come fully to the front of his memory (346). This loss of control over the past
is extremely disconcerting and “sometimes [Cooper is] not sure if [he has] heard a story in conversation, read it in a book, or if [he is] the person to whom it happened” (346). Instead of filling in the gaps between buzzing and stingers to create wasps, instead of creating false memories, Cooper is losing true ones. Presented with such scattered fragments of the mosaic, memory’s only option is to generalize. Thus, for Cooper, the past becomes a soup in which “uncertainty is virtually indistinguishable from the truth” (346-47). Reconsolidation doesn’t help. It merely mixes fragments together, providing Cooper with a frustrating representation of the past. He often wonders “whose adventures, besides [his] own, are wedged in [his] memory” (346).

Like Cooper, Woolf’s Mrs. Crowe has other people’s memories wedged into her own. And like Cooper, like all of us, this prodigious matron’s recollection is selective. Woolf reveals that Mrs. Crowe’s fireside guests each have to be a member of the “club” (118). Like her avian namesake, Mrs. Crowe gathers scraps to make a kind of social nest until “the outer world [has] not a feather or twig to add” (119). Woolf’s talk of “class” and “privilege” when describing Crowe’s meetings reinforces this sense of exclusion (118).

I wonder what Mrs. Crowe would make of Cooper—Mrs. Crowe who is “merely a collector of relationships,” who doesn’t want her conversations to go too deep, and who doesn’t want to look too sharply into the past (118). If Cooper were to be admitted to Mrs. Crowe’s front-drawing room, would he, lost in his mazes, be able to command the old woman’s attention? He might receive a stern rebuke about spending “too much time on the past” (Woolf 119). But Cooper might also approve of the “layers of complication” in Mrs. Crowe’s knowledge of the convolutions of genealogy (Cooper 345). Both figures might find they have something to say to the other about the things buried in their synapses—perhaps their conversation about the world of memories might be worth remembering.

Even if we don’t undergo the futuristic procedure described in Lehrer’s Wired article, we are, like Cooper, destined to find ourselves lost one day—overwhelmed, “mired in a maze” (Cooper 346). We’re destined to lose our memories, one way or another. Ultimately, like Mrs. Crowe, we’ll die, and like Mrs. Crowe’s London, our world will still exist after we die. In the meantime, we’re left with those strange and sometimes unpredictable machines: our brains. If our memories are being constantly shifted, reworked from our initial picture into a series of mosaic images, then with each retelling we overwrite the remembered bits, intensifying or adding details. Knowing that the neurological process of reconsolidation exists cannot prevent it. Each time we recall our pasts, they will be a little different, and in the future we might have
the option of intentionally editing our memories to remove the most painful, stinging bits.

Perhaps memories, even painful ones, need to be remade—after all, they’re not recordings being repeated, but structures that we make over and over, altering them with our continuing scrutiny and our lived experiences. Recordings, after all, tend to capture only the most literal aspects of our experience, usually leaving out nuance and enigma. Without the remaking process that is memory, we might be left with only unconnected images: a little boy who can’t remember being stung; a child absorbed in a maze the viewer can’t see; a woman in a London drawing-room without company, the fire gone out. Perhaps only by remaking memories, by assembling bits from ourselves and others, can we discover their richness and the richness of the lives we are living.

WORKS CITED

