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“Lover, Poet, or Astronomer”: Collecting Stars and Poems with David H. Levy

THE RECENT INTEREST in interdisciplinary studies has included various sorts of theorization intended to connect science and literary analysis. Many of these attempts have been grounded in poststructuralist and postmodern theories that emphasize the contingency and relativism of language and knowledge, which has been aligned with scientific fields like quantum mechanics, chaos theory and complexity theory. While these linkages between science and literature have been stimulating—albeit sometimes contentious—they have also produced the impression that connecting science and literature is a project restricted to the most recent historical developments of both science and literature. With the exceptions of studies of evolution and certain types of psychology, the methodologies of science prior to the twentieth century do not tend to be aligned with those of literary studies. Indeed, the two are frequently figured as methodologically antithetical: science is objective, detached, and dispassionate; literature is subjective, engaged and passionate.

I would like to present here a model for an interpretative practice that has been common to both science and literature for far longer than many may have realized. In order to understand it, however, we must return to earlier eras that predate contemporary mathematical and experimental science, as well as contemporary literary culture. In science, we must go back to the early modern period; in literature, we must go back further still, to the pre-print literate cultures of the medieval era. Early modern science and medieval literate culture share an important but oft overlooked methodology: collection. Many contemporary ideas of collecting view it as passive, incidental or anti-intellectual: scientific and literary collection may be seen as culturally interesting, but they are rarely accorded the rank of scholarship

(collectors tend to be objects *of* studies, not contributors *to* studies).¹ In early scientific and pre-print literary cultures, however, collecting is active and interpretative, ethical and aesthetic.

In his meditation on the relationship between the sciences and the humanities, *The Hedgehog, the Fox, and the Magister's Pox*, geologist Stephen Jay Gould, who was himself a collector of books and geological specimens, discusses collection as one of the great inheritances of science. Seventeenth-century scientists aimed to produce a comprehensive history of the earth by collecting physical specimens, a discipline that was called, rather wonderfully, "world-making."² The institution of the public museum developed from these personal collections.³ Early museums, Gould notes, had dual functions. One was purely aesthetic: "to evoke visceral awe at nature's diversity; to flaunt the rare and the bizarre . . . by owning the strangest and the superlative (the oddest or most deformed, the largest, the most beautiful)" (22). Alongside this, however, was the intellectual motivation of the museum: to assemble and order the structures of the world so as to reconstruct its history through a series of diverse objects. "World-making," then, on a level that goes beyond the merely theoretical: each cabinet of curiosities or museum display is a microcosm of the earth built out of the fragments of its own history.⁴ As a collection of samples arranged as a miniature representation of the earth, the museum display is fragmentary—partial. As a complete system (however scientifically accurate), it is whole—integral.⁵

Gould is fascinated with the mix of personal emotion and scientific intellect that drives the collector. In the introduction to *Finders, Keepers*, a collaboration with photographer Rosamund Wolff Purcell, Gould writes that collecting is a sort of "blessed obsession" that compels collectors to "bring part of a limitless diversity into an orbit of personal or public appreciation."⁶ A contemporary novel provides a compassionate illustration of the blessed—and beautiful—obsession of the scientific collector. In Margaret

¹ Sharon Macdonald, "Collecting Practices," in *A Companion to Museum Studies*, ed. Sharon Macdonald (Oxford: Blackwell, 2006) 87.

² Stephen Jay Gould, *The Hedgehog, the Fox, and the Magister's Pox: Mending the Gap between Science and the Humanities* (New York: Three Rivers, 2003) 22.

³ Macdonald, "Collecting Practices," 83–88.

⁴ James Clifford, *The Predicament of Culture: Twentieth-Century Ethnography, Literature and Art* (Cambridge: Harvard U Press, 1988) 227; Paula Findlen, *Possessing Nature: Museums, Collecting and Scientific Culture in Early Modern Italy* (Berkeley: U of California Press, 1994) 2–4, 155–193.

⁵ Macdonald, "Collecting Practices," 82.

⁶ Stephen Jay Gould and Rosamund Wolff Purcell, *Finders, Keepers: Eight Collectors* (New York: Norton, 1992) 10.

Atwood's novel *Cat's Eye* we see the development of a young scientist—the protagonist Elaine's older brother, Stephen (a character possibly named after Stephen Hawking, whose metaphysical question “Why do we remember the past, and not the future?” is an epigram to the novel).⁷ Elaine and Stephen are the offspring of a biologist, whose fieldwork includes collecting insect specimens, an activity in which the children often participate. As Stephen grows up, he starts his own collections: marbles, comic books, and butterflies. At one point he does something mysterious: he places his favourite marbles in a glass jar and buries it; Elaine imagines this as his “jar of light,” symbolizing something hidden but luminous in Stephen's being.⁸

Stephen's childhood collecting forms the path to his future career as an astronomical physicist. Like many teenage boys, he becomes interested in observational astronomy, watching the sky with a backyard telescope:

Now he has a star map, pinned to the wall of his room, and at night he turns out the lights and sits beside the darkened open window, in the cold, with his maroon sweater pulled on over his pajamas, gazing skyward. He has a pair of my father's binoculars, which he's allowed to use as long as he keeps the strap around his neck so he won't drop them.... When he allows me to join him, and when he feels like talking, he teaches me new names, charts the reference point: Orion, the Bear, the Dragon, the Swan.... “Arcturus,” my brother says. It's a foreign word, one I don't know, but I know the tone of his voice: recognition, completion, something added to a set. I think of his jars of marbles in the spring, the way he dropped the marbles into the jar, one by one, counting. My brother is collecting again; he's collecting stars. (139–40)

Atwood describes collection as a process of recognition, naming and completion. Recognition and completion imply that the collector is not merely building his collection through a process of accumulating external objects into a mass separate from himself, but that he is re-composing a whole that is interior, intrinsic to his own being. Therefore, collection is *re-collection*: a process of memory, a re-joining, a reunion of self and other: “it is inevitably,” Jean Baudrillard reflects, “*oneself* that one collects.”⁹ For Atwood, science is

⁷ Stephen Hawking, *A Brief History of Time* (New York: Bantam, 1996) 148.

⁸ Margaret Atwood, *Cat's Eye*, 1988 (Toronto: Seal, 1989) 562.

⁹ Jean Baudrillard, “The System of Collecting,” trans. Roger Cardinal, in *Cultures of Collecting*, ed. John Elsner and Roger Cardinal (London: Reaktion, 1994) 12; Susan M. Pearce, *On Collecting: An Investigation into Collecting in the European Tradition* (London: Routledge, 1995) 175–77.

connected to childhood collection activities; children's collections, James Clifford writes, are "small rituals ... an exercise in how to make the world one's own."¹⁰ Children like Stephen collect to illuminate their worlds (the symbol of the jar of light takes on special resonance here) and this connects to scientific motives for collecting. Collecting as a scientific method imbues science with the excitement and engagement of childhood passions—not in a pejorative, infantilizing way, as some psychologists have constructed collecting,¹¹ but in an energized, creative way. The aesthetic investment in collecting is somewhere between an art and a science, and it is in this liminal space that I see links to literature and literary work. It is in this space that I encountered the writing of the astronomer David H. Levy.

Reading the Night Sky: David H. Levy

Montreal-born David H. Levy is one of the world's most successful observational astronomers. He has discovered 22 comets, making him the third-most successful comet finder in history, and 41 asteroids. In his long history of skywatching, he has accumulated a catalogue of about 400 deep sky objects that he has personally viewed.¹² The best known of Levy's discoveries is the comet Shoemaker–Levy 9, a discovery which he shared with Eugene and Carolyn Shoemaker, and which became a world-wide public event when it collided spectacularly with Jupiter in 1994. The recipient of four honorary doctorates from the universities of Queen's, Acadia, McGill and Tampa, Levy has been an editor and contributor for a number of magazines and won an Emmy for his contributions to the Discovery Channel documentary, "Three Minutes to Impact." Levy has given over 1000 public talks, and is frequently a guest on national television and radio in the United States and Canada. Given his professional success as an astronomer, many are surprised to discover that Levy has no formal education in astronomy. He does, however, hold a Bachelor's degree from Acadia University and a Master's degree from Queen's University—in English Literature. In fact, in addition to his astronomical work, Levy is currently enrolled in the doctoral program in English Literature at the Hebrew University of Israel. While he has made his living as an astronomer, in Levy's many books on astronomy (over thirty) we see his literary investments. I would like to focus on two of

¹⁰ Clifford, *The Predicament of Culture* 218.

¹¹ Clifford, 220.

¹² For a comprehensive list of Levy objects, see his website: <http://www.jarnac.org/index.htm>.

his books—*More Things in Heaven and Earth: Poets and Astronomers Read the Night Sky*, and *Deep Sky Objects: The Best and Brightest from Four Decades of Comet Chasing*—to demonstrate how Levy’s collector’s eye brings together science and literature.¹³

The most recent of these publications, *Deep Sky Objects*, may appear at first to be a book on astronomy, pure and simple. This book is a catalogue of astronomical objects that were previously known, sometimes even very well known, which Levy has personally witnessed in his forty years of skywatching. Like Atwood’s young astronomer, in witnessing these cosmic objects, Levy is recognizing them by their names, and adding them to his personal collection. Stephen James O’Meara, who wrote the foreword for the book, describes it as “a portrait of a collector.”¹⁴ On the flyleaf, the advance reader, David Hartsel also made this connection: “Like a collector sharing treasures from his vaults, David reminds us of the things that we all hold dear from the depths of the night sky.” *Deep Sky Objects* is like a textual museum; displaying the “best and the brightest,” it reflects the passion of the collector while inspiring and educating the visitor.

In the context of observational astronomy, collection is a metaphor that accounts for elements of the experience that are not conventionally seen as scientific. It infuses astronomy with personal emotion—it is not a purely objective or intellectual process. The objects observed are regarded with wonder and awe. The collection metaphor also suggests the idea of material value (“sharing treasures from his vault”), but of course in the case of the sky, proper ownership cannot occur—especially of objects previously observed—so the value of them is purely representative; it can stand only as a record of the astronomer’s competence behind the telescope. David Levy’s motivations for observing and recording are connected to science, but cannot be viewed as purely scientific in nature.

A stronger, but perhaps more occulted motivation in Levy’s work is also articulated by O’Meara—love: “David is the consummate romantic. He has two passions: his wife, Wendee, and the stars above” (14). What drives this scientist, then, is love—both of a romantic and a familial sort: Levy himself seems to favour the latter construction, referring in his preface to the deep sky objects as his “family” (18). Love is like collection, if, as Atwood portrays it, we see it as a process of recognition and completion. It

¹³ David H. Levy, *More Things in Heaven and Earth: Poets and Astronomers Read the Night Sky* (Wolfville, NS: Wombat, 1997); David H. Levy, *Deep Sky Objects: The Best and Brightest from Four Decades of Comet Chasing* (Amherst, NY: Prometheus, 2005).

¹⁴ Stephen James O’Meara, “Foreword,” Levy, *Deep Sky Objects* 14.

is a re-assembly of parts that are somehow already intrinsically connected: a welcoming back of something that had been away (I am reminded here that our word “planet” comes from the Greek word for “wandering star”). The astronomical collector is engaged in a much more personal sort of world-making, as he is assembling his own world: his family, his lovers, his passions.

The entries in *Deep Sky Objects* are more than collected records of technical information related to the observing and the observed. The entries are, instead, developed narratives—short stories, essentially—relating Levy’s broader experience of the object, which includes not only his own personal story, but often the story of the object’s observation history. Other people’s experiences of the cosmic entities in the book are incorporated into Levy’s personal understanding of the object’s significance. Furthermore, Levy introduces his observation records with a plethora of literary quotations—primarily poetic excerpts—that are connected to the observed astronomical object. Poetic epigrams begin each chapter, and in the case of the chapter on the Moon that begins the book, Levy cannot restrict himself to just one excerpt; he presents eleven selections in a row, including one from Byron’s *Don Juan*:

He sighed; — the next resource is the full moon,...
 But Lover, Poet, or Astronomer—
 Shepherd, or swain—whoever may behold,
 Feel some abstraction when they gaze on her;
 Great thoughts we catch from thence ...¹⁵

The poetic resources, woven as they are into the organization of the book, become integral to the observation experience. We get the sense that Levy experienced such literary connections in his own mind at specific moments of observation. It is certainly possible: his familiarity with the poetic realm seems as comprehensive as his familiarity with the sky, and perhaps these fragments of poetry spring instinctually to his mind at the moment of cosmic discovery.¹⁶ Whether or not this is actually the case, the poetic inscriptions in *Deep Sky Objects* may encode a literary moment in future observations of the reader.

¹⁵ Quoted in Levy, *Deep Sky Objects* 20

¹⁶ I have had the pleasure of meeting Dr. Levy and I can attest that his memory for literary texts is impressive; he can quote long passages of poetry by heart.

Collection in this book is as textual and literary as it is astronomical; although astronomical objects are the purported subject of the book, they come with collections of anecdotes and poetic fragments that are hardly secondary to the deep sky objects themselves. In *More Things in Heaven and Earth: Poets and Astronomers Read the Night Sky* (republished in 2001 in the United States as *Starry Night*),¹⁷ Levy puts literature on the same level of inquiry as astronomical objects and events, further demonstrating that collection can be a shared methodology between science and literature.

More Things in Heaven and Earth is a unique little book: while rooted in a fair amount of literary history, especially as it connects to astronomical history, it does not participate in literary criticism *per se*. Levy does offer specific interpretations—for example, as when he asserts that Gerard Manley Hopkins had in mind certain comets when writing his poetry—but more often, he is content to present us with excerpts of texts related (sometimes obliquely) to astronomy. Compared to other literary critics, his use of the literary material seems curiously unexamined. Instead, poetry is collected as a witness to history (as with Donne’s “First Anniversary” in the chapter on literary reflections of the shift from Ptolemaic to Copernican theories), or as a witness to a much more personal experience of astronomy. Overall, *More Things in Heaven and Earth* presents a series of literary fragments that have been excerpted and compiled into Levy’s personal and scientific life, as well as the lives of key poets and scientists in history (Copernicus, Galileo, Bacon, Shakespeare, Hopkins, Tennyson, Thoreau, Frost, and Donne are discussed in detail; many others are cited more incidentally).

A book like *More Things in Heaven and Earth* challenges us—especially those of us who work in literary criticism—to reconstruct our ideas of what constitutes interpretative activity. The apparent passivity of the collecting activity may cause us to dismiss a reader like Levy as non-academic—in the realm of “appreciation” more than criticism. But if we recognize the older tradition of collection that comes from the sciences—one that is both emotionally engaged (recognition) and intellectually constructive (completion)—Levy’s literary collection has a different resonance. If the poet is a maker, then the collector is *re-maker* (the world-maker). Collecting in the literary world is compiling, a form of reading that is *recollecting* and *remaking* the literary cosmos. Compiling as an interpretative practice was most extensively conceptualized in the manuscript culture of the medieval era, where compilations became the dominant experience of literature.

¹⁷ *Starry Night: Poets and Astronomers Read the Sky* (Amherst, NY: Prometheus Books, 2001).

Compilatio and World-Making

In the middle ages, when literature circulated in manuscript, virtually every act of book making was in some respect an act of collection. The medieval term for compiling activities was *compilatio*, which can be used here to designate a range of activities that extends beyond text selection and copying.¹⁸ Because of the theological context of the development of manuscript production, *compilatio* is invested with a spiritual and ethical resonance: “the higher level of *compilatio*,” M.B. Parkes writes, “sought to enclose natural science, Christian doctrine, and the history and achievements of the human race within the general framework of a ‘speculum,’ or mirror of the universe. The scheme of [the] book was intended to mirror the scheme of reality” (59–60). Like the curiosity cabinet or the museum, the compilation functions as a microcosm of the world. In fact, there are conceptual connections between the museum and the book, demonstrated in the language of early modern collecting, which included terms such as “*museo, studio, teatro, microcosmo, archivio*,” as well as “*bibliotheca, thesaurus* and *pandechion*.”¹⁹ This linguistic enmeshment reflects a deeper scholastic construct that viewed the world itself as a text (55). *Compilatio*, then, is another form of world-making.

By the end of the middle ages and into the beginning of the early modern period, the most common sort of secular, vernacular books were compiled volumes like anthologies and miscellanies.²⁰ Literary collections had a range of production circumstances, from the polished and professional to the haphazard and amateur, but they all involved a compiler—essentially, a collector. As a result, compiling/collecting activities have been theorized in manuscript culture—a textual culture that survived well into the early scientific era of the seventeenth century—as a form of interpretation. In a manuscript culture, the physical realm of the book—its spatial dimensions like the quires, pages, margins, and binding—are interpretative spaces. Similarly, the ways in which texts are combined within a single volume produce interpretative opportunities; compilation often involved excerpting fragments from longer texts and then placing them (sometimes heavily edited) into new physical contexts alongside different textual companions.

¹⁸ M.B. Parkes, *Scribes, Scripts and Readers: Studies in the Communication, Presentation and Dissemination of Medieval Texts* (London: Hambledon, 1991).

¹⁹ Findlen, *Possessing Nature* 48.

²⁰ Seth Lerer, “Medieval English Literature and the Idea of the Anthology,” *PMLA* 118 (2003): 1251–67; Julia Boffey and John J. Thompson, “Anthologies and Miscellanies: Production and Choice of Texts,” in *Book Production and Publishing in Britain: 1375–1475*, ed. Jeremy Griffiths and Derek Pearsall (Cambridge: Cambridge U Press) 279–315.

The resulting compilations are in some ways analogous to museum displays of collections: items are positioned and juxtaposed on the page and between the bindings like objects in a display case. The selection, extraction, re-shaping and repositioning of the text from one book to another is both a physical and intellectual activity; as Parkes puts it, in the age of *compilatio*, "To think became a craft" (37). In Parkes' formulation, an interpretative act is aligned with a physical act: the assembly and arrangement of text produces as *ethos*. This synthesis between the physical and the interpretative exists in Levy's metaphor for observing the night sky: *looking* becomes *reading*. Collection and compilation reflect a past interpretation and prescribe a future interpretation for other readers and observers; they engage the individual, personal identity and the collective, communal identity together. As such, collection—be it of poetic lines or astronomical bodies—can never be neutral. This is what John Dagenais calls the "ethics of reading" in the medieval manuscript culture, and it is an idea that can be extended to David Levy's books of poetry and astronomy.²¹

Levy's *compilatio* actively reinterprets poetry to provide a commentary on astronomy. Sometimes his selections are obvious, as when he meets the poet's own designation of astronomy or cosmology as his topic: Donne's "First Anniversary," for example, or John Davies' "Orchestra" of 1594. But sometimes Levy appropriates a text not originally composed with astronomy in mind, but that is made to address the idea of astronomy through his *compilatio*, which recontextualizes the poem within his unique interpretative horizon: for example, he reads Frost's "Acquainted with the Night" as a "stargazer's mantra" (29). Still other acts of compilation may invert the original meaning of the text to work against the original interpretation: most notably, in the main title of his Canadian edition of *More Things in Heaven and Earth*. In the original *Hamlet*, the line, "There are more things in heaven and earth, Horatio, / Than are dreamt of in your philosophy,"²² is meant to cast skepticism on the scientific perspective: Hamlet is claiming that it can't account for all of human understanding, or what lies beyond human understanding. It is a marker of limitation: "There *are* more things . . ." For Hamlet, the poet sees further than the scientist; the two visions may be irreconcilable. For Levy, however, the unqualified "more things in heaven and earth" in his title is meant to trigger the idea of the expansiveness, holism, and limitlessness of skywatching, merging the poet's spiritual interpretation of the stars with the astronomer's scientific vision. As Levy's

²¹ John Dagenais, *The Ethics of Reading in a Manuscript Culture: Glossing the Libro de Buen Amor* (Princeton: Princeton U Press, 1994) xvii–xix, 26–29.

²² *Ham.* 1.5.166–67.

subtitle indicates, the visions of the poet and the scientist are complementary: both are engaged in acts of reading.

In our contemporary cultural ideas of science we tend to prioritize discovery as a virtue. Similarly, our ideas of literature tend to prioritize creation as the primary literary virtue. Discovery and creation are aligned with authorial work and they are, in part, marks of our modern—and modernist—cultural heritage that praised innovation and “making it new” in both science and literature. But these biases leave much scientific and literary work unappreciated, and we may have lost some of our aesthetic and ethical understanding of scientific and literary reading activities. The work of the collector-scientist is analogous with the work of the compiler-reader; it is not that these interpretative activities are without discovery or creativity, but those virtues are relocated beyond the initial moment of discovery or creation—beyond the “authorship” role. Discovery and creativity are found in the ways in which the scientific and literary objects are re-discovered and re-assembled into our broader understanding. Perhaps this is an easier idea for an observational astronomer like Levy to appreciate, for even while he excels in his role of “discoverer,” peppering the cosmos with objects bearing his name, he recognizes that he did not *create* them—he created our *knowledge* of them.

Recognizing the interpretative role of reading activities like *compilatio* and collection gives us a common methodological and interpretative space between science and literature; Levy’s books are rare examples of the textual potential for that shared space. Perhaps the most poignant example of the “world-making” of collection and compilation comes in the final chapter of *More Things in Heaven and Earth*, which is the personal account of Levy’s most famous contribution to science—the discovery and destruction of the comet Shoemaker-Levy 9.

“*A Terrible Beauty is Born*”: *Love, Loss, and the Poetry of Shoemaker-Levy 9*
The impact of Shoemaker-Levy with Jupiter in 1994 was that rare scientific event, a world-wide media frenzy. The drama of the impact inspired hysterical headlines about the end of the world as well as documentaries, books, and even poems.²³ The excitement in the popular realm was largely inspired by the destructive possibilities of the impact: the public was fascinated with the idea that such an event may have annihilated the dinosaurs—that such

²³ *Asteroids: Deadly Impact*, Dir. Eitan Weinreich, National Geographic, DVD 2003; David H. Levy, *Impact Jupiter: The Crash of Comet Shoemaker-Levy 9* 1995 (Cambridge, MA: Basic-Perseus, 2003); Helen Clare, “Comet Keeps its Date with Death,” *Mollusc* (Mytholmroyd, UK: Comma, 2004): 9.

an event may annihilate us. But for the scientific community the excitement came from the creative possibilities born of asteroid and comet impacts. The Shoemaker-Levy 9 collision would prove Eugene Shoemaker’s theory that such impacts were an integral part of the creation of the earth. Cosmic objects that collided with earth may have acted as a kind of delivery system for the elemental “building blocks of life”: carbon, hydrogen, oxygen and nitrogen (*Heaven and Earth* 112). Where many saw only the massive destruction of the impact, scientists saw the creative potential of such impacts—a theory that literally connects our physical existence to the stars: “We are the progeny of comets,” was Eugene Shoemaker’s poetic phrase. Levy’s final chapter in *More Things in Heaven and Earth* uses *compilatio* to describe the complex intellectual and emotional experience of the Shoemaker-Levy 9 impact as scientific proof.

Levy begins the chapter with a description of two births: the birth of the comet 4.5 billion years ago, and the birth of Levy’s passion for astronomy in 1960, when he received the gift of a backyard telescope. From there, Levy traces the moments at which he and the (then unknown) comet shared their existence: while he was an undergraduate at Acadia University reading Thoreau, for example, the comet “was passing closer to Jupiter than it ever had before” (105). In 1992, while he was forging a relationship with Eugene and Carolyn Shoemaker that would alter his professional life forever, the comet was being pulled apart by Jupiter’s gravitational force: the resulting 21 pieces of the comet resembled a “chain of pearls” (12). At this point, Levy interrupts the narrative to meditate on the idea of gravitational force—the entity that both pulls things together and pulls them apart—through three poetic excerpts about the moon:

It is the very error of the moon;
She comes more near the earth than she was wont,
And makes men mad.²⁴

On one side lay the moon, and on one
Lay a great water, and the moon was full.²⁵

²⁴ *Orbello* 5.2.133–35.

²⁵ Alfred, Lord Tennyson, “Morte D’Arthur,” in *The Works of Tennyson*, ed. Hallam, Lord Tennyson (London: Macmillan, 1913) ll. 11–12.

“And the moon was full,”
 As the poet said
 And I aptly quoted.
 And its being full
 And right overhead,
 Small but strong and round,
 By its tidal pull
 Made all being full.²⁶

In the Tennyson and Frost excerpts, the poetry explores the gravitational effects of attraction, connection and completion; reading creatively, we might see Frost’s quotation of Tennyson as a kind of literary tidal pull that merges to two textual bodies. But Levy also presents the destructive potential of gravity in images of disintegration and fragmentation in the “lunatic” mind in *Othello*. This is reinforced by the fragmented nature of the texts themselves, which, like the comet as a “chain of pearls,” are a strand of poetic excerpts connected by a delicate interpretative thread. Attraction and repulsion are suspended in equal measure; the comet has been pulled apart, and yet is still a single entity that is being pulled into a collision course with Jupiter. Similarly, the emotions surrounding the event are contradictory and yet somehow cohesive. With the impact of Shoemaker-Levy 9, the scientists will prove an important theory regarding the effects of astronomical impacts on planets, including the Earth. But at the same time, the comet itself—an object that Levy and his partners had followed and admired for over a year, that they had collected and loved, that bore their names—will be destroyed.

As the chapter moves towards its climax, Levy uses his poetic collection to articulate the conflicting emotions—joy and sadness, excitement and bereavement—that accompany the scientific proof. The most compelling part of his story is in a section he designates as “Aftermath,” where he extends the scientific meaning of Shoemaker-Levy 9 to an even more personal event. The conflation of creation and destruction experienced with the Shoemaker-Levy 9 impact is aligned with the more commonplace experience of birth and death—the loss of a parent by a child. The comet reconnects Levy to the passing of his father: the son is bereaved, but also brought into full maturity—in this case, Levy’s professional success as an astronomer. This is where Yeats’ poem does the emotional work for us: “changed, changed

²⁶ Robert Frost, “Kitty Hawk,” in *Selected Poems of Robert Frost* (New York: Holt, 1968) 307–08.

utterly; / A terrible beauty is born.”²⁷ The change wrought on the life of the astronomer-son in is parallel to the change wrought on the planet Jupiter: “I saw a planet vastly different, and suddenly I missed my father very much” (114).

Conclusion

There are many possible motivations for collecting,²⁸ but one of the most important of them is that we collect to shore ourselves up against various types of loss. It is something we do to put the pieces back together—of the world, of ourselves. By collecting, we are world-making; we are finding answers about the forces that rule our existence. Seventeenth-century collectors looked for evidence of Eden and the Flood; as the objects they collected began to give different answers than expected, their enterprise was redirected towards reconstructing a more scientific vision of the earth and its inhabitants.²⁹ Collections of stars and poems, however, share one critical difference from collections of material objects; since neither can ultimately be possessed by a single reader or viewer, collecting them operates outside cultural theories that align collection with materialism, capitalism and a “world of value.” These theories frame the collecting activities negatively: as appropriative, infantile, miserly, selfish, and elitist.³⁰ The collection of poems and stars is also outside Clifford’s famous “art-culture system”³¹; poetry is certainly art, but since it can be memorized and carried within us (especially in small excerpts) is cannot be “possessed” in a material sense. While collecting rare specimens and cultural objects might effectively remove them from contact with the public and the everyday world, collecting poems actually has the opposite effect: every time a poem is copied into a new book context it is disseminated further. Similarly, viewing and recording astronomical bodies has the result of connecting more potential viewers to them. Collections of poems and stars are like Stephen’s jar of light; in a cultural sense as well as a personal sense, they can illuminate our being, showing us both where we have been, and where we are going: remembering the past as well as the future.

²⁷ W.B. Yeats, “Easter 1916,” *Collected Poems* (London: Picador, 1990) 202–05.

²⁸ Baudrillard, “The System of Collecting,” 9; Macdonald, “Collecting Practices,” 89.

²⁹ Michel Foucault, *The Order of Things: An Archeology of the Human Sciences* (London: Tavistock, 1970) 125–65. See also Macdonald, 84; Anthony Alan Shelton, “Cabinets of Transgression: Renaissance Collections and the Incorporation of the New World,” in *Cultures of Collecting*, 202–03.

³⁰ Macdonald, “Collecting Practices,” 89.

³¹ Clifford, *The Predicament of Culture* 222–26; Pearce, *On Collecting* 290–307.

The astronomer aims to collect the whole universe; the reader aims to collect a universe of poetry. The books in which we store our found poetic objects are like display cases, and the arrangement of the texts—the *compilatio*—is a record of our reading. By using the same essential method for reading poetry as he does for viewing the night sky, Levy has made overt a core methodology shared between science and literature, which today seem so different in their approaches to the world. Balanced between the personal and the professional, the subjective and the objective, collecting is a wonderful metaphor as well as a method; it demonstrates the shared interpretative impulse of scientific and literary work:

To think that science and poetry are two separate disciplines that are properly divorced from each other is to lose sight of what each is about and what their common goal is. In their highest forms, both are avenues of inquiry into the human condition and its relationship to the Universe. Knowing what the Universe is and how it is structured is fundamental to each. (*More Things in Heaven and Earth* 60)