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TMI: The Data-Driven Literature of the American Renaissance

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UNIVERSITY OF MIAMI

TMI: THE DATA-DRIVEN LITERATURE OF THE AMERICAN RENAISSANCE

By

Bradley Christopher Rittenhouse

A DISSERTATION

Submitted to the Faculty
of the University of Miami
in partial fulfillment of the requirements for
the degree of Doctor of Philosophy

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TMI: THE DATA-DRIVEN LITERATURE OF THE
AMERICAN RENAISSANCE

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This dissertation posits that much of the aesthetic innovation associated with the American Renaissance stemmed from a wide range of sociocultural and technological that transformed nineteenth-century America into an urban, consumerist society grappling with an ocean of print, products, and people. Reacting to these new modern landscapes, New York writers like Herman Melville and Walt Whitman produced highly anomalous texts that prioritized the aggregation, aestheticization, and transmission of unprecedented volumes of cultural data. Borrowing from and building upon the contemporary information management strategies of rationalist fields like descriptive biology, accounting, and library science, these writers in particular developed a “data-driven” writing style that took its shape not from traditional literary concerns like narrative and affect, but rather a preoccupation with the efficient and parseable rendering of literary information. Ultimately, argues that Melville and Whitman illustrate a shift in data-driven literary aesthetics in that the former often limited the success of his artistic vision by working primarily through already existing information management techniques, whereas the latter was able to portray his world more successfully by imagining structures and strategies that anticipate digital logics of data manipulation.

The dissertation also devotes considerable attention to alternative imaginings of data-driven writings, both by Melville and Whitman’s contemporaries and their literary

successors. Recognizing that the aesthetics of these two writers grew out of a relatively privileged position of information overload, much of the project is devoted to exploring the question of what data-driven writing looks like for women and minority writers who were often forcibly isolated from informational infrastructures like the education system and the free press.

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Introduction: An Empire State of Mind: American Space and Data-Driven Literary Aesthetics

The commotion of nineteenth-century urban space at first seems to stand in contrast to the common interpretation of the American Renaissance as a small town, rural phenomenon. Over the past several decades, however, scholars have done much to question this pastoral vision and have instead stressed the importance of rising American cities to the development of American literature.¹ These urban literary studies have largely foregrounded the city as physical space, recognizing the structural similarities between the excessive, distracted writing of authors like Herman Melville and Walt Whitman and the increasing chaos of urban America. For example, in *Melville: His World and Work*, Andrew Delbanco observes that “moving clause by clause through Melville’s New York prose is like strolling, or browsing, on a city street: . . . sometimes we

¹ In addition to the critics mentioned here, Scott Peeples offers a succinct account of this shift from pastoral to urban in his chapter “‘To Reproduce a City: New York Letters and the Urban American Renaissance,’” *Poe and the Remapping of Antebellum Print Culture*, eds. J. Gerald Kennedy and Jerome McGann (Baton Rouge: Louisiana State University Press, 2012). See books by Andrew Delbanco, *Melville: His World and Work* (New York: Vintage Books, 2006); Wyn Kelley, *Melville’s City: Literary and Urban Form in Nineteenth-century New York* (New York: Cambridge University Press, 1996); Peter West, *The Arbiters of Reality: Hawthorne, Melville, and the Rise of Mass Information Culture* (Columbus: Ohio State University Press, 2008); and Hans Bergmann, *God in the Street: New York Writing from the Penny Press to Melville* (Philadelphia: Temple University Press, 1995). Recent articles by Paul Gilmore, “Romantic electricity, or the Materiality of Aesthetics,” *American Literature* 76.3 (2004): 467-494; Naomi Reed, “The Specter of Wall Street: ‘Bartleby, the Scrivener’ and the Language of Commodities,” *American Literature* 76.2 (2004): 247-273; and others also centralize the experience of modern urbanity within the artistic visions of Melville and Whitman.

For earlier examples in this vein, see Richard Maurice Bucke, *Walt Whitman* (Philadelphia: D. McKay, 1883); Van Wyck Brooks, *The Times of Melville and Whitman* (New York: E.P. Dutton & Co., 1947); F.O. Matthiessen, *American Renaissance: Art and Expression in the Age of Emerson and Whitman* (New York: Oxford University Press, 1941); Leon Howard, *Herman Melville: A Biography* (Minneapolis: University of Minnesota Press, 1961); Richard Chase, *The American Novel and Its Tradition* (London: G Bell and Sons, 1946); and Alfred Kazin, *An American Procession* (New York: Knopf, 1984); David Weimer, *The City as Metaphor* (New York: Random House, 1966); Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford University Press, 1964). Eric Aronoff’s “Cultures, Canons, and Cetology: Modernist Anthropology and the Form of Culture in Lewis Mumford’s *Herman Melville*,” *ESQ* 38.2 (2012), 185-217 offers a succinct and compelling account of many of these earlier scholars.

are brought up short by a startling image requiring close inspections, sometimes a rush of images flickers by; but there is always the feeling of a quickened pulse, of some unpredictable excitement, in aftermath or anticipation.”² Like Lewis Mumford’s architecturally-inspired, city-centric literary analyses before them, this generation of criticism has found aesthetic metaphors in real-world structures and locations.

More recently, with our evolving understanding of the digital world, these same cities have been refigured as informational as well as physical spaces. Jonathan Freedman, for instance, suggests that the nineteenth-century city became “*not* only a Place... articulated by buildings and street signs, by vagrant scraps of newsprint and books or pamphlets, but an infoscape where encoded bits of data imprint themselves successively on the avid subject seeking to make sense of the world.”^{3 4} This project argues that many of the radical, foundational aesthetics of the American Renaissance were in fact a product of the prioritization of collecting, storing, organizing, and manipulating information, as opposed to more affective Renaissance motivators like transcendentalism, piety, nature, and the pastoral. It asks whether some notable forms of literary innovation do not in fact spring as much from the rational as from the creative by interrogating the specific aesthetic devices used by Melville and Whitman to represent this new preponderance of data available in the city. Adapting models from

² *Melville: His World and Work*, 118-119.

³ “Whitman, Database, Information Culture,” *PMLA* 122.5 (2007), *Publications of the Modern Language Association of America*, 1599.

⁴ See Paul Stephens *The Poetics of Information Overload: From Gertrude Stein to Conceptual Writing* (Minneapolis: University of Minnesota Press, 2015) for a broader exploration of information aesthetics in American writing.

contemporary information science, biology, library science, and elsewhere, they experimented with speculative ontologies of data management that were impossible to implement in the real world.⁵ They also drew upon traditional literary devices, repurposing things like the literary catalogue, anaphora, and humor to render their data-driven works both more efficient and more user-friendly. Much of what we have come to see as groundbreaking or distinctive in their works, and the nineteenth-century flowering of American literature, ultimately springs from pragmatic struggles against the tide of nineteenth-century information.

To describe these works, I use the term “data-driven” over the more traditional “encyclopedic” in an effort reconceptualize the influence of actual encyclopedic form on conceptions of literature as information. That is to say, scholarship on encyclopedic literature—by Edward Mendelson, Joseph Tabbi, Franco Moretti, Northrop Frye, Mikhail Bakhtin, and others—has tended to emphasize notions of scale and grandiosity as a result of an inherent investment in the cultural artifact we call the encyclopedia. Looking at literature as “data-driven” sidesteps generic conventions of encyclopedias and encyclopedic narrative, asking if works can centralize data in ways that are not inherently encyclopedic. In addition, it foregrounds central ethos of electronic media—efficiency, relational structures, user-friendliness—in an attempt to think about works that, though concerned with information, find much of their motivation in developing aesthetic strategies that more effectively render and organize textual data.

⁵ See also Laura Dassow Walls *Emerson's Life in Science: The Culture of Truth* (Ithaca: Cornell University Press, 2003).

It seems fitting here to say exactly what I mean when I talk about information and data in literature. To information scientists, these two terms have very specific meanings: data is a raw output, information is processed data, and knowledge the potentially actionable conclusion drawn from information. While these distinctions are very important in information science, computer science, and other technical disciplines, the humanities have been less stringent in their deployment of the terms. Daniel Rosenberg suggests as much when he observes that even in foundational “histories of science and epistemology...the term ‘data’ does heavy lifting yet is barely remarked upon” as a theoretical concept that “can be deconstructed.”⁶ While I think there is value to more careful exploration and definition of these terms within the humanities, what I want to suggest is that literature itself tends to blur the important technical distinctions between these terms.

Following from Claude Shannon and Warren Weaver, John Guillory points to transmission as a concept common to both literary writing and information. In other words, literature, as a form of communication, aspires to transform data into information through aesthetics. The idea of technique might be instructional here, as it is used rather readily in the worlds of both the literary and the logical. Jacques Ellul uses the term technique in the sociological context to refer to “the totality of methods, rationally arrived at and having absolute efficiency (for a given stage of development) in every field of human activity.”⁷ Applied to the world, technique renders spaces and institutions more

⁶ “Data before the Fact,” *Raw Data is an Oxymoron* (Cambridge: The MIT Press, 2013), 17.

⁷ Jacques Ellul, *The Technological Society* (New York: Alfred A. Knopf, 1973), xxv.

organized and efficient. When applied to language, on the other hand, it might be thought of as the “totality of methods” writers use to render works more artistic.⁸ Moreover, technique, when applied to literary data, seeks to render it as information, communicable to readers *cum* users. In other words, literary data, by and large, seeks to become literary information, made transmissible and intelligible through the very acts of aggregation, inscription, and aestheticization. In many ways, the failures that I will point to in the aesthetic strategies of Melville and Whitman are failures to transform data into information.

I interpret this process of adaptation as innovation, both literary and technical. This innovation is often catalyzed by sociological and informational necessity. Lists and other more “purely” informational structures like databases and card catalogs also proceed from a need to efficiently and, in a user-friendly manner, organize data, but often the density of these forms take precedence over their readability; the advent of computers and other advanced techniques has facilitated this process, allowing for the aggregation of vast and imparseable datasets with which human actors can only act as interlocutors.⁹ Literary catalogues, on the other hand, are distinguished by at least a weak adherence to the conventions of natural language, prioritizing elements of style and aesthetics, among others. In adapting these logical structures to literary forms, writers must often use

⁸ Though I hesitate to use it, the Wikipedia definition actually shares quite a few valences with my argument. There, literary technique is defined as “any of several specific methods the creator of a narrative uses to convey what they want—in other words, a strategy used in the making of a narrative to relay information to the audience and, particularly, to ‘develop’ the narrative, usually in order to make it more complete, complicated, or interesting.” In other words, literary technique is not just artistic artifice, but a means of transmitting data more effectively to readers.

⁹ See John Guillory, “The Memo and Modernity,” *Critical Inquiry* 31.1 (2004), 108-132. There he writes that the memo is “the quintessential information genre,” information being its “chief generic determinant” (122).

literary technique either to translate, or wholly reshape information so that readers can absorb and understand it. What I hope to highlight in Melville and Whitman, but also in literary writing more generally, is the ways in which structures of societal technique infiltrate writing, and, perhaps more interestingly, the ways in which writing anticipates technical and logical data management strategies.

In the *Iliad*, for instance, the famed “Catalogue of Ships” represents a shift in literary technique necessitated by a shift in scale: an aesthetic response to the impossibility of capturing the immensity of the Battle of Troy. In the invocation preceding the two catalogues, Homer acknowledges the futility of his task, admitting that his catalogue is bound to failure and incompleteness:

Sing to me now, you Muses who hold the halls of Olympus!
 You are goddesses, you are everywhere, you know all things—
 all we hear is the distant ring of glory, we know nothing—
 who were the captains of Achaea? Who were the kings?
 The mass of troops I could never tally, never name,
 not even if I had ten tongues and ten mouths,
 a tireless voice and the heart inside me bronze,
 never unless you Muses of Olympus, daughters of Zeus
 whose shield is rolling thunder, sing, sing in memory
 all who gathered under Troy. Now I can only tell
 the lords of the ships, the ships in all their numbers!¹⁰

Epic war creates a massive ontological break: it brings such a mass of people and things together that it requires a radically different aesthetic approach. While the gods alone, as Homer notes, can know the battle in its entirety, mortals must satisfy themselves with the quantitative task of tallying “the lords of the ships, [and] the ships in all their numbers.” Associating divinity with informational completeness, Homer suggests that art can only make strides toward this goal. The catalogue form is that stride here, allowing for a wide

¹⁰ Homer, *The Iliad*, prose translation by Robert Fagles (New York: Viking, 1990), lines 572-583.

rendering of informational assemblages: it allows Homer to render efficiently “the lords of the ships, the ships in all their numbers.”

As I hope the example from Homer will show, this kind of writing is not a particularly modern, nor a particularly American phenomenon. Ann M. Blair insightfully argues that “perceptions of and complaints about overload are not unique to our period. Ancient, medieval, and early modern authors and authors working in non-Western contexts articulated similar concerns, notably about the overabundance of books and the frailty of human resources for mastering them (such as memory and time).”¹¹ Blair suggests that information overload, rather than an objective state, is subjective, predicated upon “changes in the quantity or quality of information to be absorbed and managed.”¹² It is exactly in this *longue durée* narrative of information overload, though, that Melville and Whitman prove themselves somewhat unique.

Though human perception of overload seems a constant across history, these writers come at a time when human life began changing at an exponential rate. Mid-nineteenth-century America was a time and place of incredible change. Replacing subsistence farming and cottage industries was an urban consumer capitalism, propped up by an emerging but exuberant advertising sector, and supplying newly-baptized city folk with all the needs (and desires) they could no longer fill for themselves. Tellingly, those attempting to come to grips with the overwhelming speed and scale of the city often

¹¹ Ann M. Blair, *Too Much to Know* (New Haven: Yale University Press, 2010), 3.

¹² *Ibid.*

resorted to metaphors of flow and flood.^{13 14} Walt Whitman, one of the first literary denizens of New York City, describes “the hurrying and vast amplitude of those never-ending human currents”;¹⁵ Herman Melville, also New York-born, references the “Mississippi of Broadway” in “Bartleby.”¹⁶ James D. McCabe, Jr., in his impressive sociological compendium *New York by Gaslight*, speaks in similar registers, combining metaphors of both corporeal and aquatic bodies, calling Broadway “the great artery through which flows the strong life-current of the metropolis.”¹⁷ What all these descriptions have in common, and indeed share with today’s metaphors for vast digital landscapes are their evocation of the immense, uncontrollable force of data deluge: we are “flooded” with information, “drowning” in emails, and not too long ago, we were “surfing” the web.¹⁸ Just as our own digital revolution can sometimes make us feel lost, marooned in what James Gleick has termed “the flood,” the awesome changes racking nineteenth-century America inspired similar feelings of sublimity. That is not to say that these spaces were digital: on a technical level, they certainly were not.¹⁹ They do,

¹³ *Democratic Vistas* (St. Clair Shores, MI: Scholarly Press, 1970), 14.

¹⁴ Hans Bergmann also marks this tendency (*God in the Street*, 80-81.)

¹⁵ Walt Whitman, *Prose Works 1892: Volume I, Specimen Days*, ed. Floyd Stovall (New York: New York University Press, 1963), 17. Originally published *Specimen Days* (Philadelphia: Reese Welch Company, 1882).

¹⁶ Herman Melville, “Bartleby,” *The Piazza Tales and Other Prose Pieces: 1839-1860*, eds. Harrison Hayford, Hershel Parker, and G. Thomas Tanselle (Evanston: Northwestern University Press and The Newberry Library, 1987), 17.

¹⁷ James D. McCabe, Jr., *New York by Gaslight: A Work Descriptive of the Great American Metropolis*, 1882 edition (New York: Greenwich House, 1984), 134.

¹⁸ *Moby-Dick, or The Whale* (Chicago: Northwestern University Press and The Newberry Library, 1988), eds. Harrison Hayford, Hershel Parker, and G. Thomas Tanselle, 5.

¹⁹ James Gleick, *The Information: A History, A Theory, A Flood* (New York: Pantheon Books, 2011).

however, share a similar sense of experience as overwhelming, in need of discipline and organization and, as a result, the central digital dictums toward informational storage, organization, and transmission began to express themselves more forcefully.

The alien nature of these informational forces was in many ways the result of historical circumstances. The industrial revolution that had transformed Europe a generation or two earlier was, in the nineteenth century, being imported and implemented wholesale in the still-agricultural United States. Artisan and agrarian economies that had defined the country for its first several centuries were quickly being replaced by industrial, technological, and intellectual innovations that the Old World had been systematically developing and perfecting for quite some time. Before the nineteenth century, isolated from this progress, immigrants to the US had subsisted largely upon pre-Industrial Revolution machines and technologies, “essentially medieval technology they had known at home.” Over the next several centuries, lacking the educational, technological, and economic means to improve upon these tools in any consequential manner, “the American problem” became “how to get a hold of [more modern] devices,” mainly from Great Britain, “rather than how to invent them.”²⁰ Still a difficult process, mainly due to British laws against exportation of these valuable resources, when Americans did succeed in importing industrial machinery and skilled craftsmen, the results were nothing less than epochal. Transplanted from Europe where they had developed organically, in relative harmony with parallel social trends and societal infrastructures, in America these advanced technics caused true disruption on every level

²⁰ Carroll Pursell, *The Machine in America: A Social History of Technology* (Baltimore: The Johns Hopkins University Press, 2007), 2nd edition, 37.

of society. This so-called “Transit of Technology” completely reshaped the American landscape, both literally and figuratively, allowing the country, in about a generation, to abandon subsistence- and cottage-scale farming and industry in favor of mass-scale modes of production.^{21 22}

The wholesale reshaping of the country’s geography and demographics that accompanied these innovations was unprecedented. As the personnel requirements for meeting the nation’s material needs swiftly dropped, concurrent technological advances in the realms of transportation and communication precipitated one of the largest urban migrations in history. In 1790, urban dwellers (those in places with a population of 2,500 or more) represented just 5% of the American population. Only six places in the US had populations of over 10,000 persons and the combined population of these places was only 183,000.²³ By 1900, about 40% of US citizens lived in cities, a percentage representing about 30.5 million people.²⁴ As Leo Marx has noted, “within the lifetime of a single generation, a rustic and in large part wild landscape was transformed into the site of the world’s most productive industrial machine.”²⁵ In many ways, this machine centered in New York City, which experienced the kind of rapid and wide-sweeping change only rarely seen in human history: during the nineteenth century, the city’s population

²¹ Ibid., 39.

²² See also Mumford, *The Golden Day* (Boston: Beacon Hill Press, 1957), 79.

²³ Thomas Bender, *Toward an Urban Vision: Ideas and Institutions in Nineteenth-Century America* (Baltimore: Johns Hopkins University Press, 1982), 1.

²⁴ Figures also taken from US Census Reports.

²⁵ Leo Marx, *The Machine in the Garden*, 343. See also Buell’s *The Environmental Imagination: Thoreau, Nature Writing, and the Formation of American Culture* (Cambridge: The Belknap Press of Harvard University Press, 1995).

exploded from just over sixty thousand in 1800 to over 1.5 million by 1890.²⁶ The city became a roiling tempest of noise and bodies. Andrew Delbanco describes “the perpetual *clip-clop* of iron-shod horses on stone block, the whistle of steamboats running the ferry routes between Manhattan, Brooklyn, and New Jersey, the scrape and clang of rail trolleys equipped with bells and bellowing drivers, the rattle of carriages bumping over cobblestone.” By the mid-nineteenth century, he concludes, the pace of New York “accelerated to something like what we know today.”²⁷ In a vast and still-largely-agrarian country, these few, impressive urban spaces must have seemed truly alien.

Much of the sense of this alien landscape came from the print and products that began burying the city. Whitman, for instance, calls attention to the “rivers and oceans of very readable print, journals, magazines, novels, library-books, ‘poetry,’ &c.”²⁸ This urban explosion of print media has varyingly been described as the “frenzy of the legible,” “the cult of paper,” “the white plague,” and the “paper city.”²⁹ By the year 1881, the New York had “12 leading daily morning papers; 7 leading daily evening papers; 10

²⁶ New York’s population figures after this would include the Five Boroughs, so in 1900 the official census number jumped to just under 3.5 million. Prior to this Brooklyn and Manhattan were both, separately, among the largest cities in the nation.

²⁷ Andrew Delbanco, *Melville: His World and Work*, 98.

²⁸ *Democratic Vistas*, 55.

²⁹ Respectively Nicholas Daly, “The Frenzy of the Legible in the Age of Crowds,” *The Demographic Imagination and the Nineteenth-Century City: Paris, London, New York* (New York: Cambridge University Press, 2015), 107-147.; and Lewis Mumford, *City Development: Studies in Disintegration and Renewal* (New York: Harcourt, Brace & Company, 1945), 32. The “white plague” is referenced by Lewis Mumford in *The City in History* (New York: Harcourt, Brace & Company, 1961), 547 as an observation of Louis Sebastien Mercier. Sadly, I was not able to hunt down the original work. Relatedly, Mumford also observes, “What was a mere trickle in Mercier’s day has now become a ravaging flood.” David Henkin references the “paper city” in *City Reading: Written Words and Public Spaces in Antebellum New York* (New York: Columbia University Press, 1998). Also, Nicholas Daly refers to “The Age of Paper,” an 1862 “comic music-hall song” by Henry Walker, in the aforementioned book.

semi-weekly; nearly 200 weekly papers; and about 25 magazines and reviews published in the city,” all with a combined “annual circulation of over one thousand million copies.”³⁰ “What resulted,” Nicholas Daly explains, “was a multiplication not so much of images as image-texts, making cities and towns readable habitats.” Not just readable, New York’s urban landscape was so text-saturated Daly suggests “learning *not* to read must have been a valuable skill too.”³¹ Photos and drawings from the time reveal entire building sides covered with assorted advertisements, the ground floor thoroughly plastered with placards, sandwich-board men standing in front of these signs. Truly a palimpsest, nineteenth-century New York’s new found cultural and economic dominance did not always translate into an easily comprehensible experience for its inhabitants, many of whom were rural immigrants from both the Old and New Worlds and, as Van Wyck Brooks points out, were “still rustic in their mentality.”³²

This is all to say that Americans’, and especially New Yorkers’, lives were rapidly filling with things—people, products, print—and their responses to this proliferating mass would become central to a unique American literary aesthetic that both reacted to and anticipated nascent phenomena of industrial modernity and information overload. Georg Simmel explored the psychological impact of this information-rich urban landscape in his seminal “The Metropolis and Mental Life.” The essay represents “an inquiry into the inner meaning of specifically modern life and its products, into the

³⁰ *New York by Gaslight*, 592.

³¹ *The Demographic Imagination*, 108.

³² *The Times of Melville and Whitman*, 10.

soul of the cultural body,” seeking, as Simmel writes, to “answer the question of how the personality accommodates itself in the adjustments to external forces.”³³ Focused on the external stimuli of city life—“the rapid crowding of changing images, the sharp discontinuity in the grasp of a single glance, and the unexpectedness of onrushing impressions”—for Simmel, the modern, urban landscape is multi-faceted, primarily characterized by its density: “the swift and uninterrupted change of outer and inner stimuli.”³⁴ Not just a landscape of text, it is crowded by a huge variety of things, all of which combine in a Baudrillardian *milieu* of overabundance and overstimulation: he refers to “the immense culture which for the last hundred years has been embodied in things and in knowledge, in institutions and in comforts.”³⁵ Speaking to the difficulty of organizing so many objects within subjective experience, Simmel hypothesizes the “metropolitan man” who practices a type of intellectualism that aims to “preserve subjective life against the overwhelming power of metropolitan life.”³⁶ ³⁷ These men, he

³³ Georg Simmel, “The Metropolis and Mental Life,” *The Sociology of Georg Simmel* (Glencoe, IL: The Free Press, 1950) Trans and Ed by Kurt H. Wolff, 409.

³⁴Ibid., 410.

³⁵ Ibid., 421.

³⁶ Ibid., 410-411.

³⁷ There were many attempts, around the turn of the century, to pathologize urban sensibilities. In his 1901 book *Newyorkitis*, a follow-up to *The Plague of City Noises*, Dr. John. H. Girdner explains:

Rapidity and nervousness and lack of deliberation in all muscular movements are prominent symptoms. This is especially marked in the patient's walk, and in all movements where the feet and legs are involved. When a Newyorkitic walks the streets of another town or city, he passes other persons walking in the same direction. The constant necessity of dodging cable-cars on his island, and prompt obedience to the oft-repeated order of the conductors to “Step lively!” doubtless accounts, in part at least, for the characteristic rapid foot action of a Newyorkitic. (119-120)

Thus it follows that Newyorkitics “cannot think widely because they do most of their thinking with the reflex nervous system” (105). In either event, it's clear that the physical environs of New York have a profound impact upon the mental lives of citizens.

explains, develop a type of hyper-intellectualism focused on “punctuality, calculability, [and] exactness” to organize their chaotic surroundings.³⁸

Just as the urbanization and integration of Enlightenment rationalism in eighteenth-century Paris gave rise to the Encyclopedists like Diderot and d’Alembert, a similar move toward urban organization caused American writers like Melville and Whitman to develop aesthetics springing from an instinct to organize complex experiential data. Their work often functioned as a means to collect, organize, store, manipulate, and encode aesthetically the immensity of experience that was nineteenth-century New York. This ultimately led them to a distinctive American literary aesthetic drawing from mass culture, the urban landscape, and a cascading ecosystem of print and consumer products.

That is to say that, while the Concord writers found inspiration in things like nature, small-town life, solitude, agriculture, intellectualism, and transcendentalism, Whitman and Melville developed aesthetics that took their form from modern urban consumerism and the bureaucratic and technological innovations of nineteenth-century cities. As David R. Weimer suggests, “to recall Whitman’s [and Melville’s] kinship with the New England agrarians is to recognize how enormous a distance, even in the mid-nineteenth century, separated Brooklyn from Concord.”³⁹ While many of their contemporaries found form and inspiration in the descriptive sciences and advanced

“American nervousness”—see George M. Beard, “Causes of American Nervousness”—was also pathologized as neurasthenia or Americanitis during this period.

³⁸ “The Metropolis and Mental Life,” 413.

³⁹ *The City as Metaphor* (New York: Random House, 1966), 21.

mathematics filtering over from Europe during the period, Whitman's and Melville's first-hand experiences with urban modernity gave rise to something wholly different.⁴⁰ Their aesthetic innovations, in many ways the most adventurous of their peers, were motivated instead by a related phenomenon, hardly recognizable in their time, but which is right now outstripping even the sciences as the central pillar of contemporary life: the rise of information.

In Mendelson's formulation, encyclopedias represent a middle point on a spectrum of data management techniques ranging from the essentially humanistic realm of literature to the rationalist world of technical knowledge. The word "story" itself suggests the intertwined genealogies of fact and fiction. Stemming from the Old French word *estoire*, meaning "tale, narrative, history, account, source, text, etc.," the word, until the end of the fifteenth century, primarily referred to a factual account "of events that occurred or are believed to have occurred in the past." Stories were "accepted as true," and, as the *OED* notes, shared considerable overlap with the word "history."⁴¹ In fact, in Old French, a variant word for "history," *estore*, was the stem form of the verb for "to store."⁴² Stories—like databases, filing systems, bookkeeping, etc.—are just one of an array of technologies by which humans preserve knowledge and experience. Despite the strong historical connection between narrative and information, this relationship has fallen into the background as canonical writing has grown ever more sophisticated and

⁴⁰ Here I am thinking of Laura Dassow Walls' work on Emerson and Thoreau, and also Louis Menand's *The Metaphysical Club*.

⁴¹ "Story," n. 1a., OED Online, The Oxford English Dictionary.

⁴² Eduard Adolf Ferdinand Maetzner, *English Grammar: Methodical, Analytical, and Historical*, Volume I (London: John Murray, 1874), 196.

literary. Fact and fiction, today, are largely delineated: in bookstores, in libraries, and in critical tradition. The irony, however, is that as literary writing evolved from the worlds of information, commerce, and bureaucracy, it also often preceded them, developing more and better techniques for handling data, sometimes even anticipating the innovations of industry and information technology.⁴³ Especially in the nineteenth century, as Laura Dassow Walls has shown, “the era’s characteristic commitment to synthesis” caused what we would read today as a strange collapse of fact and fiction, of humanistic and empiricist worldviews.^{44 45}

Though literature is often seen as antithetical to the pragmatic, constructive aims and methodologies of the rational world, the practical demands of scale in literary representation, coupled with the relative freedom granted by fictional worlds, makes it ideal for experimentation with new, creative methodologies of information management. Unhinged from the physical limitations of the real world, literature can be freer and more daring in its pursuit of innovation in information management. Far from being

⁴³ See Richard Poirier: “Literature acknowledges in these instances that its own operations are akin to exercises of the technological power which it writes against. Like Technology, Literature appropriates, exploits, recomposes, arranges—within inherited but constantly ‘modernized’ mechanisms of literary form—materials that all the while are also said by Literature to belong to something called ‘life’” (*The Renewal of Literature*, 126).

⁴⁴ *Emerson’s Life in Science*, 9.

⁴⁵ This, too, was a defining characteristic of the encyclopedic project of d’Alembert and Diderot. The latter described their project as such: “Facts are cited, experiments compared, and methods elaborated only in order to excite genius to open unknown routes, and to advance onward to new discoveries, using the place where great men have ended their careers as the first step. This has been our aim as we have combined the principles of the sciences and the liberal arts with the history of their origin and of their successive advances (“Encyclopedia,” *The Encyclopedia of Diderot & d’Alembert Collaborative Translation Project*, trans. by Philip Stewart (Ann Arbor: Michigan Publishing, University of Michigan Library, 2002), <http://hdl.handle.net/2027/spo.did2222.0000.004> (accessed April 10, 2016). Originally published as “Encyclopédie,” *Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers*, 5:635–648A (Paris, 1755).

narrative's natural enemy, as Lev Manovich has controversially argued, database (and data by extension) is foundational to fiction.⁴⁶ N. Katherine Hayles has argued, "Rather than natural enemies, narrative and database are more appropriately seen as natural symbionts."⁴⁷⁴⁸ Offering an insightful corrective to Manovich's polemic, her evocation of the symbiotic may even underplay the extent to which narrative and database, in certain circumstances, become one.

It is my assertion that the works of Melville and Whitman bear early traces of the "methods" and "commercial conceptions" to which Gertrude Stein so often refers, and which make up the bedrock of our own contemporary society.⁴⁹ Though their lives and worlds may seem distant to ours (and in many respects, they are), they were also being profoundly reshaped by nascent forces that have become so prominent in our own. While we can point to commonalities in Homer's use of catalogue rhetoric and Whitman's, it is between Whitman's aesthetics and our own world that we find the most direct and substantial similarities. Both Melville and Whitman came at the heel of Robert Fogel's now-famous "hockey stick" graph, experiencing great relative change, but also a sort of continuity with our own time. This position gives them a unique vantage toward both the past and the future, and from Melville to Whitman, we can trace that transition.

⁴⁶ "Database as a Symbolic Form," *Millennium Film Journal* 34 (Fall 1999).

⁴⁷ "Narrative and Database: Natural Symbionts," *PMLA* 122.5 (2007), *Publications of the Modern Language Association of America*, 1603.

⁴⁸ Manovich's article also appears in Victoria Vesna's collection *Database Aesthetics: Art in the Age of Information Overflow* (Minneapolis: University of Minnesota Press, 2007), which offers a variety of relevant articles and viewpoints.

⁴⁹ Gertrude Stein, *The Autobiography of Alice B. Toklas* (New York: Vintage Books, 1960), 96.

Furthermore, their audiences were rather unique in their informational expectations of literary writing. Nineteenth-century readers generally viewed novels and fiction as frivolous, counterproductive to Victorian and American dictums toward self-improvement. Works of a non-fictional or instructional nature were valued because time spent with them would, the logic goes, lead to the improvement of the individual.⁵⁰ Melville and Whitman participate, perhaps more than any other writers of the period, participate in this shift. As I will show in the next chapter, many of Melville's earliest works were valued precisely because of their ability to seamlessly present valuable sociological, demographic, geographical, and technical information to readers, and Whitman imagined his poetic project almost exclusively as an experiment in poeticizing mass, democratic society. In parallel to our own age of big data and computation, the world of Melville and Whitman put great faith in the salvation of solid information, and the works of these authors in particular were shaped by a powerful and practical impulse toward literary data aggregation. They expressed in their works a shift in the world's understanding of data, a change which figured it less as evidence for scientific and rhetorical argument and more as a powerful force and commodity itself. While our world has almost fully realized and internalized this shift, Melville and Whitman offer early examples of information management strategies in the arts, and evidence the extent to which the practical dictums of such tasks can inspire and underlie epochal examples of artistic innovation.

⁵⁰ See Mark Meritt, "The Owl Flies Again: Reviving and Transforming Victorian Rhetorics of Literary Crisis in the Internet Age," *Victorian Transformations: Genre, Nationalism and Desire in Nineteenth-Century Literature*, ed. Bianca Tredennick (Burlington: Ashgate, 2011), 166; and Patrick Brantlinger, *The Reading Lesson: The Threat of Mass Literacy in Nineteenth-Century British Fiction* (Bloomington: Indiana University Press, 1998), 2-3.

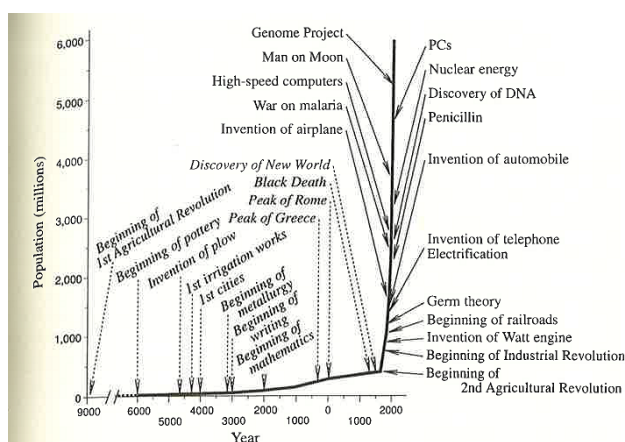


Figure 2.4 The growth of world population and some major events in the history of technology.

Figure 1

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While many writers of their time engaged deeply with contemporary science and technology, the works of these two authors, as a result of the particular expansiveness of their artistic visions, were forced to imagine their texts as technological entities in their own right. One of the reasons I choose to talk about Melville and Whitman specifically is because both of these writers, to varying degrees, have already been the focus of critical discussions about encyclopedic narrative and database as narrative. Moreover, I focus on them specifically because it allows me to illustrate a concrete shift in the strategies used to aggregate, encode, store, and transmit information in literature. Though both innovated spectacularly in the literary realm, Melville's aesthetics drew from prior models of information management, while Whitman's imagined techniques for the future.

That is not to say that Melville's various strategies for handling narrative information were not successful; they were, in many ways, central to the great innovation now associated with the American Renaissance. His particular choice of strategies,

⁵¹ Robert William Fogel, *The Fourth Great Awakening & the Future of Egalitarianism* (Chicago: University of Chicago Press, 2000), 75. Permission to reproduce image granted by the University of Chicago Press.

however, was at the same time also critical to his own perception of his works as incomplete. Comparing the efficiency of his aesthetics to Whitman's is not so much a comment upon the quality of his writing, but upon the extent to which his innovations allowed for the execution of the projects he imagined. This exercise also looks to create more substantial conversations about technique, both technologically and literarily figured. Words, and, in particular, written words, are technical innovations, ones that allow for the transmission and storage of ideas. Poetics and aesthetics often further this process, with devices such as metaphor and figurative language allowing for the even more efficient execution of artistic visions. With the exponential pace of our own information age, with writers increasingly turning to the forms of database and the internet, a reconsideration of the role of data in literary form grants insight into the process of writing narrative in a world ruled by data. Melville and Whitman, as denizens of their own information age, and as great technical innovators, offer models of the ways in which writers strive to make meaning in a world that, more and more frequently, exceeds human cognition.

As I have suggested, Melville generally opted for already-existing ontologies, models drawn from the scientific and literary sources he so heavily relied upon in researching his works. A particularly dense passage in *Mardi*, for instance, still appears in sentence form, though its excessiveness is obvious:

Nero's House of Gold was not raised in a day; nor the Mexican House of the Sun; nor the Alhambra; nor the Escorial; nor Titus's Amphitheater; nor the Illinois Mounds; nor Diana's great columns at Ephesus; nor Pompey's proud Pillar; nor the Parthenon; nor the Altar of Belus; nor Stonehenge; nor Solomon's Temple; nor Tadmor's towers; nor Susa's bastions; nor Persepolis' pediments. Round and round, the Moorish turret at Seville was not wound heavenward in the revolution of a day; and from its first founding, five hundred years did circle, ere Strasbourg's great spire lifted

its five hundred feet into the air. No: nor were the great grottos of Elephanta hewn out in an hour; nor did the Troglodytes dig Kentucky's Mammoth Cave in a sun; nor that of Trophonius, nor Antiparos; nor the Giant's Causeway. Nor were the subterranean arched sewers of Etruria channeled in a trice; nor the airy arched aqueducts of Nerva thrown over their values in the ides of a month. Nor was Virginia's Natural Bridge worn under in a year; nor, in geology, were the eternal Grampians upheaved in an age. And who shall count the cycles that revolved ere earth's interior sedimentary strata were crystalized into stone. Nor Peak of Piko, nor Teneriffe, were chiseled into obelisks in a decade; nor had Mount Athos been turned into Alexander's statue so soon. And the bower of Artaxerxes took a whole Persian summer to grow; and the Czar's Ice Palace a long Muscovite winter to congeal. No, no: nor was the Pyramid of Cheops masoned in a month; though, once built, the sands left by the deluge might not have submerged such a pile. Nor were the broad boughs of Charles' Oak grown in a spring; though they outlived the royal dynasties of Tudor and Stuart. Nor were the parts of the great Iliad put together in haste; though old Homer's temple shall lift up its dome, when St. Peter's is a legend.⁵²

Importantly, this approach to data-driven writing is a far cry from the more strictly logical forms and structures he deploys in the opening chapters of *Moby-Dick*. Unlike, say, the *Extracts* section, it still subscribes to grammatical rules, conveying both linguistic meaning and information. The passage is not one of Emerson's "bare lists," but rather a particularly "thick" section of prose fiction. Though, as I will show, Melville does move into more strictly logical organizational forms as he develops as a writer, for much of his early career he worked very hard to embed information in narrative, to render it inconspicuous by encoding it in standard literary forms. In other words, he recognizes and compensates for issues readers may have with its scale, readability, and informational density.

At the same time, this passage also illustrates the limitations of Melville's informational approach. In so excessively listing, he calls attention to the absences of his

⁵² *Mardi*, 229.

aggregation. While the influence of the Enlightenment, as Lyotard and others have argued, inspired many nineteenth-century intellectuals to believe in the perfectability of knowledge, fastidiously documentary lists like the one above ironically underline the impossibility of this ideal. Any attempt to render all the structures not built in a day is obviously doomed.

Formally and aesthetically, the grammatical form of the passage allowed readers to absorb this information in an essentially literary fashion: the list does not ask them to engage with ontologies far outside the standard practices of reading. In this way, it accomplishes the goal of transmitting information, in a relatively efficient manner, to the reader. Logistically, however, it suffers from a very low rate of transfer, communicating to the reader only a very small portion of the spectrum of information it could transmit.

As Melville evolved as a writer, these informationally dense sections began to transform, taking on techniques and structures not of the literary world, but the worlds of natural history and other empirical disciplines. This strategy essentially reversed the logistical issue he encountered with his more grammatical approaches: these logical forms allowed him to arrange and transmit more information in terms of volume, but literarily, it became harder for readers to absorb and assimilate this knowledge. The form of his latter works unapologetically confronts the reader with cascading data arranged in logical structures that were aesthetically antithetical to the reader-friendly strategies that had predominated in his earlier ones. The “Etymology” of *Moby-Dick*, for instance, looks much like a cross between a dictionary and encyclopedia, delving into the different cultural histories of various words for “whale.” Offering first several cultural definitions, and then columnized renderings of the word in different languages, he works across

several modes of information organization. The short section utilizes dictionary form, listing sources and definitions, but also columns that neatly pair words to their languages of origin. Relatively cleanly, it enumerates some dozen or so translations and definitions for “whale.” In addition, it groups languages by etymological similarity, so that the “Fegee” “PEKEE-NUEE-NUEE” and the “Erromangoan” “PEHEE-NUEE-NUEE” appear consecutively, just as the French “BALEINE” and the Spanish “BALLENA” do. This kind of logical organization points to both the possibilities and limits of literary data management, and the ironies inherent to the concept. While these rational structures rather easily group most of the words by etymological similarity, their cold, referential nature alienates readers, especially those expecting the kinds of genial travel yarns for which Melville was previously known.

Critics and audiences were united in their condemnation of his new tactic. As one review of the succeeding and similarly organized “Extracts” section notes, “Mr. Melville has crowded together in a few prefatory pages a large collection of brief and pithy extracts from authors innumerable, such as one might expect as headings for chapters. We do not like the innovation. It is having oil, mustard, vinegar, and pepper served up as a dish, in place of being scientifically administered sauce-wise.”⁵³ The absurd image of the “Late Consumptive Usher to a Grammar School,” who supplies the Etymology, “dusting his old lexicons and grammars, with a queer handkerchief, mockingly embellished with all the gay flags of all the known nations of the world,” embodies this sentiment: his contingency, both physically and professionally, underlines the limited efficacy of his

⁵³ William Young, unsigned review, *Albion*, 22 November 1851, 561, *Melville: The Critical Heritage*, ed. Watson G. Branch, (Boston: Routledge & Kegan Paul, 1974), 272.

scientific, rational approach to philology. His metafictional presence reinforces Melville's sense of the futility of attempts to collect and contain the complexity of the world in art, be it embroidery or literature.⁵⁴ As I will show, Melville's awareness of the fated nature of his enterprise would inform and, indeed, define, the dark nature of much of his *oeuvre*.⁵⁵

Modern encyclopedic narratives “because they are products of an era in which the world's knowledge is vastly greater than any one person can encompass,” as Mendelson explains, must “necessarily make extensive use of synecdoche.”⁵⁶ Much of Whitman's aesthetic innovation derives from this indirect approach: he, unlike Melville, does not try to enumerate everything. As a relatively short work—current 1855 editions typically number only slightly over one hundred pages, including the preface—*Leaves of Grass* cannot consistently partake in this same type of stylistic excesses as *Moby-Dick*, with its encyclopedic, novelistic form. Innovating aesthetically, Whitman creates more efficient strategies of literary data-storage and –manipulation. While older forms of catalogue, and, indeed, many of Whitman's own, prioritize a relatively straightforward strategy of aggregating proper nouns, at times he turns to strategies of simultaneity, synecdoche, and binaric pairings to perform more efficiently the data-storage work that traditional catalogues do elsewhere in *Leaves of Grass*:

I am of old and young, of the foolish as much as the wise,
Regardless of others, ever regardful of others,
Maternal as well as paternal, a child as well as a man,

⁵⁴ *Moby-Dick*, xv.

⁵⁵ See Maureen Quilligan, *The Language of Allegory: Defining the Genre* (Ithaca: Cornell University Press, 1979), 196.

⁵⁶ “Gravity's Encyclopedia,” *Mindful Pleasures: Essays on Thomas Pynchon*, eds. George Levine and David Leverenz (Boston: Little, Brown, and Company, 1976), 162.

Stuffed with the stuff that is coarse, and stuffed with the stuff that is fine,
 One of the great nation, the nation of many nations -- the smallest the
 same and the largest the same.⁵⁷

He reverts to more general nouns—child, man, stuff—bypassing the need to list all the kinds of men. Creating a catalogue not just of individual things, but spectra, he more efficiently stores a variety of experiences in his verse: in being “of old and young,” the reader assumes the speaker to be also of middle-age, a teenager, etc.⁵⁸ These binaric pairings are everywhere in Whitman: in *Leaves*, in *Democratic Vistas*, in *Collect* and *Specimen Days*.⁵⁹ Working through pairs of information, he evokes whole ranges, more ably handling the impossible arrays of data that only serve to frustrate Melville’s vision.

Developing a style of writing that is data-driven, but not fully encyclopedic—still very concerned with information and information overload, but not actually encoding all that data into the text itself—Whitman achieves a more optimistic poetic vision than Melville, who often seems to wallow in the futility of the whole affair. As Van Wyck Brooks frames it, Melville’s “Pequod, with its babel of tongues, was an emblem of the world, traversing the seven seas and all sides of earth, and the book was a planetary book, like *Leaves of Grass*. One gave the dark side of the planet, the other the bright.”⁶⁰ Where Whitman distinguishes himself in this realm is in his ability to work relationally, to evoke

⁵⁷ *Leaves*, 36.

⁵⁸ For a different reading of this synecdochic tendency in Whitman’s lists see Robert E. Belknap, *The List: The Uses and Pleasures of Cataloguing* (New Haven: Yale University Press, 2004), 103. Coincidentally, Belknap’s book, though it focuses almost exclusively on lists, offers a prescient model for the kind of data-centric literary analysis undertaken here.

⁵⁹ Alan Trachtenberg notes these pairings in “Whitman’s Visionary Politics,” *Walt Whitman of Mickle Street*, ed. Geoffrey M. Sill (Knoxville: The University of Tennessee Press, 1994): “In the coupling of opposites performed by the tense conjunction ‘yet,’ contradiction appears, between the one and the all, the singular and the typical, the irreducible datum of experience and the organizing totality of the whole” (95).

⁶⁰ *The Times of Melville and Whitman*, 175.

without enumerating. His representational methods model an informational ontology only much later reflected in digital technologies like lossless compression and relational databasing, which utilize associative logic to devise a more capable and efficient form of data management than the encyclopedic, exhaustive information storage systems informing Melville's vision. Moreover, his poetry's general optimism is partially a function of his ability to handle information, and modernity in general, more aptly than Melville, to imagine a task not so miserably impossible. As Kenneth Burke observes, "to such a cult of the divine average, 'good will and good cheer sometimes come easy.'"⁶¹ His poetic task is not a fiery hunt, but a joyous romp.

Ultimately, he seems to find hope and beauty in such a complex world, precisely because his aesthetics do not preclude its artistic representation. In "Song of Myself," Whitman observes a freedman and his plough team, writing, "Oxen that rattle the yoke or halt in the shade, what is that you express in your eyes? It seems to me more than all the print I have read in my life."⁶² Here he sees encoded, even in the Romantic or pastoral, vast fields of information and that he relates to a very urban, very modern kind of data—print—currently flooding the city in which he grew up and lived large portions of his life, the city where he worked as a reporter and editor and where every newspaper had myriad editions every day.⁶³ He envisions the physical world *as* information, and not just as

⁶¹ Kenneth Burke, "Policy Made Personal: Whitman's Verse and Prose-Salient Traits," *Leaves of Grass: One Hundred Years After*, ed. Milton Hindus (Stanford: Stanford University Press, 1955), 84.

⁶² *Ibid.*, 32.

⁶³ Freedman similarly observes:

Whitman was an intensely engaged participant in this information revolution—a "huckster author," Folsom observes, but much more as well. He was, after all, a reporter, an editor of many newspapers, a published author who was aware of the vicissitudes of copyright, and, most

information, but as *more* information in a single oxen eyeball than a New York City editor and poet has seen in his life. Now extrapolate that just to the rest of the oxen or even just to his or her other eyeball, and you very quickly see just how data-intensive the world is to Whitman. But he does not drive himself crazy trying to enumerate it all; locating awe in both the immensity of print culture and the complexity of the ox, Whitman sees wonder where Melville sees only “the heartless voids and immensities of the universe.”⁶⁴ Whereas Melville’s data-driven writing often evokes its own absences, Whitman’s gestures toward the innumerable possibilities of the diegetic exterior. His deceptively simple strategy of synecdochally-represented spectra allows him to capture great quantities of information in only a few penstrokes by priming readers to fill in to fill in the gaps imaginatively.

This seemingly simple innovation has huge implications, both technologically and literarily. With it, Whitman finds a way to evoke huge quantities of information without having to literally render it on the page. “Lossy” and “lossless” are terms used in information technology to describe two different classes of data encoding methods. Essentially, lossless compression works by substituting a smaller unit for a larger one, which can then, upon unzipping, be algorithmically replaced with the original value. Lossless compression of an image works, albeit simplistically rendered, as follows. Imagine a picture with ten pixels. There are pixels of three colors: red, blue and green, which I will render here as R, B, and G. In the picture, the colors are arranged as such:

important, a public intellectual whose relation to the cosmopolis—and to the social landscape for which it serves as a prototype—was profoundly mediated by the burgeoning new print media. (“Whitman, Information, Database,” 1598).

⁶⁴ *Moby-Dick*, 212.

RRRRRBBGGG. This arrangement takes of 10 bits, or pieces of information. Rendering this losslessly, one would represent the information as 5R2B3G. This rendering is only six characters *cum* bits. But an algorithm can always retrieve and reassemble the original image because all the information needed to do so is contained in the compressed format. Lossy forms of compression simply leave out portions of information, resulting in a decline in quality from the original object. In a strange way, Whitman's catalogues often function in both a lossy and lossless manner. Though one could not use his lists to retrieve exactly the person or occupation to which it attempts to refer, they still, somehow, suggest a more complete and overwhelming vision than Melville's. If Melville leaves a single extract out of his compendium, one feels the absence. Whitman, in saying less and evoking more, fills up these empty spaces.

Chapter 1: Bare Lists of Words⁶⁵

Though Melville's and Whitman's innovations best capture this data-driven aesthetic, and an important shift in imagining informational logic, it is important to note that they were not the only American writers envisioning literature in this way. As Louis Menand showed in his Pulitzer Prize winning *The Metaphysical Club: A Story of Ideas in America*, much of the Transcendentalist and Pragmatist intelligentsia of the American Renaissance found great inspiration in the new Continental sciences of probability theory, evolutionary biology, and statistics. The latter, as he argues, offered writers and other intellectuals

a way of cataloguing the universe and creating models for manipulating it. The broader appeal of statistics lay in the idea of an order beneath apparent randomness. Individuals—molecules or humans—might act unpredictably, but statistics seemed to show that in the aggregate their behavior conformed to stable laws.⁶⁶

For authors and thinkers, these rational heuristics presented models for assimilating and representing human experience on the grand scales inherent to Transcendental thought. Though the philosophies themselves grew out of the early European wave of industrial urbanization, they found particularly fecund soil in America, where vast, unknown landscapes, grand experiments in broad-based democracy, and a general sense of historical exceptionalism forced art to grapple with particularly large themes and spaces. Many writers felt forced to confront this expanding scale, and these methodologies proved to be useful tools.

⁶⁵ *Essays by Ralph Waldo Emerson: First Series* (Cambridge: The Riverside Press, 1903), 268-269.

⁶⁶ *The Metaphysical Club: A Story of Ideas in America* (New York: Farrar, Straus, and Giroux, 2001), 194

Laura Dassow Walls presents perhaps the best exploration of this pragmatic melding of science and the humanities in her *Emerson's Life in Science: The Culture of Truth*. There, she argues that “Emerson, like most intellectuals of his day, was perfectly at ease folding scientific truth into moral truth, reading literature and science together as part of a common intellectual culture.”⁶⁷ Emerson’s essay “The Poet,” where he attempts to define the role of the artist in the modern world, is often cited in explorations of his relationship to science. There he professes a fondness for “bare lists of words,” which he says “are found suggestive to an imaginative and excited mind.”⁶⁸ It is clear that science is integral to Emerson’s poetic vision; however, whereas for Melville and Whitman scientific and technological structures are often indistinguishable from aesthetic strategies, for Emerson and other rural American writers, these realms of knowledge often only serve as conduits to the deeper truths of God and nature.⁶⁹ As Emerson writes, “science always goes abreast with the just elevation of man, keeping step with religion and metaphysics; or the state of science is an index of our self-knowledge.”⁷⁰ For Melville and Whitman, the experience was much more quotidian, wrapped up in their phenomenological experiences with city spaces, broad travel, and rapid technological and communicational innovation.

As such, Emerson’s artistic embrace of logical organization can seem half-hearted in comparison. We see the partial nature of Emerson’s commitment to systemic

⁶⁷ *Emerson's Life in Science*, 2.

⁶⁸ *Essays by Ralph Waldo Emerson: First Series* (Cambridge: The Riverside Press, 1903), 268-269.

⁶⁹ See Stephen Spratt, “‘To Find God in Nature’: Thoreau’s Poetics of Natural History,” *Mosaic* 45.1 (2012), 155-169.

⁷⁰ *Nature and Selected Essays* (New York: Penguin, 1982), 267.

organization in the often-haphazard ontologies of his essays. On many occasions, he sets out to elucidate a subject methodically, only to collapse under the circular patterns of thought and experience for which he so famously argued. Take, for instance, his essay “Friendship,” which appeared in the *First Series* in 1841. At a point, he looks to enumerate for the reader “two elements that go to the composition of friendship, each so sovereign, that I can detect no superiority in either, no reason why either should be first named.” The first he cites immediately thereafter: “One is Truth.” The second, however, comes after a long elucidation of the first, which I render in its entirety below to give some idea of the extent to which Emerson elaborates on this principle of truth:

A friend is a person with whom I may be sincere. Before him, I may think aloud. I am arrived at last in the presence of a man so real and equal that I may drop even those undermost garments of dissimulation, courtesy, and second thought, which men never put off, and may deal with him with the simplicity and wholeness, with which one chemical atom meets another. Sincerity is the luxury allowed, but diadems and authority, only to the highest rank, *that* being permitted to speak truth as having none above it to court or conform unto. Every man alone is sincere. At the entrance of a second person, hypocrisy begins. We parry and fend the approach of our fellow-man by compliments, by gossip, by amusements, by affairs. We cover up our thought from him under a hundred folds. I knew a man who, under a certain religious frenzy, cast off this drapery, and omitting all compliments and commonplace, spoke to the conscience of every person he encountered, and that with great insight and beauty. At first he was resisted, and all men agreed he was mad. But persisting, as indeed he could not help doing, for some time in this course, he attained to the advantage of bringing every man of his acquaintance into true relations with him. No man would think of speaking falsely with him, or of putting him off with any chat of markets or reading-rooms. But every man was constrained by so much sincerity to the like plain dealing and what love of nature, what poetry, what symbol of truth he had, he did certainly show him. But to most of us society shows not its face and eye, but its side and its back. To stand in true relations with men in a false age, is worth a fit of insanity, is it not? We can seldom go erect. Almost every man we meet requires some civility,—requires to be humored; he has some fame, some talent, some whim of religion or philanthropy in his head that is not to be questioned, and which spoils all conversation with him. But a friend is a sane man who exercises not my ingenuity, but me. My friend gives me

entertainment without requiring any stipulation on my part. A friend, therefore, is a sort of paradox in nature. I who alone am, I who see nothing in nature whose existence I can affirm with equal evidence to my own, behold now the semblance of my being in all its height, variety and curiosity, reiterated in a foreign form; so that a friend may well be reckoned the masterpiece of nature.

It is only at this point, after a paragraph break, that he informs the reader, “the other element of friendship is tenderness.”⁷¹ Though he does actually arrive at the second principle—often times his ontologies go unfinished—his explanation defies even literary organizational strategies. Literary lists serve to group like information together, separating it from the rest of the text grammatically and often structurally. Emerson’s short list of two, on the other hand, comes in the midst of a torrent of thoughts and opinions, relegating its own conclusion to a subsequent paragraph. It is clear that other logics of organization, aside from the presentation of information, operate upon Emerson’s data aesthetics.

Lists, as a rule, are used as a strategy for circumventing this kind of information overload, as a way of presenting data without the distractions of grammar, narrative, and the like. Though they are usually a reaction to informational excess and, as such, can fall victim to entropy, Emerson’s lack of structure is highly anomalous within the sub-canon of data-driven writing I set out in this work. Those writers that draw aesthetically from contemporary information management strategies almost always use them “as intended”: forsaking overarching literary and humanistic concerns, they foreground these devices in order to efficiently transmit relevant data to their readers. Emerson, in contrast, seems to recognize the impulse toward information management techniques like listing—an

⁷¹ *First Series*, 203-204.

overflow of thoughts and ideas—without fulfilling the utility of the device. The list is present, but buried under the very excess that necessitated its deployment in the first place.

The Concord writer most associated with Emerson, Henry David Thoreau, on the other hand, takes a much more literal approach to his aesthetic integration of contemporary scientific and technological practices.⁷² His works are heavily documentary, drawing not just from natural sciences like descriptive and evolutionary biology, but also from empirical fields such as accounting and sociology. In *Walden*, he famously proclaims, “I went to the woods because I wished to live deliberately, to front only the essential facts of life.” This statement illustrates well his vexed relationship to the modern world, working in the registers of contemporary science, while at the same time rejecting the trappings of a technological society. As he writes just before this, “we must learn to reawaken and keep ourselves awake, not by mechanical aids, but by an infinite expectation of the dawn, which does not forsake us in our soundest sleep.”⁷³ The natural, not the technological, enables progress in Thoreau’s worldview.

Ironically, though, he often uses technology and science to facilitate spiritual development. Throughout *Walden*, and even more so in *The Maine Woods*, he enacts personal discovery through tools and measurements. Responding to local rumors that Walden Pond is bottomless, he sets about rigorously plumbing its depths in an attempt to

⁷² Dassow Walls is also instructive in her reading of Thoreau specifically: *Seeing New Worlds: Henry David Thoreau and Nineteenth-Century Natural Science* (Madison: The University of Wisconsin Press, 1995).

⁷³ Henry David Thoreau, *Walden: A Fully Annotated Edition*, ed. Jeffrey S. Cramer (New Haven: Yale University Press, 2004), 88.

“recover the long lost bottom.”⁷⁴ He “fathomed it easily with a cod-line and a stone weighing about a pound and a half,” he tells us, concluding that “the greatest depth was exactly one hundred and two feet; to which may be added the five feet which it has risen since, making one hundred and seven.”⁷⁵ Realizing that this deep point came at the center of the pond’s length and breadth, he sets off, according to the scientific method’s principle of repeatability, to replicate his experiment at nearby White Pond. Upon measuring, he declares the test successful, with the deep point being “within one hundred feet” of the pond’s center.⁷⁶ From this, he seeks to further generalize his newly discovered natural law to humanity at large. Invoking the “law of average” from probability theory, he concludes that “such a rule as of the two diameters not only guides us toward the sun in the system and the heart in man, but draw lines through the length and breadth of the aggregate of a man’s particular daily behaviors and waves of life into his coves and inlets, and where they intersect will be the height or depth of his character.”⁷⁷ In other words, he uses individual empirical measurements to inspire transcendental insight.⁷⁸

⁷⁴ Ibid., 276.

⁷⁵ Ibid.

⁷⁶ Ibid., 281.

⁷⁷ Ibid.

⁷⁸ See Dassow Walls, *Seeing New Worlds*, 1 for a similar observation.



Figure 1

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Epistemologically, the scientific method forms the basis of Thoreau's thought. In the self-drawn survey map he included in the first edition of *Walden*, his meticulous method is evident. He, as he describes in the text, puts "down the soundings, more than a hundred in all," resolutely working to ensure the accuracy of his project. The great preponderance of figures on the map, figures that would run together had Thoreau not alternated top-to-bottom on the vertical stretches, quite literally illustrates his dogged commitment to the scientific accuracy of his project. Though most of the measurements run on the right-angle axis of lines AB and CD, the multiple offshoots also speak to the diligence of his measurements. In addition to the measurement, there is an inset of calculations, and a detail showing the actual path he took along his two main paths. It is clear from the map that, as much as Americans have read *Walden* as an experiment in American individualism and independence, for Thoreau it was also quite literally an experiment. He repeatedly refers to it as such, demonstrating a keen awareness that his

⁷⁹ Used with permission of the Concord Free Public Library.

two years in the woods incorporated the heuristics of science as much as phenomenology. Though he would seem to favor “Man Doing” to Emerson’s “Man Thinking,” the very deliberateness of Thoreau’s ideal lifestyle demonstrates a desire to undergird the experiment of life with empirical epistemologies, rather than dismiss them wholesale.

But beyond that, he used rational models to shape his works aesthetically and informationally. The most aesthetically aberrant sections of *Walden* come in the “Economy” and “The Bean-Field” chapters. The parts of the book most associated with Thoreau’s material circumstances at the pond, in them he often resorts to conventions of accounting to convey his lifestyle to the reader. While most of this information would seem irrelevant to the average reader, Thoreau makes sure to fastidiously record every detail, as would a good bookkeeper:

Rice,	\$1 73 ½	
Molasses,	1 73	Cheapest form of the saccharine.
Rye meal,	1 04 ¾	
Indian meal,	0 99 ¾	Cheaper than rye.
Pork,	0 22	
Flour,	0 88}	Costs more than Indian meal, both money and trouble
Sugar,	0 80	
Lard,	0 65	
Apples,	0 25	
Dried apple	0 22	
Sweet potatoes	0 10	
One pumpkin,	0 6	
One watermelon	0 2	
Salt,	0 3	



All experiments which
failed.

⁸⁰ Ibid., 56-57.

He not only provides detailed figures, he also uses marginal notes to give readers extra information and advice. Deploying elements of spacing and typography to organize this data in a tabular fashion, Thoreau uses columns and curly braces to allow readers to easily parse and effectively use the provided facts. Again, we see him insistently drawing a line between rational, quantitative methodologies and qualitative, more humanistic modes of knowing: the numbers provide a foundation for more general insights.⁸¹

Perhaps his most impressive, and least humanistic use of these principles comes in *The Maine Woods*. Describing expeditions Thoreau undertook there in 1846, 1853, and 1857, the main text is dense with native flora, fauna, history, and peoples. In it, Thoreau describes in detail his itinerary, his traveling supplies and companions, and his strategies for penetrating and surviving the wilderness. What is most interesting about the work, though, is the extensive catalogues of ecological and sociological data found in the appendices. There he compiles many pages of lists containing the scientific and quotidian names of plants he encountered on his trips, along with ancillary pieces of information he deems relevant, including where he saw them and their relative rarity. Additionally, he includes a similar list for fauna, a glossary of Indian words, their definitions, and from what source he learned their meaning.

Formally, these sections make no real gesture toward aestheticization or narrativization. While Melville and Whitman often blend logical and literary forms and structures, Thoreau in the appendices of *The Maine Woods* abandons all pretenses of narrative. Even Melville's "Extracts" and "Etymology," arguably his most data-thick

⁸¹ He also uses basic arithmetic to do this, setting up what are essentially balance sheets for some of his cottage enterprises. See 47, 53, 57, 58, 157.

prose sections, still use framing narratives—the “sub-sub-librarian” and the “consumptive usher,” respectively—to embed themselves within the fabric of fictional plot. While *The Maine Woods* falls more firmly under the generic conventions of nonfiction, the rest of the work was invested in weaving the tale of several journeys: regardless of the text’s nonfictional status, these sections refuse the narrative construct of action that underlies the rest of the work and is a hallmark of much of Thoreau’s ostensibly nonfictional bibliography.⁸²

This strategy of narrativization is all but absent in the appendices, the section functioning almost exclusively as a work of reference. It is organized according to the form of an alphanumeric outline, taking its logical structure from the descriptive biology of scientists like Linnaeus. While the early flora sections do come in sentence form, once Thoreau moves past descriptions of trees, flowers, and shrubs, he enters into the much more rigidly organized “Section III,” which he describes as a “list of the plants which I noticed in the Maine woods, in the years 1853 and 1857.”⁸³ He begins with sub-section “1. THOSE WHICH ATTAINED THE HEIGHT OF TREES,” moving into sub-sections “2. SMALL TREES AND SHRUBS,” “3. SMALL SHRUBS AND HERBACEOUS PLANTS,” and “4. OF LOWER ORDER.” In these sections, he uses many organizational strategies to effectively communicate his ecological information. Indentations separate entries, the Latin names of which are rendered in italics, setting them off from the rest of the text. After the entry names, common nominal information is

⁸² In his essay “Civil Disobedience,” for instance, a much-embellished version of his very brief arrest for refusing to pay a poll tax forms the narrative center of what is primarily a work of political theory.

⁸³ *The Maine Woods*, 284.

given in parentheses, while descriptions are typed out in the default font. For reference, a two-entry example is included below:

Scirpus Eriophorum (wool-grass), very common, especially on low islands. A coarse grass, four or five feet high, along the river.
Phleum pretense (herd's grass), on carries, at camps and clearings.

These entries combine formal epistemologies of descriptive biology with the informal, conversational tone of the descriptions. Structurally, the organizational schemes of reference works serve to separate one kind of knowledge from the other: the Latin is italicized, the vernacular name in parentheses, and the prose descriptions in standard font and quasi-sentence form. Thoreau takes a utilitarian stance toward these kinds of organizational structures, using them to shape his observations, but only to the extent that they prove useful.

When standard pieces of information are unavailable, then, Thoreau conveniently skips them. At the start of the bird list, he writes simply

A very small hawk at Great Falls, on Webster Stream.

followed by

Haliaeetus leucocephalus (white-headed or bald-eagle), at Ragmuff, and above and below Hunt's, and on pond below Mattawamkeag.

Having no name for the first entry, he provides none. Often, when no further information is available, Thoreau reverts to prose, and usually provides a bit more narrative context:

V. *Quadrupeds*.

A bat on West Branch; beaver skull at Grand Lake; Mr. Thatcher ate beaver with moose on the Caucomgomoc. A muskrat on the last stream; the red

squirrel is common in the depths of the woods; a dead porcupine on Chamberlain road; a cow moose and tracks of calf; skin of a bear, just killed.^{84 85}

We see in Thoreau the push and pull of narrative information, the way that one compensates for the other in its absence. That said, Thoreau is most notable for his seemingly wholehearted embrace of biological and ecological forms of information management. Despite the mixed feelings he seems to hold toward technology, most poignantly expressed at various points in *Walden*, his works, more than even Melville, perhaps, prioritize the aggregation, structuring, and transmission of extraliterary information.

Due to the nature of Melville's and Whitman's writings, and my own interest in aesthetic innovation, the logistical and structural issues presented by excessive literary information will form the basis of much of my analysis. However, if one posits a state of informational excess within literature, it would logically follow that there is a state of informational equilibrium and, by extension again, a condition of informational poverty. Though data plays a much wider role in literature than even this study might suggest, much literary writing falls within a range of equilibrium, not calling attention to itself as information. Most works strike the balance between narration and description that Lukács finds so exasperatingly fleeting: they construct narrative worlds that provide enough, but not too much information to feel sufficiently real.⁸⁶ The creation of

⁸⁴ Ibid., 297.

⁸⁵ It is important to note that many of the more rigidly formatted entries also contain narrative information; the entry for the *Picus erythrocephalus*, for instance, Thoreau informs the reader that he "heard and saw" the animal, and also that it is "good to eat" (296).

⁸⁶ Georg Lukács' "Narrate or Describe?: A Preliminary Discourse of Naturalism and Formalism," *Writer and Critic and Other Essays*, ed. and trans. Arthur D. Kahn (New York: Grosset & Dunlap, 1970), 110-148.

believable worlds is often an implicit goal of literature, and hence the role of information often goes unnoticed.⁸⁷

Though it is not my focus, I think it is important to recognize that literature of information depends upon access to information. As I have suggested, Whitman and Melville lived in a time and place experiencing a rapid growth in information. They were inundated with it, and this circumstance is partially a product of their being free, white, middle-class men in an urban, consumerist metropolis. As relatively privileged intellectuals, these Renaissance-affiliated writers grappled very directly with the phenomena I have identified as catalyzing this American strain of data-driven writing: industrial, metropolitan urbanism, globalizing technologies of communication and travel, and Continental sciences and philosophies of scale. Their advantaged relationship with information, however, was not the experience for many in their time, and remains, to this day, out of reach for countless people. Data-driven writing, then, I would like to suggest, can also refer to a literature characterized by its absences: motivated by information, but not able to render it for a variety of reasons. While this dissertation primarily focuses on aesthetic and structural adjustments required by excesses of literary data, to recognize this information gap is important, and I will point to notable instances as often as my argument allows.

Many of these writers were legislated and policed out of privileged geographical, educational, and economic spaces. Minority writers in particular were relegated to

⁸⁷ See Eric Hayot, *On Literary Worlds* (New York: Oxford University Press, 2012). Lawrence Buell also speaks to the tendency of Transcendental literary works to “act out the idea of the poet as world-creator” (*Literary Transcendentalism*, 142). See his chapter “Word and World: Nature as a Model for Literary Form” in *Literary Transcendentalism: Style and Vision in the American Renaissance* (Ithaca: Cornell University Press, 1973), 141-165, for more.

positions of contingency: checks on education, travel restrictions, and other de facto and de jure restraints upon women and people of color limited the extent to which they could experience firsthand the blossoming information infrastructures of nineteenth-century America. That does not, however, mean that they were unaware of the epochal changes taking place. Though their writing was often markedly different from the white counterparts I have explored to this point, it was nonetheless marked by a deep sensitivity to nineteenth-century information culture, adopting literary and informational forms to fit their unique experiences.

Slave narratives stand as an excellent example of this. Two of the most famous—*A Narrative of the Life of Frederick Douglass* (1845) and *Incidents in the Life of a Slave Girl* (1861)—make poignantly clear the importance slaves placed on information and knowledge.⁸⁸ Because literacy was often illegal and great restrictions were placed on their communication and travel, slaves often felt the absence of information in their lives. Unlike Melville and Whitman, who struggled under the weight of a kind of modern information overload, the lives and stories of African American writers were often shaped around the struggle to obtain even basic information about their circumstances. As I have intimated, the term “data-driven writing” allows me to speak more broadly about literature that is motivated by information as both an idea and object, even if it does not or cannot aggregate that information in the ways that seem to be stipulated by the critical construct of encyclopedic writing. Therefore, when writers like Harriet Jacobs writes repeatedly of the absence of certain kinds of information and knowledge in her

⁸⁸ Though I tend to treat data and information as interchangeable, here, I think, knowledge does signify something a bit different. In these stories, slaves were often looking for information, but primarily information that could be converted into actionable knowledge.

life, I read this as a different, but equally valid expression of the data-driven literary impulse.

At the most basic level, many slave narratives owe their very existence as literary objects to the fact that, at some point, their authors attained literacy. Often, these writers draw significant attention to this point: Jacobs starts her narrative by expressing gratitude to an early mistress, who “taught me to read and spell.” “And for this privilege,” she continues, “which so rarely falls to the lot of a slave, I bless her memory.”⁸⁹ When Jacobs’ first mistress dies and she is transferred to the possession of the mistress’ niece, the slave feels her resulting state of ignorance deeply. With her new mistress, she was not allowed to pursue knowledge as she was before, and the two years she spent there “brought much of the knowledge that comes from experience, though they had afforded little opportunity for any other kinds of knowledge.”⁹⁰ Forced to live in relative ignorance, access to information becomes a central motivating factor in Jacobs’ narrative.

Frederick Douglass thinks about his own education in a similar manner; writing in Christian registers of redemption, he tells how he traded bread to young white boys in exchange for reading lessons: “This bread I used to bestow upon the hungry little urchins, who, in return, would give me that more valuable bread of knowledge.”⁹¹ Douglass makes it clear that these humble lessons meant quite a bit to him, both intellectually and emotionally: when he is forced to leave town, he writes, “It was to those little Baltimore

⁸⁹ *Incidents in the Life of a Slave Girl: Written by Herself* (New York: Oxford University Press, 1988), 16.

⁹⁰ *Ibid.*, 28.

⁹¹ *Narrative of the Life of Frederick Douglass, an American Slave* (Cambridge: The Belknap Press of Harvard University Press, 2009), 49.

boys that I felt the strongest attachment. I had received many good lessons from them, and was still receiving them, and the thought of leaving them was painful indeed.”⁹²

Before receiving this fortuitous blessing, he writes woefully of his youthful ignorance

I have no accurate knowledge of my age, never having seen any authentic record containing it. By far the larger part of the slaves know as little of their age as horses know of theirs, and it is the wish of most masters within my knowledge to keep their slaves thus ignorant....A want of information concerning my own was a source of unhappiness to me even during childhood.⁹³

Like Jacobs, much of his sense of self-worth and identity is tied to his ability to accumulate and assimilate information.

As such, there is often a keen awareness of the ad-hoc and contingent nature of slave news networks in these narratives. Jacobs, for instance, observes, “The secrets of slavery are concealed like those of the Inquisition. My master was, to my knowledge, the father of eleven slaves. But did the mothers dare to tell who was the father of their children? Did the other slaves dare to allude to it, except in whispers among themselves? No, indeed! They knew too well the terrible consequences.”⁹⁴ ⁹⁵ Thus very basic information that white writers would take for granted is rendered obscure and ineffable. It cannot be inscribed in the narrative text, but its absence is nonetheless clearly marked. While Melville and Whitman struggled with the logistical and aesthetic difficulties of too

⁹² *Ibid.*, 59.

⁹³ *Ibid.*, 15.

⁹⁴ *Incidents*, 55.

⁹⁵ She later refers to “that dark region, where knowledge is so carefully excluded from the slave” (198).

much information, writers like Jacobs struggled to obtain the literacy and information needed to assemble even a basic biography.

Beyond these issues of identity, information often overlaps with notions of safety in these slave narratives. Regarding the planning of his escape Douglass writes, “We could see no spot this side of the ocean, where we could be free. We knew nothing about Canada. Our knowledge of the north did not extend farther than New York.”⁹⁶ As much as the physical threats of escape, Douglass feared the specter of ignorance. He here, as Robert Stepto evocatively puts it in the “Introduction” to the Harvard edition, “maps geographies and anxieties, the one being impossible to describe without the other.”⁹⁷ To step out into such a dangerous world, in direct opposition to the cruel law, fretfully aware of one’s own inexperience, must have been truly horrifying. The struggle, then, to gain literacy and thus useful and reliable information, drives many slave and escape narratives.

When Jacobs and Douglass are able to gather reliable data, it is almost always through official, codified information networks. The former tells how other slaves

knew that I could read; and I was often asked if I had seen any thing in the newspapers about white folks over in the big north, who were trying to get their freedom for them. Some believe that the abolitionists have already made them free, and that it is established by law, but that their masters prevent the law from going into effect. One woman begged me to get a newspaper and read it over. She said her husband told her that the black people had sent word to the queen of 'Merica that they were all slaves; that she didn't believe it, and went to Washington city to see the president about it. They quarrelled; she drew her sword upon him, and swore that he should help her to make them all free.⁹⁸

⁹⁶ *The Narrative of the Life of Frederick Douglass*, 87.

⁹⁷ *Ibid.*, xxvi.

⁹⁸ *Incidents*, 69-70.

The absurd beliefs of the slave woman illustrate the extent to which Jacobs and her peers depended upon mainstream news sources for reliable information: in their absence, fake news flourished. Knowledge of Nat Turner's insurrection, "information...concerning [New York] streets and numbers" crucial to her escape, and her own sale come from "the news," "the New York Herald," and "the bill of sale," respectively. Verifiable events are almost always channeled through official forms of written documentation, be they newspapers or legal documents.

Female writers, too, gave their own unique takes on data-driven aesthetics. With my digital research, I work through Robert Belknap's assertion that lists are "predominantly nominal," using parts-of-speech analysis to identify "informationally-thick" passages in the Wright American Fiction Library where nounal listing and descriptions proliferate.⁹⁹ While women have been traditionally excluded from critical discussions of encyclopedic writing, it is my hope that this quantitative method can perhaps help us to view the encyclopedic and data-driven more broadly, and incorporate writing that may not at first look like the alternately factual and excessive prose we associate with writers like Melville, Whitman, and other (primarily male) writers.

Identifying largely forgotten writers such as Emma Wellmont, whose temperance novels revel in catalogues almost as thick as Whitman's, the methodology looks to circumvent traditional biases which figure encyclopedic writing as heroically masculine rather than innately human. Whereas the informationally thickest sections of *Leaves of Grass*, "A Song for Occupations," comes in at about 46 percent nouns, the thickest passage of Wellmont's *Substance and Shadows; Or Phases of Everyday Life* is about

⁹⁹ *The List*, 83.

34%. While not quite as dense, it nearly doubles the corpus average of around 20% nouns. What is immediately noticeable about this passage is its topical similarity to many of Whitman's city scenes. It describes an expressman of a rural town as he makes his way through his errands. The short excerpt below (the actual passage is about four times as long) will serve to illustrate the intense material focus of Wellmont's prose:

Tom Bowen desired the expressman to step into Boardman's and get a gallon of pure Cognac, and a dozen of Champagne, "Cilley's brand." Mr. Wyeth has not received his newspaper regularly, and sends to the office to get back numbers, and to know the cause of his not receiving them by mail. Old lady Constant wants a few gift books, under price, for Christmas and New-Year's presents to her grand-children, and like wise to know what good, strong gingham umbrellas are worth. He might give fifty cents for a prime article, with nice whalebone sticks! Nancy Gerrish wants a muff and boa, but limits the price to five dollars; and Susan Hart has heard that good Bay State shawls can be bought for three dollars, and will take one at two seventy-five.¹⁰⁰

Names, brands, prices, and products overwhelm the reader. In a manner similar to Whitman's most excessive listing aesthetics, one gets a kinetic sense of the hustle and bustle of a thriving commercial town. This is not an argument that Wellmont's work as a whole works in these registers, nor that she is artistically as innovative as Whitman. However, it is to say that women did seem to be writing in a similar fashion, and that they have, by and large, not been included in discussions of encyclopedic narrative.¹⁰¹ Her work, when it is considered at all, is usually thought of as sentimental, period writing, existing in the melodramatic, sensationalistic spaces occupied by temperance novels.

¹⁰⁰ *Substance and Shadows; or, Phases of Every-day Life* (Boston: John P. Jewett and Company, 1856), 89-90

¹⁰¹ Relatedly, this is also an argument for digital tools as method, for the ability of computational strategies to transcend inherent human biases in generic and critical judgments.

What is most interesting about the example of Wellmont, however, are the examples of her thick writing that do not much resemble Whitman's (or anyone else's, for that matter) data-driven aesthetics. The second densest passage in *Substance and Shadows* paints quite a different scene from the consumerist hullabaloo of the prior one. It tells the tale of a priest holding vigil over a dying man who has been taken in by the person referred to here as the "kind-hearted scavenger":

The kind-hearted scavenger had lifted him from the pavement, opened for him his bed, warmed his feet, administered a cordial to his lips, and now he was dying! The apartment was indeed a dreary one. Up a long flight of rickety stairs, inside a door half-hingeless, on a narrow pallet of straw, lay this same stranger. The lamp burnt dimly on a broken chair; a few fading embers were on yonder hearth; a teapot without a handle stood upon it. The rain was beating at the window, and in sundry panes were stuffed coarse pieces of clothing. A valise stood by the bedside it was the only property which the stranger brought with him. The man was only half-dressed; his coat was thrown aside, his neck was loosely encased within a low shirt-collar, but upon his legs there were a pair of huge military boots! That face! There was an expression there which, once looked upon, would haunt your memory forever! That forehead, bold and manly; hair slightly changed by age; lips compressed, but yet moving, as if life were loth to quit its hold, and large, rolling eyes that beamed with an unearthly glare. What a spectacle! Those arms are brandished in the air; that fist seems clenching a sword, or holding a rifle; a damp, cold sweat starts from that hand, and wildly does he toss himself from side to side on his uneasy couch.¹⁰²

The passage, as with much of Wellmont's temperance fiction, is incredibly sentimental, yet it is at the same time striking for its insistent materiality. Descriptions of items in the room and the dying man's clothes and countenance all but override what on the surface seems an affecting scene of death. To borrow a phrase from computer science, it is a very "object-oriented" version of sentimentality, concerned as much with the material circumstances of the scene as with the important action it portrays.

¹⁰² Ibid., 181-182.

This is not an argument that this scene by Wellmont is data-driven in the same way as Melville's and Whitman writings, nor that data-driven aesthetics are necessarily a stylistic trait that can be so easily quantified. Rather, I cite this example to suggest that writing which, even now, seems largely sentimental and romantic can also work in ways that exceed typical generic conventions. It is an attempt to push back against the proscribed boundaries we as critics often project upon works, and to suggest that writing that is data-driven can be motivated by information that is not scientific, mathematic, cetological, or otherwise "rational" or "manly," but rather literary traditions and themes that are often thought of as antithetical to encyclopedic, avant-garde works often associated with male literary masters like Pynchon, Joyce, and others. In the following chapters, I wish to explore this fuller range of data-driven writing, in contrast to the more established critical conception of encyclopedic narrative. Focusing on the fundamental logistical shift illustrated by the various techniques of Melville and Whitman, I will suggest ways in which the concept of data-driven writing can be used to rethink not only our critical conceptions of the literary encyclopedic, but information itself as a defining feature of the modern world.

Chapter 2: The Strange Slidings and Collidings of Matter¹⁰³

There is no plot to sustain the interest of the reader, but there is a constant opportunity, fatal to such a facile writer as Mr. Melville, for digression, discussion, and above all, description.

--Richard Henry Stoddard, unsigned review of *Clarel* in *New York World*, June 26, 1876¹⁰⁴



Figure 3

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¹⁰³ D.H. Lawrence, *Studies in Classic American Literature*, (146). He uses the phrase to describe Melville's interests in *Moby-Dick*.

¹⁰⁴ *Melville: The Critical Heritage*, 403.

¹⁰⁵ Melville's study at Arrowhead. Courtesy of the Berkshire County Historical Society at Arrowhead.

Writing to his British publisher, John Murray, on New Year's Day, 1848, Herman Melville saw fit to include a brief summary of his current project. Fresh off the success of *Typee* and *Omoo*, which found an international audience and won the author considerable fame, the twenty-eight year old had no notion of tinkering with the successful, if formulaic, template that had proved so popular in his first books. Hoping to allay fears that revising the Pacific would become repetitious, Melville assures Murray that the new work, which would eventually become *Mardi*, "clothes the whole subject in new attractions & combines in one cluster all that is romantic, whimsical, & poetic in Polynesia." When all is said and done, Melville concludes, "it shall have the right stuff in it, to redeem its faults, tho' they were legion."¹⁰⁶

At some point, though, the plan to revisit this familiar narrative space seems to have gone awry. Nearly four months later, Melville again writes to Murray, this time to inform him of a change in his "determination." Apologizing for the long silence, he informs his publisher that "the reiterated imputation of being a romancer in disguise has at last pricked me into a resolution...that a *real* romance of mine is no *Typee* or *Omoo*, & is made of different stuff altogether." He goes on to explain that "in my narrative of *facts* I began to feel an invincible distaste for the same."¹⁰⁷ Facts, apparently, were no longer "the right stuff." Feeling that the fact-based nature of his early travel narratives now exercised a kind of creative tyranny, limiting his artistic expression and development,

¹⁰⁶ Ibid., 102.

¹⁰⁷ Ibid., 106.

Melville begins what would become a career-long resistance to the formula that had made him the toast of popular American literature.¹⁰⁸

Factual, however, was a strange way for Melville to characterize his first works. Though they were published in Murray's *Colonial and Home Library* series, a specifically non-fiction subscription library, Melville's editions were always met with quite a bit of suspicion. Critics challenged them on myriad fronts, doubting the plausibility of the plots, the ability of a common sailor to write in such an elevated and informative style, and even whether a man so preposterously named as "Herman Melville" could exist.¹⁰⁹ *Typee*, for instance, "was originally submitted to Harper & Brothers in New York, but was rejected on the grounds that it was too fantastic to be true."¹¹⁰ Even after Melville secured a publisher for the book and found some degree of fame, he continued to face an almost absurd level of scrutiny: three years after the initial publication of *Typee*, for instance, Melville was still being hounded by Murray for "documentary evidence" of his time spent in Polynesia, in order to "convince the unbelievers."

Though Melville took deep offense to these accusations—to one of Murray's requests he dramatically replied "I will give no evidence—Truth is mighty & will prevail—& and shall & must"—much of the earliest academic research on the author revealed that his early travel narratives were fabricated in very real ways.¹¹¹ Building

¹⁰⁸ Mumford, as well, offers an evocative description of this shift in *Herman Melville*, 78-79.

¹⁰⁹ Unsigned, anonymous review of *Omoo* in *London People's Journal*, April 17, 1847, *Melville: The Critical Heritage*, 94.

¹¹⁰ <http://www.melville.org/hmtypee.htm>

¹¹¹ *Correspondence, Volume 1: 1842-1867*, "Letter to John Murray," January 6, 1865, ed. Edwin Haviland Miller (New York: New York University Press, 1961), 107.

upon the work of Charles Roberts Anderson in the 1930s, Harrison Hayford and Hershel Parker, in the 1960s, rigorously documented the vast network of research and outside sources Melville incorporated into accounts he indignantly defended as true. Repeatedly, these critics came to the conclusion that even Melville's purportedly factual works were highly fictionalized, playing fast and loose with the real-life events on which they were based. As Hayford describes in his preface to the 1969 edition of *Omoo*, Melville

had altered facts and dates, elaborated events, assimilated foreign materials, invented episodes, and dramatized the printed experiences of others as his own. He had not plagiarized, merely, for he had always rewritten and nearly always improved the passages he appropriated. Yet he had composed...in a way he had not really acknowledged and in a way that even his most suspicious contemporary critics had never dreamed.¹¹²

That is to say that, rather than create his own fiction, he relied upon a large array of reference works "to pad out chapters he had already written and supply the stuff of new chapters that he inserted at various points in the manuscript."¹¹³ These "insertions," as Hayford puts it, were "designed primarily to load [the works] with solid information."¹¹⁴ Melville's compositional practices, even in the earliest days of his career, speak not just to a preoccupation with "solid information," but a tendency to view information as narrative, and facts as a highly malleable.

Even as Melville imagined himself escaping the bounds of fact-based narrative with *Mardi*, he continued with writing practices that were almost indistinguishable from those he had used composing *Typee* and *Omoo*. While writing *Mardi*, he borrowed "old

¹¹² Harrison Hayford, "Editor's Introduction to *Omoo*," Herman Melville, *Omoo*, (New York: Hendricks House, 1969), xx-xxi.

¹¹³ Hershel Parker, *Herman Melville, 1819-1851: Volume 1* (Baltimore: Johns Hopkins University Press, 1996), 455.

¹¹⁴ Quoted in Parker, *Herman Melville*, 456. Unable to locate original quotation.

Books” by Sir Thomas Browne and Rabelais from New York literati Evert Duyckinck’s library, bought a membership at the New York Society Library, and also expanded his own library with editions of Shakespeare, Defoe, Coleridge, Burton, and Dante, among others. As Leon Howard describes, many of these books made it into the text not just as ideas, but also as a strange collection of quasi-documentary resources Melville manufactured for the purposes of constructing a believable fictional world.¹¹⁵ Though his growing distaste for facts drove him into the realm of romance with *Mardi*, his compositional practices increasingly drew from the world of data: building out narrative with reference sources and creating stories that structurally looked a lot like “information.”

I have lingered on *Mardi*, a book usually considered insignificant within Melville’s *oeuvre*, for several reasons which I would now like to make clear. First, as I have suggested, it is interesting to me that the book in which Melville saw himself moving away from detestable facts was identified by his publisher’s own house organ as containing “an Infinite Number of Episodes and Digressions, Descriptions and Speculations, Theories and Commentaries.”¹¹⁶ Second, it seems to mark a shift in the way he thought about literary information, and in particular the aestheticization of narrative data. While his first two works were read by contemporary readers as a “skillfully concocted Robinsonade, where fictitious incident is ingeniously blended with genuine information,” reviewers found *Mardi* to be a formless “mass of downright

¹¹⁵ *Herman Melville: A Biography*, (Berkeley: University of California Press, 1951), 115-116.

¹¹⁶ Excerpt from a review of *Mardi* by the John Murray’s house organ, *Bentley’s Miscellany*, April 1849, *Melville: The Critical Heritage*, 147.

nonsense....Rabelais emasculated of every thing but prosiness and puerility.”¹¹⁷ In this highly experimental work, however, in which Melville experimented with the very forms of reality and the construction of anthropologically-consistent literary worlds, I want to suggest that what reviewers read as a deficit of literary forms was instead a proliferation of logical ones. In attempting to move beyond what he saw as puerility in his early travel narratives, Melville experimented widely, for much of his later career, with informational forms that, while they abrasively assaulted readers, also formed the basis of what Edward Said has called his “blazingly original” literary style.¹¹⁸

To get a better sense of the deliberate strategies of construction Melville deploys in *Mardi*, though, we must first return to Melville’s earliest works. While the two books that preceded *Mardi*—*Typee* and *Omoo*—are commonly read by critics today as relatively simplistic biographical accounts that pale within the context of Melville’s eventual greatness, they were widely regarded by his peers as infinitely more successful, both commercially and artistically, than his later works. Nearly all the reviewers based this opinion on Melville’s balancing of data and narrative: the majority felt that his first works granted him a deservedly high “reputation as a writer of commingled fact and fiction,” with Charles Gordon Greene even suggesting it is “not so high as it ought to be. His *Typee and Omoo* are much more than graceful, fascinating, and vivacious books—they are filled with powerful descriptions, and strongly drawn, well filled and natural

¹¹⁷ Charles Gordon Greene, unsigned review of *Mardi* appearing in the *Boston Post*, April 18, 1849, *Melville: The Critical Heritage*, 156.

¹¹⁸ Edward W. Said, “Introduction to *Moby-Dick*,” *Reflections on Exile* (Cambridge: Harvard University Press, 2000), 369.

characters.”¹¹⁹ Though *Mardi* forced him to consider data and narrative in a careful, philosophical manner, *Typee* and *Omoo* exhibit a natural but as yet undeveloped interest in the aestheticization and narrativization of information. While their literary merit may pale in comparison to a masterwork like *Moby-Dick*, they also contain early evidence of Melville’s sophisticated understanding of information in literary narrative.

That is to say that the fledgling writer, while crafting popular, entertaining novels, still finds ways of deftly integrating a huge amount of data into these early works. Moreover, Melville himself had a sense of the books as mixing anthropological and sociological information with the charms of narrative. He starts the preface to *Typee*, for instance, referring to the work as a “yarn,” attempting to paint the piece as a lighthearted piece of reverie.¹²⁰ He goes on to suggest that even though “sailors are the only class of men who now-a-days see anything like stirring adventure,” he has found the succeeding story “not only to relieve the weariness of many a night-watch at sea, but to excite the warmest sympathies of the author's shipmates.” As such, he thinks “his story could scarcely fail to interest those who are less familiar than the sailor with a life of adventure.” At this point, his overriding interest lies in presenting the work as a piece of entertainment.¹²¹

¹¹⁹ Ibid., 155.

¹²⁰ *Typee: A Peep at Polynesian Life, The Writings of Herman Melville: Volume One*, eds. Harrison Hayford, Hershel Parker, and G. Thomas Tanselle (Chicago: Northwestern University Press and The Newberry Library, 1968), xiii.

¹²¹ This was not an uncommon position for Melville. Many are the letters to his various editors assuring them of the romantic nature of his works in progress, even as he was crafting idiosyncratic metaphysical works like *Mardi*.

Quickly, however, the preface takes on a vaguely scientific tone as Melville offers an extended apologia for the anthropological aspects of the novel, which he attempts to justify by claiming they are “based upon facts admitting of no contradiction.” For the final six paragraphs—the preface contains only seven—he addresses the veracity of several informative aspects of the work: explorations of native customs, the accuracy of dates, orthographical representations, the potentially controversial portrayal of missionaries and current events, and the general outlandishness of the plot. In all respects, Melville reassures us, he has presented events “just as they occurred—the unvarnished truth.”¹²² Even in this earliest work, we see the Melville of *Moby Dick*—of “Etymologies,” and “Extracts,” and “Cetology”—struggling to surface. Though at this point his concerns about readability and entertainment often override this temptation, the pull of information already exercises inordinate influence upon his creative work.

Melville’s struggles with this balance are plain to see throughout *Typee*. Repeatedly, the narrator and author analog, Tommo, admits the tangential nature of the information to follow, and then provides his reasoning for including it nonetheless. For example, to start the sub-section of chapter eleven entitled “A Dwelling-house of the Valley Described,” Tommo proffers noncommittally, “I may as well here enter into a little description of it and its inhabitants. This description will apply also to nearly all the other dwelling-places in the vale, and will furnish some idea of the generality of the natives.”¹²³ He continually enacts a kind of narrative calculus, weighing the benefits and disadvantages of each digression. At times, he ends up on the side of non-disclosure,

¹²² *Typee*, xiv.

¹²³ *Ibid.*, 81.

suggesting to the reader that certain information is not necessary at a particular time, or that it makes more narrative sense to hold off on disclosure. When Tommo undertakes to describe his “faithful valet Kory-Kory,” for instance, he notes that “as [Kory-Kory’s] character will be gradually unfolded in the course of my narrative, I shall for the present content myself with delineating his personal appearance.”¹²⁴ While “good craft” would often necessitate the writer hide these “strings” from the reader, much of the unique nature of Melville’s narrative style in *Typee* is built upon these conspicuous negotiations between data and narrative.¹²⁵ They pop up in the text repeatedly:

When he offers technological advice to the Typees:

During my whole stay on the island there occurred but two or three instances where the natives applied to me with the view of availing themselves of my superior information; and these now appear so ludicrous that I cannot forbear relating them.¹²⁶

When describing native weaving practices:

But, as I believe that no description of its manufacture has ever been given, I shall state what I know regarding it.¹²⁷

And when describing the valley and its inhabitants:

NOTHING can be more uniform and undiversified than the life of the Typees; one tranquil day of ease and happiness follows another in quiet succession; and with these unsophisticated savages the history of a day is the history of a life. I will, therefore, as briefly as I can, describe one of our days in the valley.¹²⁸

¹²⁴ Ibid., 83.

¹²⁵ Lucács’ “Narrate or Describe?” provides an intellectual foundation for this observation.

¹²⁶ *Typee*, 120.

¹²⁷ Ibid., 147.

¹²⁸ Ibid., 149.

and

I THINK I must enlighten the reader a little about the natural history of the valley.¹²⁹

These are just a small sampling of the young author's constant and explicit efforts at narrative information manipulation. While Tommo often claims personal indifference to the data presented, he simultaneously suggests that his story would not be whole without them. The constant intrusions on the narrative reveal Melville not as an undeveloped writer of lighthearted adventure novels, but as a calculating author deeply aware of the aesthetic difficulties attendant to crafting a fictional world that is simultaneously enjoyable, believable, and informational.¹³⁰

One of the reasons that this balance becomes so important and apparent is because the nature of Tommo's information is often highly technical and digressive. A good example of this comes within the first dozen paragraphs, when mentions of the Marquesas inspire in Tommo several factual addendums. Citing his "irresistible curiosity to see those islands which the olden voyages had so glowingly described," Melville's narrator offers parenthetical trivium along with a more general description of the story's setting: "The group for which we were now steering (although among the earliest of European discoveries in the South Seas, having been first visited in the year 1595) still continues to be tenanted by beings as strange and barbarous as ever."¹³¹ Presenting the reader with knowledge acquired from the descriptions of the "olden voyages," the

¹²⁹ Ibid., 210.

¹³⁰ Eric Hayot's *On Literary Worlds* looks at the balance of information and what he calls "worldedness." In particular, see the discussion of literary completeness and amplitude in Ch. 5.

¹³¹ *Typee*, 5.

parenthetical format marks the information as peripheral. And it does not stop there. Launching into, as Parker terms it, a “musing about the ‘associations’ of the names of remote places,” Melville writes “In honor of the Marquess de Mendoza, then viceroy of Peru—under whose auspices [Álvaro de Mendaña y Neira] sailed—he bestowed upon them the name which denoted the rank of his patron, and gave to the world on his return a vague and magnificent account of their beauty.”¹³² ¹³³ Evidently very influenced by myriad historical accounts, Tommo, in Shandy-like fashion, finds it all but impossible to begin his own story.

In addition to its reflections on nomenclature, this passage leads down another rabbit hole, associatively inspired by Tommo’s familiarity with Mendaña’s “vague and magnificent account.” Introducing two more “general narratives,” he then spends the rest of the chapter describing Porter’s “Journal of the Cruise of the U.S. frigate Essex, in the Pacific, during the late War,” and Stewart’s “A Visit to the South Seas.” Having sensationally foreshadowed his own adventures earlier in the chapter—“naked hours—cannibal banquets—groves of cocoanut—coral reefs—tattooed chiefs—and bamboo temples...HEATHENISH RITES AND HUMAN SACRIFICES”—Tommo instead is waylaid by historiography for the remainder.¹³⁴ Summarizing the entirety of Stewart’s account, the chapter seems an early incarnation of the stylistically aberrational opening sections of *Moby-Dick*, which, while more comprehensive than the informational asides in *Typee*, certainly have nothing on their the tangentiality. Embedding another work’s

¹³² Hershel Parker, *Herman Melville: A Biography, Volume I, 1819-1851* (Baltimore: The Johns Hopkins University Press, 1996), 650.

¹³³ *Typee*, 5.

¹³⁴ *Ibid.*, 5.

entire narrative into his own, Melville, even in his first published chapter, establishes the informationally-driven model that would come to define (and some would argue, ruin), his mature works.

The primary difference I want to point to between these early forays into data-driven writing and what would eventually come to be seen as Melville's mastery of the form in *Moby-Dick*, comes in the realms of style and aesthetics. Though *Typee* and other early works are still informationally dense, they are rarely incomprehensible or dry. One of Melville's strategies for accomplishing this involves a kind of narrative encoding that renders what might otherwise read as cold facts into engagingly descriptive morsels. In general, the early works tend to rely on narrative strategies of geniality to do this, whereas the later works shift, as I will show, to more empirical and rational systems of information management in their efforts to make ever larger quantities of data parseable to readers.

By geniality I mean Melville often uses humor and a pleasant rapport to soften the blow of technical narrative information. For instance, in *Typee* he describes an indigenous form of communication whereby one village shouts news to the next village, the second village to a third, and so on, as "the vocal telegraph of the islanders," comically juxtaposing cutting-edge technology and a low-tech human network. While certainly construable as dismissive and racially insensitive, Melville's characterizations more often look to convey respect and admiration than derision. Describing the "vocal telegraph," he seems genuinely impressed by the efficiency of the system, by which "condensed items of information could be carried in a very few minutes from the sea to their remotest habitation, a distance of at least eight or nine miles. On the present

occasion it was in active operation; one piece of information following another with inconceivable rapidity.”¹³⁵ Speaking in the kind of awed tones with which contemporaries described the electric telegraph, Melville, while making a generous, humorous, and humanizing comparison between indigenous and Western technologies, manages to portray native life as legible, respectable, and remarkable to a Western audience. In other works, this type of ad-hoc network might be held up as an example of native savagery, but by encoding it in the rhetoric of contemporary technological marvels, Melville allows Western readers to integrate the system into a continuum with their own experiences.¹³⁶ Many reviews of *Typee* observe the effect: the anonymous reviewer for the *London Examiner* writes, “The impression is odd and startling...Savage life, with so little savagery, we could hardly have conceived. All that part of it, at any rate, is dexterously veiled.”¹³⁷ ¹³⁸ Recognizing Melville’s craft, the reviewer notes the light touch with which he renders foreign practices parseable.

He deploys this tactic throughout his early travel literature, such as when he refers to a Typee gathering place as “a kind of savage Exchange, where the rise and fall of Polynesian Stock was discussed.” Though the terminology is rather shocking, and, again, the sentiment may seem dismissive, Melville’s overall project of humanization through

¹³⁵ *Typee*, 105.

¹³⁶ Peter West, conversely, argues that Melville’s “juxtaposition...of a conspicuously Western, even urbane narrative voice with [a] notably exotic setting...is typical of the book’s interest in highlighting the distance between Western ways of seeing and the inscrutable lives of the islanders (134).

¹³⁷ Unsigned, anonymous review of *Typee* in the *London Examiner*, March 7, 1946, *Critical Tradition*, 63.

¹³⁸ This sentiment is a familiar refrain in Melville’s notices throughout his career. See the March 31, 1849 review in *The Examiner* for Mardi: “No one paints a shark better than Mr Melville [sic]. He makes us see the difference at a glance between the Brown individual, or sea attorney, and the Blue specimen, or dandy of the deep” (*The Critical Heritage*, 143).

description in *Typee* seems to limit negative readings of these kinds of passages. His repeated assertions, both here and in *Omoo*, that European culture is a corrupting, rather than enriching force on indigenous societies contradicts this reading. While dangerously close to Rousseau's problematic formulation of the noble savage, Melville's two-pronged approach, involving both rigorous anthropological detail, and humorous and humanizing exposition, would seem to hold this accusation at bay.¹³⁹ Encoding native practices within the registers of normalized, Western behaviors and institutions transforms them from exotic to admirable, less Orientalized and more a natural feature of humanity.¹⁴⁰

Many of his early narrative-informational practices were drawn from Washington Irving, who was still a literary force in the New York City where Melville composed *Typee* and actually helped achieve the publication of that book.¹⁴¹ Like Melville, Irving was born in Manhattan, and, also like Melville, had spent considerable time away from the city. Sent upstate to the Hudson River Valley during the 1798 outbreak of yellow fever in Manhattan, the more tranquil region made a great impact on his sleepy style of his most timeless works. *Knickerbocker's History*, however, originally titled *A History of New York from the Beginning of the World to the End of the Dutch Dynasty*, represents a marked divergence from his more folksy stylistic tendencies. Experiencing the

¹³⁹ "Civilization does not engross all the virtues of humanity: she has not even her full share of them....If truth and justice, and the better principles of our nature, cannot exist unless enforced by the statute-book, how are we to account for the social condition of the Typees? So pure and upright were they in all the relations of life" (*Typee*, 202-203).

¹⁴⁰ For a more in-depth discussion of Irving's humor's influence on Melville, see John Bryant's *Melville and Repose: The Rhetoric of Humor in the American Renaissance* (New York: Oxford University Press, 1993).

¹⁴¹ For more, see Van Wyck Brooks' chapter "Washington Irving's New York" in *The Times of Melville and Whitman*, 1-26.

emergence of New York as a major market city in the early nineteenth century—he refers in *Knickerbocker's History* to the “busy hum of multitudes, the shouts of revelry, the rumbling equipages of fashion, the rattling of accursed carts, and all the spirit-grieving sounds of brawling commerce”—Irving faced experiences of information overload similar to those encountered by Melville and his contemporaries a generation later.^{142 143}

This sense of progress is essential to the creative, data-driven visions of both Melville and Irving. Their ontological approaches to the world are deeply diachronic, simultaneously drawing upon two separate, conflicting understandings of the world order.¹⁴⁴ Springing from their experiences of both metropolis and periphery, their works straddle the highly rational, bureaucratic, and overwhelming world of modernity, and the animistic, familial, and familiar world of tradition. In so doing, they exhibit a dual-fold tendency to simultaneously blend and separate these worlds, on one hand showing a deep sensitivity to their uniqueness, and on the other creatively conjecturing upon their similarities. Their time in New York and at its periphery during its period of greatest growth made them sensitive to the illimitable strangeness of the world, especially as a function of travel and changing times. Both turn to a kind of local, traditional sensibility of joviality and personability at exactly the points when their fiction enters a space of

¹⁴² *Knickerbocker's History of New York*, ed. Anne Carroll Moore (New York: Frederick Ungar Publishing Co., 1928), 104.

¹⁴³ Irving was born in New York City in 1783 and returned, after a stint in Europe, in 1806. Though Melville would witness New York's growth into a world metropolis, in Irving's time it would have grown from a provincial center into a major market city. Quantitatively different events, the iterative nature of information overload experiences, as I explored in the introduction, suggests they primarily derive from relative rather than absolute changes.

¹⁴⁴ Klaus Benesch discusses the effects of technology and diachronic time on Melville in *Romantic Cyborgs: Authorship and Technology in the American Renaissance* (Amherst: University of Massachusetts Press, 2002), 134-143.

modern scale. In rendering imparsably foreign experiences in familiar terms, the writers demonstrate an innate understanding of the IT concept of human-readability, which refers to the rendering of machine-readable data in formats that can be read and understood by human beings. More generally, it can refer to the cleaning, analysis, and visualization processes that large data-sets are subjected to in order to make them readable not just to lay audiences, but to expert researchers as well. Though Melville and Irving were not working across the human-machine divide, their repeated efforts to encode foreign practices within more familiar tropes demonstrates an understanding of the difficulty of creating comprehension in the complexity of modern, urban living.

As much as comprehension, their projects were also about preservation.

Anticipating Melville's habit of pronouncing "a valedictory on many ways of life and scenes that were becoming extinct,"¹⁴⁵ Irving's Knickerbocker, "a sentimental historian,"¹⁴⁶ finds himself driven by a desire to spare New York from "the wide-spread, insatiable maw of oblivion."¹⁴⁷ Though Knickerbocker paints his history as a "little work," one which may "serve as a foundation on which other historians may hereafter raise a noble superstructure," the first section of the book, "CONTAINING DIVERSE INGENIOUS THEORIES AND PHILOSOPHIC SPECULATIONS, CONCERNING THE CREATION AND POPULATION OF THE WORLD, AS CONNECTED WITH THE HISTORY OF NEW YORK," almost instantly contradicts his claim.¹⁴⁸ In the first

¹⁴⁵ Lewis Mumford, *Herman Melville: A Study of His Life and Vision*, Rev. ed. (New York: Harcourt, Brace & World, Inc., 1962), 125.

¹⁴⁶ *Knickerbocker's History of New York*, 91.

¹⁴⁷ *Ibid.*, xxxviii

¹⁴⁸ *Ibid.*, 1.

chapter he explores various obscure notions of the nature of the world, including the theory of “Aboul-Hassan-Aly, son of Al Khan, son of Aly, son of Abderrahman, son of Abdallah, son of Masoud el-Hadheli, who is commonly called Masoudi, and surnamed Cothbeddin, but who takes the humble title of Laheb-ar-rasoul, which means the companion of the ambassador of God,” who has suggested that “the earth is a huge bird, Mecca and Medina constitute the head, Persia and India the right wing, the land of Gog the left wing, and Africa the tail.”¹⁴⁹ Irving, like Melville, seems to have had a taste for the genealogy of ideas, one that reaches excess through the muse of Manhattan. This is one of no less than twenty such theories in the chapter, which contains eight footnotes in about half as many pages.

And like many of Melville’s cetological collections, most of these “ingenuous theories” are little more than nonsense to the contemporary science of the day. In the next chapter, he takes to opportunity to broach the topic of world creation in yet more detail: “Having thus briefly introduced my reader to the world, and given him some idea of its form and situation, he will naturally be curious to know from whence it came, and how it was created.”¹⁵⁰ Offering further justification, he argues, quite unassailably, “indeed, the clearing up of these points is absolutely essential to my history, inasmuch as if this world had not been formed, it is more than probable that this renowned island, on which is situated the city of New York, would never have had an existence. The regular course of my history, therefore, requires that I should proceed to notice the cosmogony or

¹⁴⁹ Ibid., 2-3.

¹⁵⁰ Ibid., 7.

formation of this our globe.”¹⁵¹ Melville makes a strikingly similar observation in *Redburn* when his protagonist complains of an oddly excessive Liverpool guidebook, “which would have scorned to stop in its researches at the reign of the Norman monarch, but would have pushed on resolutely through the dark ages, up to Moses, the man of Uz, and Adam; and finally established the fact beyond a doubt, that the soil of Liverpool was created with the creation.”¹⁵² For both these writers, we see the city space itself inspiring impulses toward excessively informational narrative.

The quick pace of city expansion and renovation brings into sharp focus the loss of the past and the need for preservative measures. Despite the Liverpool guidebook’s extensive historical purview, Redburn immediately begins to notice its myriad inaccuracies caused by the rapid expansion of the industrial port. As he attempts to navigate the city, he grows increasingly frustrated at the inability of the old, printed book to reflect his modern reality. Near the end of the chapter, in a typical Melvillian philosophical flourish, Redburn concludes,

Guide-books...are the least reliable books in all literature; and nearly all literature, in one sense, is made up of guide-books. Old ones tell us the ways our fathers went, through the thoroughfares and courts of old; but how few of those former places can their posterity trace, amid avenues of modern erections; to how few is the old guide-book now a clew! Every age makes its own guidebooks, and the old ones are used for waste paper.¹⁵³

Making explicit connections among information, literature, and progress, Melville questions the ability of any book to transmit information reliably: even when facts are

¹⁵¹ Ibid.

¹⁵² Herman Melville, *Redburn: His First Voyage, Being the Sailor-boy Confessions and Reminiscences of the Son-of-a-Gentleman, in the Merchant Service*, eds. Harrison Hayford, Hershel Parker, and G. Thomas Tanselle (Chicago: Northwestern University Press and the Newberry Library, 1969), 148.

¹⁵³ *Redburn*, 157.

provided in good faith, the passage of time and societal shifts nearly always ensure data's short shelf life. The prioritization of both the readability and preservation of information in the works of Melville and Irving put into sharp focus the often-hidden data-driven functions of literary fiction.

Whereas in his first two books, this interest took the form of entertaining asides and sociological explorations, in later books Melville began experimenting more broadly with data structures that would seem to offer readers more effective means for making sense of his abundant narrative information. Melville's ever broadening research efforts at the time he started *Mardi* sparked an interest not just in technical information itself, but in information as a concept, one that can be organized, textualized, and indeed, fictionalized. His movement into fiction, ironically, seems to have sparked an investment not in storytelling, but in data assemblage, in the arrangement of factual (or seemingly factual) information into logical and believable structures. As a writer habitually accused of falsehood, but also as a man exposed to vast quantities of data in daily life—walking the streets of New York and obsessively swimming, as he would later write in “Cetology,” “through libraries”—the aggregation, organization and, sometimes, oversaturation of information often proved more interesting than the fictions he purported to be writing.

In one particularly interesting scene in *Mardi*, the protagonist Taji and his travelling party, on an island stop around the archipelago of Mardi, prepare to enter an archive, a “collection of ancient and curious manuscripts, preserved in a vault”:

Most ancient of all, was a hieroglyphical Elegy on the Dumps,
consisting of one thousand and one lines; the characters,--herons,
weeping-willows, and ravens, supposed to have been traced by a quill
from the sea-noddy.

Then there were plenty of rare old ballads:--

“King Kroko, and the Fisher Girl.”
 “The Fight at the Ford of Spears.”
 “The Song of the Skulls.”

And brave old chronicles, that made Mohi's mouth water:--

“The Rise and Setting of the Dynasty of Foofoo.”
 “The Heroic History of the Noble Prince Dragoni; showing
 how he killed ten Pinioned Prisoners with his Own Hand.”
 “The whole Pedigree of the King of Kandidee, with that of his
 famous horse, Znorto.”

And Tarantula books:--

“Sour Milk for the Young, by a Dairyman.”
 “The Devil adrift, by a Corsair.”
 “Grunts and Groans, by a Mad Boar.”
 “Stings, by a Scorpion.”

And poetical productions:--

“Suffusions of a Lily in a Shower.”
 “Sonnet on the last Breath of an Ephemera.”
 “The Gad-fly, and Other Poems.”¹⁵⁴

This catalogue of wholly fictitious works, logically arranged by genre, continues for two whole pages in the Newberry edition of the book. Elsewhere in the novel examples of this kind of textualized information abound, organized by the dictates of library catalogues, typographical formatting practices, and the metrical dictums of verse and song.¹⁵⁵ Whereas Melville's early books strove to embed information seamlessly into prose forms, using narrative and humor to disguise technical data, in *Mardi* he begins to use the forms and structure of print and reference works to lend an air of truth to his

¹⁵⁴ Herman Melville, *Mardi and a Voyage Thither*, eds. Harrison Hayford, Hershel Parker, and G. Thomas Tanselle (Evanston: Northwestern University Press and The Newberry Library, 1970), 383-384.

¹⁵⁵ A non-comprehensive list would include 213-214, 229-230, 268, 300, 303, 314, 344, 376-377, 393, 414, 436-437, 502, 509-510, 545-546, 560-561, 591-602, 613, 618, and 623-624. As you might note, the opening two hundred pages contain little to no typographically-rendered information. This roughly corresponds to the disappearance of Melville's romantic heroine, Yillah, from the narrative. Though she garners no “six-inch grave” like Moby-Dick's erstwhile hero Bulkington, and though critics rarely invoke her she too graphically illustrates the warring forces of narrative and information in Melville's fiction.

fiction. As he writes in the foreword to the work, because his *Typee* and *Omoo* “in many quarters, were received with incredulity, the thought occurred to me, of indeed writing a romance of Polynesian adventure, and publishing it as such; to see whether the fiction might not, possibly, be received for verity.”¹⁵⁶

While *Typee* and *Omoo* literary informational practices remained largely static, his next books—*Mardi*, *Redburn*, and *Whitejacket*—witness the author’s growing engagement with information as an organizational concept. Though Melville mostly regarded these works as hackneyed cash-ins, he nonetheless developed in them the aesthetic and theoretical groundwork upon which he would build his eventual opus, *Moby-Dick*. Especially in *Redburn*, he does much to develop his interest in the materiality of information, and the ways it is aggregated and manipulated with technologies like reference books. This is an interest that would carry over into *Whitejacket*’s diligent investigation of Navy codes and come to define much of the aesthetic innovation of *Moby-Dick*. The work that Melville describes to Richard Bentley, his British publisher after Murray, as “a plain, straightforward, amusing narrative of personal experience—the son of a gentleman on his first voyage to sea as a sailor—no metaphysics, no conic-sections, nothing but cakes & ale,” nonetheless devotes much of its narrative energy to logistical discussions of guidebooks and encyclopedias.¹⁵⁷

Many have commented upon Melville’s tendency toward difficulty and inaccessibility over his career. In his biography of Melville, Andrew Delbanco observes:

¹⁵⁶ *Mardi*, xvii.

¹⁵⁷ *Correspondence: Volume I*, “Letter to Richard Bentley,” 5 June 1949, ed Lynn Horth (Evanston: Northwestern University Press and The Newberry Library, 1993), 132.

Before his move to New York, Melville's prose had stayed pretty much within the limits of conventional narrative; but as he immersed himself in the city, his books became eclectic miscellanies, with innumerable tangents spoking out from the spine of the story, each one reaching for some new analogy that diverts our attention to some novel sensation, or topic, or fact. The city itself was a circulating collection of newspapers, leaflets, business cards, broadsides, tabloids, placards, magazines, banners, hired men walking the streets in sandwich boards, signs affixed to carriages (the nineteenth-century equivalent, as one historian has remarked, of bumper stickers), and Melville swam with pleasure through this outdoor collection en route to the indoor reading rooms where he went for more traditional literary plunder.¹⁵⁸

While Melville's writing certainly began to indulge more heavily in the kinds of tangents and diversions to which Delbanco points, it also, somewhat contradictorily, began to incorporate more and more rigid informational structures. In exploring the vastness of the informational worlds around him, Melville looked to the informational management strategies of books, libraries, and the city that surrounded them to provide structure for his data-driven prose.

It is no coincidence then that *Redburn*, and *Mardi* before it, with their vast libraries and bibliographic explorations, were books Melville wrote in the late 1840s while he was living in New York and frequenting the New York Society Library. In the opening pages of *Redburn*, Melville's protagonist, Wellingborough Redburn, discusses his intellectual ambitions, inspired by his late father's book collection: "And there was a copy of D'Alembert in French, and I wondered what a great man I would be, if by foreign travel I should ever be able

¹⁵⁸ Melville: *His World and Work*, 18-19.

to read straight along without stopping, out of that book.”¹⁵⁹ ¹⁶⁰ This offhand reference to the French encyclopedist signifies Melville’s shifting interests, from more traditional literary pursuits to the world of reference works and information management logistics.¹⁶¹ Immediately prior to his musings on d’Alembert, Redburn describes the scene of his father’s study, recalling it from childhood.

There were

pictures of natural history, representing rhinoceroses and elephants and spotted tigers; and above all was a picture of a great whale, as big as a ship, stuck full of harpoons, and three boats sailing after it as fast as they could fly. Then, too, we had a large library-case, that stood in the hall; an old brown library-case, tall as a small house; it had a sort of basement, with large doors, and a lock and key; and higher up, there were glass doors, through which might be seen long rows of old books, that had been printed in Paris, and London, and Leipsic.¹⁶²

Nodding to the works of descriptive biology that would become so central to *Moby-Dick* a few years later, he also allows his gaze to linger, as it does several times in *Redburn*, on the library as an informational space in its own right.

Focusing on their physical and informational structures, the shelves and the books themselves serve as particular points of interest. Shifting his focus from the educational illustrations lining the walls to the library-case itself, Redburn ponders its segmentations, the way that it is divided between the long rows of

¹⁵⁹ *Redburn*, 7.

¹⁶⁰ The opening pages also include typographically-structured excerpts from newspaper ads of departing ships browsed by Redburn.

¹⁶¹ It should be stated that most of his works after *Moby-Dick* do seem to lose interest in this topic. With notable exceptions, *Pierre* is a largely sentimental tale, *Israel Potter* is historic and focuses on the story and famous figures involved, and *The Confidence-Man* revives Melville’s interest in philosophy.

¹⁶² *Redburn*, 7.

books at the top and the locked “basement” at the bottom. Ultimately, both sections remain remote to the protagonist, much like the ornamental drawings. At this point in the narrative, he can only tell the readers that one of the books had “the word ‘London’ on the title-page,” which he had gazed at “many a time.”¹⁶³

It is not until Chapter Thirty that Melville offers a closer glimpse at the contents of the books described in the opening chapter. The vast majority of the books are guidebooks, that strange genre of writing often abutting the aspirational. Like travel literature in general, guidebooks, though purporting to be truthful accounts of a real-world destination, also often partake in the fantasies of hopeful travelers and the mythos of faraway and exotic locales. As with many of Melville’s works, they function on a razor’s edge of fact and fiction. It is no surprise then, that he so enthusiastically takes them as a model as he tried to transitioned from travel writer to serious novelist. Much of this work happens in the chapter titled “REDBURN GROWS INTOLERABLY FLAT AND STUPID OVER SOME OUTLANDISH OLD GUIDE-BOOKS,” where Melville devotes just under 3,500 words—nearly three percent of the entire novel—to not only naming a variety of reference books in his father’s possession, but also in-depth discussions of their subtitles, contents, physical attributes, direct transcriptions of their marginalia, and critiques of their methodologies and resulting inaccuracies.

He takes great interest in the aforementioned Liverpool guidebook of his father’s, reading it as a material object, privileging its addendums and marginalia over its more standard fare. Even as Redburn declines to share some aspects of

¹⁶³ Ibid., 7.

the guidebook, others he quotes at great length. Early in the chapter, he transcribes several passages from the fictional book, focusing his attention on the many scrawlings made by his father:

Turning over that leaf, I come upon some half-effaced miscellaneous memoranda in pencil, characteristic of a methodical mind, and therefore indubitably my father's, which he must have made at various times during his stay in Liverpool. These are full of a strange, subdued, old, midsummer interest to me: and though, from the numerous effacements, it is much like cross-reading to make them out; yet, I must here copy a few at random:--

	£	s.	d.
<i>Guide-Book</i>	3		6
<i>Dinner at the Star and Garter</i>		10	
<i>Trip to Preston (distance 31 m.)</i>	2	6	3
<i>Gratuities</i>		4	
<i>Hack</i>		4	6
<i>Thompson's Seasons</i>		5	
<i>Library</i>		1	
<i>Boat on the river</i>		6	
<i>Port wine and cigar</i>		4	

And on the opposite page, I can just decipher the following:

Dine with Mr. Roscoe on Monday.
Call upon Mr. Morille same day.
Leave card at Colonel Digby's on Tuesday.
Theatre Friday night--Richard III. and new farce.
Present letter at Miss L----'s on Tuesday.
Call on Sampson & Wilt, Friday.
Get my draft on London cashed.
Write home by the Princess.
*Letter bag at Sampson and Wilt's.*¹⁶⁴

While Redburn puts little faith in the book's published information, he seems to hold its informal addendums in much higher esteem. Rather than simply relate the presence of his father's additions, he reproduces them structurally, typographically replicating their

¹⁶⁴ Ibid., 143-144.

rigidly logical organization. Whereas he often finds the guidebook, usually seen as an informational authority, to be wrong, in faithfully transcribing his father's budget and itinerary, Redburn lends them an air of informational authority.

He even attaches to them the authority of his father's dated signature, "in indelible, though faded ink,":

WALTER REDBURN.
Riddough's Royal Hotel,
Liverpool, March 20th, 1808.

Throughout these sections, Redburn focuses intently on the nature of literary information: its forms and the way they play into its fidelity and failures. For instance, in rendering the title page, he confesses a lack of faith in the printer's ability to give a faithful reproduction:

Equally divided at the top and bottom of this design, is the following title complete; but I fear the printer will not be able to give a facsimile:--

*The
Picture
of
Liverpool:
or,
Stranger's Guide
and
Gentleman's Pocket Companion
FOR THE TOWN.
Embellished
With Engravings
By the Most Accomplished and Eminent Artists.
Liverpool:
Printed in Swift's Court,
And sold by Woodward and Alderson, 56 Castle St.
1803.*

¹⁶⁵ Ibid., 146.

Though, indeed, the printer did not represent the city arms that Redburn tells us was also found on the page, the reproduction of the print portions, at least, seems reasonably accurate. It moves among numerous font styles, mimicking the complex conventions of nineteenth-century title pages. While it hardly seems necessary to reproduce these stylistic intricacies at all, for Melville, the issue of accurate textual representation becomes a major focus.

Toward the end of the chapter, he relates to the reader “I shall now insert the chapter of antiquarian researches.” Offering pragmatic justification (much as he did in *Typee* and *Omoo*), he suggests that he does so, “especially as it is entertaining in itself, and affords much valuable, and perhaps rare information, which the reader may need, concerning the famous town, to which I made *my first voyage*.” In addition, Redburn presents the reader with his proposed methodology: “And I think that with regard to a matter, concerning which I myself am wholly ignorant, it is far better to quote my old friend verbatim, than to mince his substantial baron-of-beef of information into a flimsy ragout of my own; and so, pass it off as original.”¹⁶⁶ Once again opting for a “fac-simile” approach, Melville associates mechanical reproduction with informational accuracy. Rather than paraphrase the chapter using literary forms, Redburn prefers to replicate it via technological means. This, too, though, eventually seems inadequate to him. He reneges upon his plan to render the chapter “verbatim,” anxiously justifying his decision by musing,

But how can the printer’s art so dim and mellow down the pages into a soft sunset yellow; and to the reader’s eye, shed over the type all the pleasant associations which the original carries to me! No! by my father’s sacred

¹⁶⁶ Ibid., 149.

memory, and all sacred privacies of fond family reminiscences, I will not! I will *not* quote thee, old Morocco, before the cold face of the marble-hearted world; for your antiquities would only be skipped and dishonored by shallow-minded readers; and for me, I should be charged with swelling out my volume by plagiarizing from a guide-book—the most vulgar and ignominious of thefts.¹⁶⁷

Even “the printer’s art” cannot, as he reasons, duplicate the aged paper and memories bound up in the original volume. Perhaps more interestingly, Melville metanarratively comments upon his by now well-established practice of borrowing from factual texts for his literary material. His tongue-in-cheek condemnation of informational plagiarism nonetheless illustrates Melville’s attachment to the outside resources that would influence his literary aesthetics so fundamentally.

Melville’s interest in textual data here marks his expanding conception of what information could be, especially as a function of narrative. No longer privileging solely “useful information,” as his audience most certainly did, he begins to conceive of nearly all experience as data, as something which can be aggregated and arranged logically. This is a major departure from artistic and creative heuristics, which privilege the messiness of human experience and that which cannot be cleanly summed. His tripartite interest in typography, reference works, and extra-narrative information combine to illustrate a sophisticated conception of literature as a possible venue for the artistic exploration of experiential data.

Melville’s broadening heuristics in *Redburn* also demonstrates a growing awareness of the physical world itself as a kind of “infosphere,” as R.Z. Shepherd has

¹⁶⁷ Ibid., 149-150.

called it.¹⁶⁸ While at first Redburn seems a bit skeptical of this notion—“the able seamen in the Highlander had such grand notions about their seamanship, that I almost thought that able seamen received diplomas, like those given at colleges; and were made a sort A.M.S, or Masters of Arts”—the idea that not just books, but the world at-large could be a source of information soon finds purchase with the young sailor, and the idea would come to be a sort of philosophical mainstay in many of Melville’s later works.¹⁶⁹ In *Moby-Dick*, for instance, he makes an almost identical statement, claiming “a whale-ship was my Yale College and my Harvard,” gesturing to the informational nature of the quotidian world around him.¹⁷⁰ Though Redburn initially takes umbrage at the thought of sea-life as information, he eventually begins to open himself to the idea of even relatively familiar places being, in some sense, an assemblage of data: “People who have never gone to sea for the first time as sailors, can not imagine how puzzling and confounding it is. It must be like going into a barbarous country, where they speak a strange dialect, arid dress in strange clothes, and live in strange houses.”¹⁷¹

Comparing shipboard life to the expansive travel experiences of the type explored in his previous works, Melville emphasizes the informational milieu inherent even to the decidedly less exotic world of aboard ship. Redburn is taken aback by the nomenclature of the sea, in particular, which he dwells upon for some time: “sailors have their own names, even for things that are familiar ashore; and if you call a thing by its shore name,

¹⁶⁸ “Rock Candy,” review of *The Sweetmeat Saga* by C.F. Gravenston, *Time* (April 12, 1971).

¹⁶⁹ *Ibid.*, 62.

¹⁷⁰ *Moby-Dick*, 112.

¹⁷¹ *Ibid.*, 65.

you are laughed at for an ignoramus and a landlubber.”¹⁷² Puzzled and confounded, as he writes, by this “strange dialect,” he suggests the formulation of “a grand new naming of a ship's ropes” in much the same way as “they once had a simplifying of the classes of plants in Botany.”¹⁷³ Gesturing to the cornerstone of modern descriptive sciences, the botanical work of Linnaeus, Melville signals a respect for the efficient organization of information. Though he admits “It is really wonderful how many names there are in the world,” he goes on to wonder “whether mankind could not get along without all these names, which keep increasing every day, and hour, and moment; till at last the very air will be full of them; and even in a great plain, men will be breathing each other's breath, owing to the vast multitude of words they use, that consume all the air, just as lamp-burners do gas.”¹⁷⁴ Explicitly linking the physical world to the world of information, Melville evokes a sense of claustrophobic crowding that would have been all too real to him and other nineteenth-century residents of America’s breathless metropolis. Words, much like their human creators, become consumers of air, causing understandable anxiety.

This, indeed, was a sensation many early readers of *Moby-Dick* dealt with as Melville expanded even further his conception of data-driven writing. In the late autumn of 1851, the world literary establishment collectively grappled with a novel which would ultimately go down as one of the most impressive and innovative in history. Written

¹⁷² Ibid.

¹⁷³ Ibid., 65-66.

¹⁷⁴ Ibid., 66.

during a period of intense inspiration over the previous year, *Moby-Dick* was originally met with bewilderment by reviewers in both England and America.¹⁷⁵ Puzzled by “a variety of digressions on the nature and characteristics of the sperm whale, the history of the fishery, and similar things,” many reviewers lamented the many passages in which “a little knowledge is made the excuse for a vast many words.”¹⁷⁶ As a reviewer for the *Britannia* observed, “the information these chapters convey may be important to naturalists or whalers, but will have little interest for the general reader.”¹⁷⁷ Other reviews, while more favorable, still seemed perplexed by the amount of information assembled in this strange novel. William T. Porter, for instance, in an unsigned review in the *Spirit of the Times*, noted that “*Moby-Dick or the Whale*, is a many-sided book. Mingled with much curious information respecting whales and whaling there is a fine vein of sermonizing, a good deal of keen satire, much humor, and that too of the finest order, and a story of peculiar interest”¹⁷⁸ The “curiousness” of all this information in a work calling itself a novel serves as a common thread amongst almost all the reviews, positive and negative. One final notice, curious in its own right, laments, “Mr. Melville

¹⁷⁵ Lewis Mumford evocatively describes Melville’s writing practices in his biography, *Herman Melville: A Study of his Life and Vision*:

Melville knows he must not let up on this work; he flogs himself to get his uttermost into it; the application ruins his eyesight. This small aperture and northern light are bad for his eyes: no matter: he writes with one eye closed and the other blinking. By December, in the evening, he is exhausted: he spends the aftermath of the day in a sort of physical trance: but already his mind is anticipating the developments of the next day, and he is up early, and goes back to his task.” (103)

¹⁷⁶ Unsigned review, *Spectator*, 25 October 1851, 1026-7, *Melville: The Critical Heritage*, 257.

¹⁷⁷ Unsigned review, *Britannia*, 8 November 1851, 714-15, *Melville: The Critical Heritage*, 260.

¹⁷⁸ William T. Porter, unsigned review, *New York Spirit of the Times*, 6 December 1851, 494, *Melville: The Critical Heritage*, 280.

has crowded together in a few prefatory pages a large collection of brief and pithy extracts from authors innumerable, such as one might expect as headings for chapters. We do not like the innovation. It is having oil, mustard, vinegar, and pepper served up as a dish, in place of being scientifically administered sauce-wise.¹⁷⁹ This shift in reception is a significant one, mostly because, as I noted earlier, Melville's integration of informative sources was one of the things critics liked most about his early works.

For some reason, though, the data within this particular narrative was very hard for contemporary critics, and even readers today, to reconcile. As Lewis Mumford observed:

The conventional critic has dismissed *Moby-Dick* because it is 'not a novel,' or if it is a novel, its story is marred by all sorts of extraneous material, history, natural history, philosophy, mythological excursions, what not. This sort of criticism would belittle *Moby-Dick* by showing that it does not respect canons of a much pettier nature than the work itself, or because its colossal bulk cannot be caught in the herring-net of the commonplace story or romance.¹⁸⁰

If a novel is a device for telling a story or, alternately, exploring truth, why linger so long away from the narrative, why include so much that is indisputably true?¹⁸¹ It makes, as one reviewer observed "bad stuffing," used by Melville "to fill out his skeleton story," and "serving only to try the patience of his readers, and to tempt them to wish both him

¹⁷⁹ William Young, unsigned review, *Albion*, 22 November 1851, 561, *Melville: The Critical Heritage*, 272.

¹⁸⁰ Lewis Mumford, *Herman Melville: A Study of his Life and Vision* (New York: Harcourt, Brace, & World Inc, 1929), 1964 edition, 120.

¹⁸¹ See, again, Lucács' "Narrate or Describe?" Benjamin's "The Storyteller" is also insightful in its look at the relationship between narrative and information.

and his whales at the bottom of an unfathomable sea.”¹⁸² A fitting exile, considering much of the criticism casts the work itself as a sort of unfathomable sea.

What caused this critical shift? What caused critics who had savored the data-rich and sun-soaked scenes of *Typee* and *Mardi* to feel so ill at ease with Melville’s musings in *Moby-Dick*. The young author, of course, had stumbled a bit since those early successes: *Mardi* was also met with puzzlement, and *Redburn* and *Whitejacket*, though regarded as a return to form for Melville, still did not sell very well. But hashing everything up to a public image problem seems inadequate to fully account for the almost universal about-face critics made with respect to Melville’s informational prose. In this chapter, I will argue that it was not so much a change in the type or amount of information, but a further shift in aesthetic strategies that continued the author’s precipitous drop into relative obscurity. As I have already shown, after his inaugural novels, Melville began mimicking the forms and structures of the reference works where he was finding the “solid information” that had originally made his works so appealing. In an attempt to adapt literary aesthetics to the practical functions of information management and transmission, he rendered his works all but unapproachable for readers used to more standard literary forms. All but abandoning the genial, comic tone of the early novels, which helped to integrate data into narrative, the strict typographical structures he began adopting in *Mardi* began to overrun the page in *Moby-Dick*, making the work almost impossible to read as standard prose.

Melville himself recognized these issues as he undertook his now-customary rewrite of his new novel, warning Richard Henry Dana that it “will be a strange sort of

¹⁸² Unsigned review, *Literary Gazette*, 6 December 1851, 841-2, *Melville: The Critical Heritage*, 276.

book, tho,' I fear; blubber is blubber you know ... and to cook the thing up, one must needs throw in a little fancy, which from the nature of the things, must be ungainly as the gambols of the whales themselves."¹⁸³ Tackling the problem of balancing narrative and information, the struggling writer even here shows an inkling that the narrative and aesthetic strategies needed to "dress up" his strange new work would be sad substitutes for the "stirring adventure" he identified in books like *Typee*.¹⁸⁴

Much of this artifice was made necessary by Melville's financial difficulties. He was nearly always cash-strapped: "Dollars damn me," he famously wrote to Hawthorne in 1851," and the malicious Devil is forever grinning in upon me, holding the door ajar....What I feel most moved to write, that is banned, -- it will not pay. Yet, altogether, write the *other* way I cannot. So the product is a final hash, and all my books are botches."¹⁸⁵ This artistic failure, interestingly, he links metaphorically to size and space: "Leviathan is not the biggest fish," he writes in another letter to Hawthorne, after completing the book, "I have heard of Krakens." He then wishes for an "endless riband," upon which he could "write a thousand—a million—billion thoughts," but sensibly dismisses this as a fantasy, only possible "if the world was entirely made up of Magians."¹⁸⁶ Melville was facing down unmanageable complexity that at times seemed to require magic to impose any sort of order. Rather than magic, though, he turned to the

¹⁸³ *Correspondence*, 162.

¹⁸⁴ *Typee*, xiii.

¹⁸⁵ *Correspondence*, 191.

¹⁸⁶ *Ibid.*, 213.

bureaucrats, scientists, industrialists, and knowledge workers of his time, who were tackling similar issues of scale.

Even from its opening pages, consisting of an “Etymology” and a catalogue of historic and mythological references to whales, *Moby-Dick* begs to be read as a meditation on the epic struggle between informational chaos and order. In the expansive “Extracts” section, Melville frames the task of collection as Sisyphean. “Supplied by a Sub-Sub-Librarian,” the chapter sprawls for twelve pages, incorporating both accurate and inaccurate citations from Plutarch to Darwin. It proves, as Melville notes, a “glancing bird’s eye view of what has been promiscuously said, thought, fancied, and sung of Leviathan, by many nations and generations.¹⁸⁷” The citations borrow from the modular structure of encyclopedias, commonplace books, and dictionaries, but are not organized by chronology, nature, or, seemingly, any logic, demonstrating the impossibility of giving shape to the world. Melville’s framing narrative also points to this fact: he precedes the collection with an ode to all the “Sub-Subs” who, “for how much the more pains [they] take to please the world, by so much the more shall [they] for ever go thankless.”¹⁸⁸

Partaking in the dry tasks of data collection and organization, they are doomed, much as Melville in his more experimental (and data-heavy) works, to go misunderstood and underappreciated. Recognizing the importance of their act of collection (and meta-narratively, his own), though, Melville declares that their “friends who have gone before

¹⁸⁷ *Moby-Dick*, xvii.

¹⁸⁸ *Ibid.*, xxxix.

are clearing out the seven-storied heavens, and making refugees of long-pampered Gabriel, Michael, and Raphael, against [their] coming.” “Here,” he declares, “ye strike but splintered hearts together—there ye shall strike unsplinterable glasses!”¹⁸⁹ Melville uses this section to frame the human condition itself as a task of data collection, organization, and encoding, one that allows a “poor devil of a Sub-Sub” to ascend, in a reversal of Lucifer’s fate, to the station of archangel. Persistently linking what we have come to call information science with religious experience, he paints the image of a pilgrim, “going through the long Vaticans and street-stalls of the earth, picking up whatever random allusions to whales he could find in any book whatsoever, sacred or profane.” The sub-sub’s scraps are not “veritable gospel cetology,” but still the act of knowledge collection, regardless of canonicity or veracity, reserves him a spot in the highest halls of heaven.¹⁹⁰ Every bit the equal of the genius artist, the documentarian for Melville is a modern-day hero, filtering the flood and constructing meaning for those less brave in their intellectual endeavors.

The faux-epic tone points simultaneously to the heroic and the humorous. The task is at once gallant and farcical: the sub-sub fights back the tide not with a sword, but with his or her mind. And the project seems doomed from the start. The “Extracts” offer some shape to the whale, but as he observes in the “Of the Monstrous Pictures of Whales” chapter, the “manifold mistakes in depicting the whale are not so very surprising at all...the living Leviathan has never yet fairly floated himself for his portrait.”¹⁹¹ This

¹⁸⁹ Ibid., xl.

¹⁹⁰ Ibid., xxxix.

¹⁹¹ Ibid., 263.

is the crux of the problem for Melville: what lies beyond the “pasteboard mask” does not readily reveal itself, and when it does, it often proves too awesome for art alone to capture. His mixed approach, drawing not just from aesthetics, but from various organizational schema, seems to provide him with a more reliable, more scientific methodology for capturing his subject.

Melville’s organization of the allusions into discrete, uniformly formatted entries, marks an evolution in his understanding of information systems, and also in the sophistication, albeit teleologically-understood, of his aesthetics. With notable exceptions, including the previously explored listing of archival volumes in *Mardi*, most of his data-rich passages had been integrated, to varying degrees, within prose forms. This type of stylized narrative textualization, often associated with the media-soaked novels of the modernist and postmodernist eras, appears often in *Moby-Dick*. It is, in fact, one of Ishmael’s primary strategies for making sense of the inscrutable. Despite his seeming aversion to text-laden landscape urban spaces—while wandering New York’s crowded battery he has to stop himself “from stepping into the street, and methodically knocking people’s hats off”—Ishmael repeatedly translates experience and information into print mediums, rendering experience literally and metaphorically readable by turning it into text. Before leaving the city, Ishmael imagines the newsprint fanfare that would surround his journey:

my going on this whaling journey, formed part of the grand programme of Providence that was drawn up a long time ago...I take it that this part of the bill must have run something like this:

Grand contested election for the Presidency of the United States.
WHALING VOYAGE BY ONE ISHMAEL.

BLOODY BATTLE IN AFFGHANISTAN [sic].¹⁹²

Imagining his journey as a massively publicized, Barnumesque production, Ishmael manifests real experience in text, freezing it in a form that looks as much like a sensational headline as a programme. Though, just chapters later, he expresses his relief at encountering no news at sea, this particular mass media-encoding of experience seems to bring him some comfort. While he complains about his “shabby” role, he is also taken by its fortune by its proximity to “magnificent parts in high tragedies,” imagining himself playing a small part in history writ large.¹⁹³ The permanence of the print, immortalized alongside non-trivial news events—the election of a president and a bloody conflict—renders the dramatic production more history book than histrionics. This is, with the exception of Ishmael’s own headline, no penny press pap. For the young sailor, reality is much too slippery; it is only by freezing it, by encoding it in text, that one can find a semblance of permanence and meaning.

About halfway through the chapter “The Gam,” for instance, Ishmael decides the eponymous word “needs a definition, and should be incorporated into the Lexicon.”¹⁹⁴ “With that view,” he offers, “let me learnedly define it.” What follows is a four line, dictionary definition, unceremoniously dropped into the otherwise standard prose of the chapter:

GAM. Noun—*A social meeting of two (or more) Whale-ships, generally on a cruising-ground; when, after exchanging hails, they exchange visits by boats’ crews: the two captains remaining, for the time, on board of one ship, the two chief mates on the other.*

¹⁹³ Ibid., 7. Rendered typographically as the passage appears in the text to demonstrate the newspaper form of Melville’s aesthetic.

¹⁹⁴ Ibid., 240.

Playfully skewering famous lexicographer's for their oversight, he jokes that "you might wear out your index-finger running up and down the columns of dictionaries, and never find the word. Dr. Johnson never attained to that erudition; Noah Webster's ark does not hold it."¹⁹⁵ Melville's close attention to both the form and function of reference works—he laments that, though absent from these dictionaries, "this same expressive word has now for many years been in constant use among some fifteen thousand true born Yankees"—suggests a mind convinced of the duty of books, be they novels, encyclopedias, or guidebooks, to set down reality, fastidiously and accurately. This act, of course, brings with it the form and structure of a dictionary entry, even in the midst of several hundred pages of prose writing. For Melville, this, rather than literary form, is the correct and efficient manner for rendering this type of information.

Similarly, in the famous "Cetology" chapter, the organizational framework comes scraped from the pages of Linnaeus and Bacon, whose scientific revolution classification systems still exert huge influence on descriptive and information sciences to this day. Melville's folio-based taxonomical system, while tongue-in-cheek, nonetheless points to his overriding sense of the need to textualize and aestheticize even real world information. Proposing to offer "some systematized exhibition of the whale in his broad genera," he acknowledges that it is "no easy task" to develop a "classification of the constituents of a chaos," pointing out that "no branch of Zoology is so much involved as that which is entitled Cetology."¹⁹⁶ He goes about this organizational task in an oddly

¹⁹⁵ Ibid.

¹⁹⁶ Ibid., 134.

textual manner, separating whales into groups that take their names from book publishing formats: Books, Folios, Octavos, and Duodecimos.¹⁹⁷ Melville shapes the chapter in the fashion of a reference book, separating these “chapters” into individual entries that model the encyclopedic form. His odd admixture of the principles of printing conventions, reference works, and descriptive biology serve as a strategy for organizing and making sense of the arcane knowledge of cetology.

Logically, Melville’s interest in informational completeness leads him to another textual data management device: the footnote.¹⁹⁸ First appearing six chapters earlier in “The Advocate,” he makes his first extensive use of the device in “Cetology.” In the former chapter, only two footnotes appear reading simply, “See subsequent chapters for something more on this head.” Giving an inkling of the informational density to come, these notes nonetheless refrain from any real excess, merely indicating that more information can be found through further reading. They are none too effective, either, not indicating exactly where more on these topics—the status of the whale as “a royal fish” under English law and the prominent position of a whale skeleton in the spoils of a Roman general in Syria—can be found. Simultaneously aesthetically eccentric and logically efficient, the repeated snippet of text evokes at once creativity and a profound lack thereof, bending the standard rules of narrativization while at the same time defaulting to a methodical, repetitive statement.

While these first forays into footnotes seem but a testing of the water, with “Cetology,” a commonly cited example of encyclopedic writing, the footnotes begin to

¹⁹⁷ Ibid., 137.

¹⁹⁸ For more on the footnote in extra-literary contexts, see Anthony Grafton, *The Footnote: A Curious History* (Cambridge: Harvard University Press, 1999).

expand exponentially. No longer single imperative sentences, they morph into full paragraphs exploring etymology, taxonomy, and history. Footnotes make appearances in many of the most data-driven chapters of the novel: “The Great Heidelburgh Tun,” “The Tail,” and “The Whiteness of the Whale,” among others. All of these chapters are either exceedingly informational or narratively extraneous; in the last of these chapters, the footnotes, at points, overtake the main text. This innovation, which we take for granted with its proliferation in literary fiction of the twentieth and twenty-first centuries—Eliot, Wallace, Le Guin, Danielewski, Diaz—seems for Melville an organic adaptation of an information technology he had encountered in the numerous natural histories he had read and integrated into his works throughout his career.¹⁹⁹

Struggling with the sheer volume of it all, however, his works often eschew modern notions of organization, instead surrendering to sprawl and disorder. This becomes most clear in Melville’s repeated attempts, in *Moby-Dick*, to characterize whales generally and the white whale in particular, devoting large tracts of the novel to arcane cetological resources and homespun folio-based taxonomical systems. Despite all this effort, however, he can say little definitive about Moby Dick aside from the fact that it is a sort of impenetrable white. Moby Dick is the indeterminate in a work that struggles so much for the logical organization of knowledge. Just as Ahab struggles against the inscrutable whale, Melville struggles against that which defies narrative, organization, representation, and aestheticization. Ahab’s failure to destroy Moby Dick suggests the artist’s failure to capture totality; in the masterful “The Whiteness of the Whale” chapter, Melville makes this connection clear. Evoking traditional literary symbols, he suggests

¹⁹⁹ See Grafton again for a confirmation of this historiography, but also some exceptional examples of earlier literary footnotes.

that the Moby Dick's blank hue blots them all out, rendering them meaningless: "the mystical cosmetic which produces every one of [the earthly hues], the great principle of light, for ever remains white or colorless in itself, and if operating without medium upon matter, would touch all objects, even tulips and roses, with its own blank tinge—pondering all this, the palsied universe lies before us a leper." The white whale's destruction of meaning, and in particular, symbolic literary meaning, is the motivation for Ahab's vengeance: "And of all these things," he writes, "the Albino whale was the symbol. Wonder ye then at the fiery hunt?"²⁰⁰ The very mysteries that the arts hope to capture are rendered meaningless by the epistemological immensity of the whale. For Melville, the written word will always fall short of the truth it attempts to capture. The artistic aims of *Moby-Dick* and indeed all art attempting to capture an information-rich world, are, much as Ahab's hunt, "immutably decreed," yet eternally doomed.^{201 202}

In many ways, this failure is the result of Melville's rather rigid devotion to contemporary information management technologies. His fancy for libraries and reference books tied him to information management technologies of the real world, where physics, demographics, and other factors limited possibility. Even as these technologies represented very exciting opportunities for innovation in the writing of literary fiction, they impressed upon the fictional work organizational limitations deriving

²⁰⁰ *Moby-Dick*, 195.

²⁰¹ *Ibid.*, 561.

²⁰² Similarly, Robert T. Tally observes in *Melville, Mapping, and Globalization: Literary Cartography in the American Baroque Writer* (New York: Bloombury Press, 2009), "Melville's outrageously extravagant project, his baroque art and global literary cartography, disclose an almost hopeless desire for comprehension; the representation Melville attempts is quite impossible, but there is magnificent power in the attempt itself" (xii-xiii).

from the real world. Rationalist impulses toward synthesis and comprehensiveness meant that many of these technologies functioned under a delusional aspiration toward representational completeness. The ontological systems of Bacon and Linnaeus, the encyclopedic project of d'Alembert and Diderot, all contain some pretense toward exhaustiveness: their systems are meant to encompass the whole of something, be it human knowledge or nature.²⁰³ The growing realization that this was impossible via these technologies partially accounts for the pessimistic worldview eventually espoused by Melville in *Moby-Dick*.

More than in its textual structures, the narrative as a whole is determined by this idea of informational entropy. To be clear, I am using the term “informational entropy” not in the technical sense of Shannon, but to indicate the tendency for large masses of information to defy organization and understanding and, if organized, to escape that imposed form with mercenary efficiency. The anti-hero Ahab, decidedly a man of action, cares little for thought and observation, preferring rather to hunt down and exterminate the “nameless, inscrutable, unearthly” things he sees in the figure of Moby Dick. Ishmael, on the other hand, primarily exercises a Latourian role of description throughout the novel, tracing and making sense of the intricacies of his subject. As he exasperatedly

²⁰³ This is said with the knowledge that a large part of the modernity of the latter here is attributed to d'Alembert and Diderot's awareness of the impossibility of encyclopedic completeness. However, they still seem to hold out a utopian vision of the power of systems and science to “collect knowledge disseminated around the globe; to set forth its general system to the men with whom we live, and transmit it to those who will come after us, so that the work of preceding centuries will not become useless to the centuries to come; and so that our offspring, becoming better instructed, will at the same time become more virtuous and happy, and that we should not die without having rendered a service to the human race” (Denis Diderot, "Encyclopedia," *The Encyclopedia of Diderot & d'Alembert Collaborative Translation Project*, Translated by Philip Stewart (Ann Arbor: Michigan Publishing, University of Michigan Library, 2002). Originally published as "Encyclopédie," *Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers*, 5:635–648A (Paris, 1755).).

suggests, “in the mere act of penning my thoughts of this Leviathan, they weary me, and make me faint with their outreaching comprehensiveness of sweep, as if to include the whole circle of the sciences, and all the generations of whales, and men, and mastodons, past, present, and to come, with all the revolving panoramas of empire on earth, and throughout the whole universe, not excluding its suburbs.” Ahab hopes to stamp out, to kill, these harborless immensities, Ishmael to define and shape them, “to manhandle this Leviathan,” as he puts it.²⁰⁴ Invoking Dr. Johnson again, he makes his means clear: through proven information technologies, he will “compile a lexicon” in order “to enlarge, amplify, and generally expatiate.”²⁰⁵

Melville himself enacts this struggle for control throughout the novel, testing its effectiveness in the face of Ahab’s blind fury and fated failure. While Ahab exhibits obvious strength, at times seeming a force of nature, Ishmael quietly and invisibly shapes the narrative at every turn.²⁰⁶ Ahab, the visceral force, drives the narrative action, even as Ishmael relentlessly regulates the text. Indeed, it is only as the story draws to a close and Melville is forced to conclude the narrative that Ahab wrests back some measure of control from Ishmael and his musings on cetology, the whaling industry, and various

²⁰⁴ *Moby-Dick*, 497.

²⁰⁵ *Ibid.*, 496.

²⁰⁶ Ishmael’s similarity to the transparent eyeball is much remarked upon within the literature. This reading would cast him, in his passive, but ultimately effective control over the novel, as the same. See Rogin, *Subversive Genealogy: The Politics and Art of Herman Melville* (New York: Knopf, 1983), 110; Spengler, *Literary Spinoffs: Rewriting the Classics – Reimagining the Community* (Frankfurt: Campus Verlag, 2015), 198-99; Knighton, *Idle Threats: Men and the Limits of Productivity in 19th-Century America* (New York: New York University Press, 2012), 165-66; and Blum, *The View from the Masthead: Maritime Imagination and Antebellum Sea Narratives* (Chapel Hill: University of North Carolina Press, 2008), 121; among others. Most agree that Ishmael’s relative impotence, primarily a result of habitual flights of fancy, signifies Melville’s critique of Emerson’s concept. I am not so much interested in Melville’s thoughts on the matter as the fact that the narrative as a whole takes its shape from Ishmael’s curious nature.

other arcana.²⁰⁷ Ishmael's ultimate survival and Ahab's demise metanarratively parallel the former's role as shaper of the narrative. On one level an allegorical testing of Emerson's vacillating conception of the philosopher-king, Ishmael's place as sole survivor underlines the importance Melville bestows upon the sub-sub at the beginning of the work. Though Ishmael fails miserably in controlling Ahab's megalomaniacal mission—as he admits, “I, Ishmael, was one of that crew, my shouts had gone up with the rest”²⁰⁸—he acts as a structure-giving counterforce to “that inscrutable thing” which drives Ahab's mad quest.²⁰⁹

Indeed, as “Ahab's quenchless feud” became his own, Ishmael, “with greedy ears...learned the history of the murderous monster.”²¹⁰ He then proceeds to lay out the tale systematically for the reader in the form of a fictionalized historiography blending both Jeremiah N. Reynolds' “Mocha Dick: Or The White Whale of the Pacific: A Leaf from a Manuscript Journal” and Owen Chase's *Narrative of the Most Extraordinary and Distressing Shipwreck of the Whale-Ship Essex*. The chapter is perhaps the finest encapsulation of the theoretical underpinnings of Melville's data logistics. Immediately following Ahab's fiery speech entreating his crew to join him in his quest for bloody vengeance, the narrative fractures into a series of soliloquies by Ahab and two of his mates, Starbuck and Stubb, and a dramatic chorus of the ship's harpooners and sailors.

²⁰⁷ For an empirical testing of this assertion, see Matthew L. Jockers, *Text Analysis with R for Students of Literature* (New York: Springer, 2014). There he shows that mentions of “Ahab” display a strong negative correlation to “whale” in the book (31).

²⁰⁸ *Moby-Dick*, 194.

²⁰⁹ *Ibid.*, 178.

²¹⁰ *Ibid.*, 179.

An avant-garde pastiche of Shakespearean and Greek dramatic forms, the narrative only finds its baseline again through Ishmael's intervention, which returns the reader to typical prose style, rather than the highly structured dramatic conventions of stage directions and labelled dialogue. Melville instinctively grasps the quixotic nature of modern information, its tendencies to both require and defy structure, to both proliferate uncontrollably and provide the means for its own control. In reclaiming for the narrative this informational ballast, Ishmael as storyteller reasserts his agency against Ahab's dangerous and passionate entreaties, which former tellingly laments have rendered his soul, "more than matched...overmanned; and by a madman!"²¹¹

While offering him some degree of control, this textual rendering of data is, nonetheless, vexed for Ishmael. Though he seems to appreciate some of the works he cites, the inherent infidelity of text consistently exasperates him. In "Cetology," he suggests

There are only two books in being which at all pretend to put the living sperm whale before you, and at the same time, in the remotest degree succeed in the attempt. Those books are Beale's and Bennett's; both in their time surgeons to English South-Sea whale-ships, and both exact and reliable men. The original matter touching the sperm whale to be found in their volumes is necessarily small; but so far as it goes, it is of excellent quality, though mostly confined to scientific description. As yet, however, the sperm whale, scientific or poetic, lives not complete in any literature. Far above all other hunted whales, his is an unwritten life.

Despite appearing, from the near constant allusions and asides, to be a prodigious reader, Ishmael nonetheless remains skeptical of the utility of text and other human methods of knowledge preservation. In Chapter 55, "Monstrous Pictures of Whales," he calls into question the faithfulness of both memory and artistic representations of memory,

²¹¹ Ibid., 169.

concluding that “the great Leviathan is that one creature in the world which must remain unpainted to the last.”²¹² Ironically, as he fills a massive tome with trivia on the creature, Ishmael advises the reader, “you had best not be too fastidious in your curiosity touching this Leviathan.”²¹³

Ahab, in opposition to Ishmael, addresses this slippage pragmatically, constructing his nemesis as a perfect embodiment of that which ails the world:

The White Whale swam before him as the monomaniac incarnation of all those malicious agencies which some deep men feel eating in them...deliriously transferring its idea to the abhorred white whale, he pitted himself, all mutilated, against it. All that most maddens and torments; all that stirs up the lees of things; all truth with malice in it; all that cracks the sinews and cakes the brain; all the subtle demonisms of life and thought; all evil, to crazy Ahab, were visibly personified, and made practically assailable in Moby Dick.²¹⁴

A vast assemblage of diverse thoughts and circumstances, the whale, to Ahab’s mind, cleanly encompasses the ineffable world, making it open to attacks from his violent crusade.

For Ishmael, though, the problem is more complicated. In much the same manner as Ahab tries to read meaning into the whale, Ishmael tries to read his own whale in “The Blanket”:

Almost invariably [the sperm whale] is all over obliquely crossed and re-crossed with numberless straight *marks* in thick array, something like those in the finest Italian -line *engravings*. But these *marks* do not seem to be impressed upon the isinglass. substance above mentioned, but seem to be seen through it, as if they were *engraved* upon the body itself. Nor is this all. In some instances, to the quick, observant eye, those linear *marks*, as in a veritable *engraving*, but afford the ground for far other

²¹² Ibid., 289.

²¹³ Ibid.

²¹⁴ Ibid., 200.

delineations. These are *hieroglyphical*; that is, if you call those *mysterious* cyphers on the walls of pyramids *hieroglyphics*, then that is the proper *word* to use in the present connexion.

The language of textuality, reading, and writing, which I have italicized, pervades the passage, as does the trope of strata. Later, he compares the marks to “Indian characters” that remain “undecipherable.”²¹⁵ This idea of scrutability serves as an organizing principle in “The Blanket,” along with “The Sperm Whale’s Head” and “The Right Whale’s Head,” two chapters that follow in quick succession. Ishmael’s observation in “Of the Monstrous Pictures of Whales” that the

The living whale, in his full majesty and significance, is only to be seen at sea in unfathomable waters; and afloat the vast bulk of him is out of sight, like a launched line-of-battle ship; and out of that element it is a thing eternally impossible for mortal man to hoist him bodily into the air, so as to preserve all his mighty swells and undulations.²¹⁶

suggests that to kill the whale, to freeze it for human observation, would render it readable. The very isinglass substance he decries as “hieroglyphical,” when removed from a dead whale used “for marks in... whale-books,” Ishmael says he liked to fancy “exerted a magnifying influence.”²¹⁷ Rather than obfuscating, the inert whale proves clarifying. It is no longer changing, moving, shifting, the very qualities that so defined Melville’s world. Both Ishmael’s desire to hoist the whale “bodily,” and Ahab’s desire to kill it, mark a shared desire to gain some foothold on its constantly shifting legibility.

²¹⁵ Ibid., 333.

²¹⁶ Ibid., 288.

²¹⁷ Ibid., 333.

As such, the encyclopedic aims of Ishmael and Melville in *Moby-Dick* are doomed to failure, much like Ahab's hunt. Closing the "Cetology" chapter, Melville writes

Finally: It was stated at the outset, that this system would not be here, and at once, perfected. You cannot but plainly see that I have kept my word. But I now leave my cetological System standing thus unfinished, even as the great Cathedral of Cologne was left, with the crane still standing upon the top of the uncompleted tower. For small erections may be finished by their first architects; grand ones, true ones, ever leave the copestone to posterity. God keep me from ever completing anything. This whole book is but a draught—nay, but the draught of a draught. Oh, Time, Strength, Cash, and Patience!²¹⁸

This deep sense of the representational inadequacy of human systems in rendering reality deeply informs Melville's artistic vision. His sense of the writer's task as Sisyphean underlies the pessimistic, misanthropic worldview so often associated with Melville's works. As he wrote in "Hawthorne and his Mosses," "It is hard to be finite upon an infinite subject, and all subjects are infinite."²¹⁹ Both Ahab and Ishmael offer strategies for mitigating this circumstance—Ahab, simplistic domination; Ishmael, sophisticated manipulation—but both ultimately fail, both end up stove or dead in the vast ocean. In more lighthearted moments, Melville would suggest, "there are some enterprises in which a careful disorderliness is the true method," but this was not a solution with which he could ultimately truck.²²⁰

²¹⁸ *Moby-Dick*, 145.

²¹⁹ "Hawthorne and His Mosses," *The Piazza Tales and Other Prose Pieces: 1839-1860*, eds. Harrison Hayford, Hershel Parker, and G. Thomas Tanselle (Evanston: Northwestern University Press and The Newberry Library, 1987), 253.

²²⁰ *Moby-Dick*, 361.

The deep desire to fully render, understand, and organize experience, and the impossibility of such a task left Melville's creative vision ultimately unattainable. He made great strides aesthetically, but ultimately there is no way to represent reality completely, at a one-to-one scale. D.H. Lawrence poetically wrote "Never man instinctively hated human life, our human life, as we have it, more than Melville did. And never was man so passionately filled with the sense of the vastness and mystery of life which is non-human. He was mad to look over our horizons. Anywhere, anywhere out of *our* world. To get away. To get away, out!"²²¹ The world was always too large for Melville, and art too small. As with so many overwhelming experiences, the pleasure at points seems to turn to frustration. Experiencing a kind of sublimity of modernity, Melville's attempt to render a world in all its complexity ultimately spirals into inefficacy and depression.²²²

At the beginning of this chapter, I included a photograph of Melville's restored library in his Berkshire house, Arrowhead. Per their website, "The Berkshire Historical Society," who administer the property as an historical museum, "has restored the room to its Melville-era appearance based on documentary and physical evidence."²²³ Though I cannot say for certain the extent to which the Berkshire Historical Society has recreated the room as it was when Melville was actively writing there, the photo to me evidences

²²¹ Ibid., 134.

²²² Joseph Tabbi suggests a similar sentiment in his book *Postmodern Sublime: Technology and American Writing from Mailer to Cyberpunk* (Ithaca: Cornell University Press, 1995). While he limits his discussion to twentieth-century, postmodern literature, I'd like to suggest a similar phenomena arose, as a consequence of information overload, in nineteenth-century New York. Tabbi's characterization of the works he looks at as those that try to present "the unrepresentable" and "invoke a reality that is ultimately unnamed and resistant to concrete reference" suggests an overlap with the works that inform my project (xi, 227).

²²³ <http://berkshirehistory.org/herman-melville-arrowhead/restoration-of-arrowhead/>.

an individual highly concerned with clean organization. The desk supports a scant few papers and quills, books sit neatly arranged in bookshelves lining the walls, the floor is clear, and other images of the space show it to be arranged in a sparse, but orderly fashion. The room, it seems clear, was a place that brought Melville a sense of clarity and personal agency. His famous Berkshires neighbor Nathaniel Hawthorne describes him in *A Wonder Book* “on the other side of Pittsfield...shaping out the gigantic conception of his ‘White Whale,’ while the gigantic shape of Graylock looms upon him from his study-window.”²²⁴ At around this same time, Melville wrote a letter to Hawthorne upon returning to Arrowhead from the city, confiding that he “came back to the country to feel the grass—and end the book [*Moby-Dick*] reclining on it, if I may,” having grown “disgusted with the heat and dust of the babylonish brickkiln of New York.”²²⁵ His work life in the Berkshires seemed to offer him a *Bartleby*-like control over his own labor, an ability to organize and balance his life around more than the corporate demands of a publishing house.

In a letter to Evert Duyckinck during the composition of *Moby-Dick*, Melville offers a description of his daily life at Arrowhead for the New York literati:

I rise at eight—thereabouts--& go to my barn—say good morning to the horse, & give him breakfast. . . . Then, pay a visit to my cow—cut up a pumpkin or two for her, & stand by to see her eat it—for it is a pleasant sight to see a cow move her jaws—she does it so mildly and with such sanctity—My own breakfast over, I go to my work-room & light my fire---then spread my M.S.S on the table—take one business squint at it, & fall to with a will.²²⁶

²²⁴ *A Wonder Book and Tanglewood Tales*, eds. William Charvat, Roy Harvey Pearce, and Claude M. Simpson (Columbus: Ohio State University Press, 1972), 169. For more, see Parker, 850.

²²⁵ *Correspondence*, “Letter to Nathaniel Hawthorne,” 29 June 1851, 195.

²²⁶ *Ibid.*, “Letter to Nathaniel Hawthorne,” 29 January 1851, 174.

Melville's peace of mind is palpable in the missive, and much of it seems to stem from his ability to master his surroundings. Prior to setting out for New York, he lamented to Hawthorne that he was going "to bury myself in a third-story room, and work and slave on my 'Whale' while it is driving through the press."²²⁷ The fanciful image of Melville feeding still-drying manuscript pages through the printing machine even as they come out the other side speaks to a writer deeply concerned with his contingent ability to control his own circumstances. For him, his country home, much as the surrounding New England area did for other Renaissance writers, offered him the opportunity to assert himself as an intellectual and as a writer. There, he was isolated from the market pressures of his big city publisher and the crowded, suffocating working conditions. He could observe his livestock and Greylock for inspiration, and "fall to with a will," rather than "work and slave" in a depersonalizing "third-story room." The contrast between the spaces: one a hellish writing factory, the other a pastoral, inspirational Eden where Melville is free to assert himself according to his whims.

In the next chapter I will look at a strikingly different photograph taken of Whitman, *in situ*, in his Camden work space. Whereas the image of Melville's study speaks to an individual fiercely fighting to enact order upon his world, the photo of Whitman evidences a man content to descend into and work within chaos. The frustration Melville feels in New York, at the times he is forced to write according to the dictums of the capitalist press, the frustration he vents so memorably in "Bartleby," he tries desperately to counter in the willed organization of his life and living spaces at

²²⁷ Ibid., "Letter to Nathaniel Hawthorne," 1 June 1851, 191.

Arrowhead. Whitman, on the other hand, seemed to revel in the messiness and disorder of his modern world.

Chapter 3: “What great births you have witnessed!”: Walt Whitman, Democracy, and Literary Data Efficiency²²⁸



Figure 2

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²²⁸ Excerpt from a letter written by Mark Twain to Walt Whitman on the occasion of Whitman’s seventieth birthday. Published in produced in *Camden’s Compliment to Walt Whitman*, ed. Horace Traubel.

²²⁹ Per LoC, no known restrictions to image. Variant of Library of Congress image found at <http://www.loc.gov/pictures/item/2005677241/>

In his twilight years, Walt Whitman became something of an elder sage to some portion of the American literary establishment, members of which made pilgrimages to his Camden home in the hopes of gleaning wisdom from “The Good Gray Poet.” Out of these visits came a large trove of periodical articles in which these travelers described their time with the aging visionary. Most of these accounts describe a man reserved but witty; stoical but given to outbursts of passion; largely incapacitated by a series of strokes in the 1870s, but still reserving some of outsized zeal and fervor so evident in his magnum opus, *Leaves of Grass*. Confined to a largely stationary existence, the writer who once reveled in the chaos of Broadway and roved across large swathes of the United States now walled himself in behind mountains of stuff. Nearly all his visitors describe a scene of the poet “sitting in his great chair by the window, in front of him a table heaped up at least to the height of four feet with books of all sorts, old and new, gift-editions from men famous in letters, and cheap second-hand purchases; the floor was knee-deep in newspapers, manuscripts, and books, among the last a well-thumbed Latin lexicon.”²³⁰ ²³¹

The chaos bothered many of his guests, who seemed surprised that the bard whose poetry so reveled in the detritus of American life would accumulate some clutter of his own as he settled into his long, forced retirement. One such visitor was Jeannette L. Gilder, an editor with the *Critic*, who went so far as to suggest that, “Any one with the

²³⁰ *Whitman in His Own Time: A Biographical Chronical of His Life, Drawn from Recollections, Memoirs, and Interviews by Friends and Associates*, ed. Joel Myerson (Iowa City: University of Iowa Press, 1991), 70-71.

²³¹ See also, in the same volume, pages 48, 67, 133, 217-218, 220, 239.

bump of order even half developed would have been driven wild by the appearance of the place.” Perplexedly, she also noted that “the poet did not seem to mind it at all; and what surprised me greatly was, that amid all this confusion he seemed to know just where to lay his hand upon anything he wanted. He would dive into the enormous pile of newspapers at any angle, and always fish out the book or the picture of the manuscript that he wanted.”²³² Anecdotes like this, of which there are many, underline the Janus-faced forces of order and entropy in Whitman’s life and work. Whitman’s seemingly arcane mastery over his disastrous Camden quarters stands as an evocative illustration of his facility, both in his life and in his poetry, to impose order (or perhaps, to borrow from Melville, a careful disorderliness) on what he often referred to as America’s “materialistic aspects.”

It was also in these latter-day interviews that Whitman gave his most direct accountings for the sense of materialism inherent in his poetry. Reported by his friend and biographer Richard Maurice Bucke, at one point the poet suggested, “Very few (he said, a little mischievously, perhaps), care for natural objects themselves, rocks, rain, hail, wild animals, tangled forests, weeds, mud, common Nature.”²³³ Elsewhere, in his notebooks, he reminded himself to include in his poems “American things, idioms, materials, persons, groups, minerals, vegetables, animals, etc.”²³⁴ Much as Actor-Network Theory makes little distinction between animate and inanimate actors, and much as Thing Theory privileges the role of objects in human lives, Whitman’s poetic vision

²³² Ibid., 67.

²³³ Ibid., 37.

²³⁴ Walt Whitman, *The Complete Writings of Walt Whitman: The Complete Prose Works*, ed. Oscar Lovell Triggs, (New York: G.P. Putnam's Sons, 1902), 155.

also flattens these worlds, focusing instead on the materialist networks that connect people and things. A vivid passage from the opening stanzas of 1855 *Leaves of Grass* illustrates the intermingling of these spheres in Whitman's worldview:

Trippers and askers surround me,
 People I meet....the effect upon me of my early life....of the
 ward and city I live in....of the nation,
 The latest news....discoveries, inventories, societies....authors
 old and new,
 My dinner, dress, associates, looks, business, compliments, dues,
 The real or fancied indifference of some man or woman I love,
 The sickness of one of my folks—or of myself....or ill-doing....
 Or loss or lack of money....or depressions or exaltations,
 They come to me days and nights and go from me again,
 But they are not the Me myself.²³⁵

In the closing lines, we see the tension between Whitman's famously egoistic narrative persona and the pressures of everything outside of "the Me myself." He claims that they are ancillary to his true being, but the extensive lists earlier in the stanza suggest otherwise. Notably, the human and non-human mix in these lists, suggesting an infringement that the assertion of the "Me myself" is meant to rectify. As "trippers and askers," evocative stand-ins for the modern crowd, surround the speaker, who moves from considering the "people I meet" to "the effect upon me...the ward and city I live in....of the nation." Transitioning into a three-line nounal catalogue, the speaker continues to list the things that affect him, mostly inanimate objects, interspersing relatively few human entities such as "authors old and new" and "associates." Here he

²³⁵ *Leaves of Grass: A Textual Variorum of the Printed Poems, Volume 1: 1855-1856*, eds. Sculley Bradley, Harold W. Blodgett, Arthur Golden, and William White (New York: New York University Press, 1980), 4-5.

Due to formatting and space limitations, lines are rendered according to the indentation conventions Whitman used in his poetry, but exact end line points cannot be replicated.

enacts what he would contend in the notes Traubel posthumously published as *An American Primer*, “A perfect user of words uses things....They exude in power and beauty from him...poured copiously.”²³⁶ Arguing for a connection among things, literary vision (power and beauty), and aesthetics (poured copiously), Whitman quite clearly illustrates the primacy of objects to his poetics.

His vision was not just concerned with all the varieties of things but all the varieties of people. The strange and cognitively dissonant connection between the ephemeral world of information and the material is made, to the extent that it can be, apparent by this vision of Whitman, largely incapacitated, exercising mastery over his ramshackle (but populous) domain of tattered papers. Without the informational structure provided by Whitman’s intellect, the scene is simply a mess. With Whitman’s imposition of order, though—and we see this also in the organizing impulse of digital technologies—the room becomes a sort of filing cabinet *sans* cabinet. Working with material reality in this way, he points the informational underpinnings of the physical world, underpinnings that become more and more apparent as what Foucault evocatively called “the order of things” surrenders to entropy.

Channeling Whitman’s listing aesthetics, Ian Bogost argued in a 2010 blog post that “computing has revealed a world of things: hairdressers, recipes, pornographers, typefaces, Bible studies, scandals, magnetic disks, rugby players, dereferenced pointers, cardboard void fill, pro-lifers, snowstorms.” The digital, Bogost argues, points to “a real world. A world of humans, things, and ideas....The philosophy of tomorrow should not

²³⁶ Walt Whitman, *An American Primer*, ed. Horace Traubel (Boston: Small, Maynard & Company, 1904), 14

be digital democracy but a democracy of objects.”²³⁷ Though Whitman’s world was not yet digital, metaphorically and logically he modeled digital, informational logics upon his physical surroundings. His aesthetic innovations make salient the connections among the material, the techno-informational, and the political that theorists like Bennett, Latour, and others are now tracing in light of the world’s digital and technical transformation.

Building upon the work of these theorists, my readings will examine the rational means of organization Whitman employed, drawing not only from poetic principles of structure, but also from the increasingly dominant cultural logics of scientific and rational thought. Far from chaotic, Whitman’s poetry consistently deployed a wide range of strategies aimed at controlling and legibly presenting a poetic interpretation of a modern world that was, indeed, chaotic. Specifically, I want to look at the effect of information overload on Whitman’s poetics, and the ways that he innovates and adapts not just his catalogue rhetoric, which many critics have noted, but other elements of his poetics, to handle what he evocatively describes as the “oceanic, variegated, intense practical energy, the demand for facts, even the business materialism of the current age.”²³⁸ Unlike Melville, Whitman was a man enamored with “the modern,” a term he often deployed to refer to the wide suite of nineteenth-century innovations in the social, technological, scientific, and infrastructural realms. It is this embrace of this modern world that allowed him to imagine poetic information logistics far exceeding the

²³⁷ Ian Bogost, “The Turtlenecked Hairshirt: Fetid and Fragrant Futures for the Humanities,” January 9, 2010, accessed February 3, 2017. Encountered in Patrik Svensson, “Envisioning the Digital Humanities,” *DHQ* 6.1 (2012).

²³⁸ *Democratic Vistas*, 73.

capability and capacity of the systems Melville adapted from existing data management technologies.

Though, in his old age, Whitman would come to look upon some of these modern developments and their consequences with suspicion, he nonetheless sustained a sense of wonder for the “ingenuities, streets, goods, houses, ships—these hurrying, feverish, electric crowds of men”²³⁹ and all the other physical manifestations of the “huge flow of our age’s materialism.”²⁴⁰ While Melville often bristled at the march of progress, using many of his works to memorialize vanishing sociological realities, Whitman was much more likely to celebrate the new. In this embrace, he was more willing than Melville to experiment with forms that did not take their shape from book-based systems of information management, but rather parallel, in their structures, capacities, methodologies, and ontologies, our own move from the analog to the digital.

When asked by his admirers about the poetic vision of the 1855 *Leaves of Grass*, Whitman repeatedly gave variations on the same answer: it “arose out of my life in Brooklyn and New York...absorbing a million people, for fifteen years, with an intimacy, an eagerness, an abandon, probably never equaled.”²⁴¹ As a young man, he “knew and frequented Broadway—that noted avenue of New York’s crowded and mixed humanity, and of so many notables.” There was “always something novel or inspiriting; yet mostly to me the hurrying and vast amplitude of those never-ending human currents.” He would consort with the omnibus drivers and other “roughs,” as he would term them in *Leaves of*

²³⁹ Ibid., 14.

²⁴⁰ Ibid., 60.

²⁴¹ Richard Maurice Bucke, *Walt Whitman*, 67.

Grass, on New York's main thoroughfare. He spent so much time on Broadway and other New York streets, in fact, that he was fired from one of his newspaper jobs for being a "loafer."

"Absorbing the city" was an all-consuming sensory experience to him: friend Helen Price recalled walking with Whitman when "on our journey we had to pass through one of the great markets of New York. I was hurrying through, according to my usual custom, but he kept constantly stopping me to point out the beautiful combinations of color at the butchers' stalls, and other stands."²⁴² It was not, though, just visual scene for Whitman: embedded in chaos of the city were hidden lines of logic. "The intricate details of diverse New Yorkers," Thomas Gere observes, "amazed him. Frequenting the ferry, he had to have a reason for the actions of the pilot, engineer, fireman, and even deck-hands. Besides, he would learn the details of everything on board, from the knotted end of the bucket-rope to the construction of the engine. 'Tell me all about it, boys,' he would say, 'for these are the real things I cannot get out of books.'"²⁴³ Connecting these trips to Whitman's aesthetics, Gere muses that "such inquisitiveness must always have been an industrious habit with him, for his writings abound with apt technicalities."²⁴⁴ These anecdotes illustrate the tripartite inspirations (common to Whitman's crowded study) driving the poet's vision: the material urban environment, its informational complexity, and its innate evocation of democratic scale. In the city he found spaces densely packed, not just with things and with people, but with individuals, all with their

²⁴² *Ibid.*, 31.

²⁴³ *Ibid.*, 33.

²⁴⁴ *Ibid.*

own lives and stories. These scenes awakened in Whitman an urgent sense of the inadequacy of current poetics in representing such complexity, and much of his *oeuvre* was an experiment in developing this capacity in poetry.

In *Specimen Days*, Whitman recounts his relationships with an assortment of Broadway omnibus drivers:

Yes, I knew all the drivers then, Broadway Jack, Dressmaker, Balky Bill, George Storms, Old Elephant, his brother Young Elephant (who came afterward,) Tippy, Pop Rice, Big Frank, Yellow Joe, Pete Callahan, Patsey Dee, and dozens more; for there were hundreds. They had immense qualities, largely animal--eating, drinking; women--great personal pride, in their way--perhaps a few slouches here and there, but I should have trusted the general run of them, in their simple good-will and honor, under all circumstances. Not only for comradeship, and sometimes affection--great studies I found them also. (I suppose the critics will laugh heartily, but the influence of those Broadway omnibus jaunts and drivers and declamations and escapades undoubtedly enter'd into the gestation of "Leaves of Grass.")²⁴⁵

Here again we see how Whitman's early urban experiences inspired his writing. Making reference to "all the drivers," he goes on to name a dozen of them specifically, gesturing to the long lists that defined his style, but the list also concludes in a more general referent—"and dozens more"—that evokes the "hundreds" of "drivers then" while circumventing the need to designate them specifically. There is a tendency in the register toward broadness and grandiosity, in words like "immense," "great," "hundreds," and "comradeship," evoking a grand sense of scale and splendor. Conversely, his refusal to treat the drivers as a hegemonic entity, his desire to deal with them, if not as individuals, at least as a complex social formation illustrates his sense of the need for increasingly sensitive methods of demographic investigation, in both technological and poetic senses.

²⁴⁵ Walt Whitman, *Prose Works 1892: Volume I, Specimen Days*, 19.

In reading democratic passages like the one above, one is struck by the seeming disorder of Whitman's poetics. It was, indeed, a common theme among his early critics. George Santayana, for instance, in the provocatively-titled chapter "The Poetry of Barbarism," speculated, "there is clearly some analogy between a mass of images without structure and the notion of an absolute democracy" in Whitman's poetry.²⁴⁶ Acknowledging the link between the poet's style and politics, Santayana was intent upon seeing in Whitman's democratic verses the relative chaos of democratization. Deeply concerned with the "disintegration" and "decay" of modern mass culture, he accordingly suggests that "the mind of our age, like [his], is choked with materials, emotional, and inconclusive."²⁴⁷ Ultimately, he concludes, "with Whitman the surface is absolutely all and the underlying structure is without interest and almost without existence."²⁴⁸ Though he does, at points, concede "Whitman's genius," his interpretation of his poetic vision as one of an "abundance of detail without organization" would come to define Whitman's critical reception for decades.²⁴⁹ Most critics, like Santayana, saw Whitman's rambling verse as a formal manifestation of the man's sensuous vigor.²⁵⁰ The unrepressed, forceful nature of his poetry, so antithetical to the formal mastery of British Romanticism, became the defining characteristic by which his poetry as a whole was judged.

²⁴⁶ George Santayana, *Interpretations of Poetry and Religion* (New York: Harper & Row, 1957), 181.

²⁴⁷ *Ibid.*, 215, 216.

²⁴⁸ *Ibid.*, 179.

²⁴⁹ *Ibid.*, 180

²⁵⁰ See Swayne, "Whitman's Catalogue Rhetoric," FN1, for a rather comprehensive listing of scholarship in this strain.

Much of this seeming disorder is a function, as Santayana suggested, of his attempts to capture the “notion of an absolute democracy.” In the preface to *Leaves of Grass*, Whitman compares Old World style governance with the system taking shape in the US, writing “Other states indicate themselves in their deputies...but the genius of the United States is not best or most in its executives or legislatures, nor in its ambassadors or authors or colleges or churches or parlors, nor even in its newspapers or inventors...but always most in the common people.”²⁵¹ In a passage that would come to define Whitman’s excessive style, he proceeds to pile on examples:

Their manners speech dress friendships—the freshness and candor of their physiognomy—the picturesque looseness of their carriage...their deathless attachment to freedom—their aversion to anything indecorous or soft or mean—the practical acknowledgement of the citizens of one state by the citizens of the other states—the fierceness of their roused resentment—their curiosity and welcome of novelty—their self-esteem and wonderful sympathy—their susceptibility to a slight—the air they have of persons who never knew how it felt to stand in the presence of superiors—the fluency of their speech—their delight in music, the sure symptom of manly tenderness and native elegance of the soul...their good temper and open-handedness—the terrible significance of their elections—the President’s taking off his hate to them not they to him—these too are unrhymed poetry.²⁵²

Not just unrhymed poetry: they are a massive conglomeration of traits, quirks, and sociological data. When the people are represented by their “deputies,” there is no need to account for all this: there is but a single, small input: nobles govern for the king or queen and the king or queen rules with a holy mandate. However, when all the people are taken into account politically, the scale of political society increases exponentially. It is here that Whitman’s conception of democracy, which has extensively studied,

²⁵¹ *Leaves of Grass*, 5-6.

²⁵² *Ibid.*, 6.

intersects with his sense of information: for him, American governance is a kind of big-data democracy, a civic system that requires the efficient processing of an unprecedentedly vast field of social input. “It,” as he continues on, “awaits the gigantic and generous treatment worthy of it.”²⁵³

Giving it this treatment presents a problem of representation. The common people are not a single identity, a deputy; they are an immense aggregation of characteristics, viewpoints, and political investments. At a certain scale, democracy itself requires technologies of effective administration. Much more than in autocracy, technics are necessary to facilitate the efficient flow of political whim from the public to the halls of power and vice versa. The metropolitan New York of which Whitman was an early observer made visibly manifest the sublimity of American society and governance. American democracy represents a shift from Old World European-style governments, where geographic proximity to power allows for the efficient administration of autocracy, to a kind of mass-input system that necessitates the integration and organization of large, scattered populations.

This was not a concept lost upon government officials at the time. In the United States, in particular, where the rise of technology was largely concurrent with the rise and expansion of the nation-state, the free flow of information facilitated by new technologies was integral to the practice of American democracy. Richard John explains: “If the people were sovereign, as the federal Constitution proclaimed, then it seemed indisputable that the government had an obligation to provide them with regular broadcasts on public affairs from the seat of power....The mail, declared one lawmaker in

²⁵³ Ibid.

1792, had been established for ‘no other purpose’ than the ‘conveyance of information’ into ‘every part of the Union.’”²⁵⁴ The free flow of information was so central to the building of the modern US that many of our national myths center on the idea of communication. The Pony Express, the building of the railroad and telegraph network, and the bringing of law to the new territories: all these stories simultaneously celebrate both the efficient transfer of populist intelligence and the remote extension of government and corporate power that enabled manifest destiny.²⁵⁵

This is the reason that scale, or “vista” as Whitman calls it, plays such an important role in his conception of democracy. In the preface to the 1855 *Leaves of Grass*, he consistently links the physical space of the United States with poetic stylistics, suggesting that “the United States themselves are essentially the greatest poem. In the history of the earth hitherto the largest and most stirring appear tame and orderly to their ampler largeness and stir.”²⁵⁶ While Whitman is the poet of democracy, his conception of democratic governance exceeds traditional notions of freedom, individualism, and equality. Rather, democracy for Whitman is the assemblage of impressive technologies that alone can facilitate the political incorporation of populations beyond elites physically situated at the seats of power. And not just real world technology, but also the

²⁵⁴ Richard John, *Network Nation: Inventing American Telecommunications* (Cumberland, RI: Harvard University Press: 2010): 19.

²⁵⁵ For more on the interplay of technology, information, and American democracy, see the collection edited by Alfred D. Chandler, Jr. and James W. Cortada, *A Nation Transformed by Information: How Information Has Shaped the United States from Colonial Times to the Present* (New York: Oxford University Press, 2000). For a more recent historical/political take on this phenomenon, see Winifred Gallagher’s *How the Post Office Created America: A History* (New York: Penguin, 2016).

²⁵⁶ Walt Whitman, *Prose Works 1892: Volume II, Collect and Other Prose*, ed. Floyd Stovall (New York: New York University Press, 1964), 434-435.

technologies (or techniques) of literary representation that help the poet in his or her difficult task of representation. “Out of him,” Whitman writes of the new American poet, “speaks the spirit of peace, large, rich, thrifty, building vast and populous cities, encouraging agriculture and the arts and commerce—lighting, the study of man, the soul, immortality—federal, state or municipal government, marriage, health, freetrade, intertravel by land and sea. . . . nothing too close, nothing too far off.”²⁵⁷ Poetry itself becomes a technology, tasked with the logistically challenging enterprise of representing the material, political, and intellectual diversity of modern democracy.

Whitman undertakes this poetic task throughout his career. Often, his efforts take the form of characteristically Whitmanian juxtapositions:

Great are marriage, commerce, newspapers, books, freetrade,
railroads, steamers, international mails and telegraphs
and exchanges.

Great is Justice;
Justice is not settled by legislators and laws it is in
the soul,
It cannot be varied by statutes any more than love or pride
or the attraction of gravity can,
It is immutable . . . it does not depend on majorities
majorities or what not come at last before the same
passionless and exact tribunal.²⁵⁸

For Whitman, the success of democracy depended directly upon technological innovation, and the success of his democratic poetry depended upon a parallel series of aesthetic innovations. His association of “Justice” with “international mails and telegraphs and exchanges” highlights the role mass communications play in the

²⁵⁷ *Ibid.*, 744.

²⁵⁸ *Leaves Variorum*, 158.

administration of broad-based democracy. In technologically crowdsourcing the democratic process, the administration of Whitman's "Justice" shifts from a function of "legislators and law" to a function of "the soul." In this passage, we also begin to see inklings of order. While the first lines privilege an enumerative, nominal catalogue that scans as chaotic, other features of the verse suggest order.

Perhaps one source of Whitman's technical innovation was his instinctive embrace of the new social models that often seemed an implicit threat in Melville's "valedictory" works. Later in the introduction to *Leaves*, he writes, "a great poem is for ages and ages in common and for all degrees and complexions and all departments and sects and for a woman as much as a man and a man as much as a woman."²⁵⁹

Developing a binary that he would deploy throughout his career, Whitman pairs woman and man in an attempt to imagine a more inclusive social reality. In stark contrast to nearly all his peers, Whitman's consistent use of non-sexist language seems to reflect an overall commitment to a more broad-based envisioning of democracy.²⁶⁰ Though he did,

²⁵⁹ *Prose Works, Volume II*, 455.

²⁶⁰ On side note, a quick digital analysis with Laurence Anthony's AntConc, a popular concordancing platform, reveals that the lemma forms of "man" and "woman" are the first and third most frequent words in *Leaves of Grass*. However, the words "man" and "men," which make up the lemma form, are used about twice as much as "woman" and "women" (100 and 72 times vs 37 and 52 times). Even more stark, "he" is used 251 times, compared to 100 times for "she." 27 of the 72 times "men" is invoked, "women" are also mentioned within two words, 16 of the 100 times "man" is mentioned, "woman" is mentioned within two words (there are two more cases where an additional article separates them.) Compare this with "women," where just twice out of 52 times "men" are mentioned, and "woman," which is collocate with "man" twice out of its 37 appearances. Though there is assuredly a basis for a human reader to remark upon Whitman's relatively non-sexist use of language, quantitative analysis suggests that, despite his frequent use of both male and female nouns and pronouns, his syntax favors the male perspective by rendering female words codependent with male ones. Many of these observations come as a result of a group quantitative analysis in my American Literature II course in Fall 2016.

in *Democratic Vista*, betray significant angst over the enfranchisement of slaves, he also makes a compelling argument for democracy as enacted by women:

I have sometimes thought, indeed, that the sole avenue and means of a reconstructed sociology depended, primarily, on a new birth, elevation, expansion, invigoration of woman, affording, for races to come, (as the conditions that antedate birth are indispensable,) a perfect motherhood. Great, great, indeed, far greater than they know, is the sphere of women. But doubtless the question of such new sociology all goes together, includes many varied and complex influences and premises, and the man as well as the woman, and the woman as well as the man.²⁶¹

Recalling the binaric pairings of *Leaves of Grass*, he connects gender equality, the potential leadership capabilities of women, and sociological order. Primarily and problematically figuring the American woman as Madonna-like, Whitman simultaneously imagines far more varied roles for them in the development of American society. He goes on to suggest that women hold the key to not just a new sociology, but

a new founded literature, not merely to copy and reflect existing surfaces, or pander to what is called taste -- not only to amuse, pass away time, celebrate the beautiful, the refined, the past, or exhibit technical, rhythmic, or grammatical dexterity -- but a literature underlying life, religious, consistent with science, handling the elements and forces with competent power, teaching and training men...And now, in the full conception of these facts and points, and all that they infer, pro and con -- with yet unshaken faith in the elements of the American masses, the composites, of both sexes, and even consider'd as individuals -- and ever recognizing in them the broadest bases of the best literary and esthetic appreciation -- I proceed with my speculations, *Vistas*.²⁶²

He establishes a hierarchy here, an ideal literary form. As we have seen in some of his prior statements, it is not purely documentary, it does “not merely...copy and reflect existing surfaces.” Nor does it just “exhibit technical, rhythmic, or grammatical

²⁶¹ *Democratic Vistas*, 15.

²⁶² *Democratic Vistas*, 15-16.

dexterity”: it is not merely aesthetic. Proceeding from women, it handles life, religion, and science “with competent power,” representing “the broadest bases” through literary and “esthetic” skill. For Whitman, this is accomplished through the act of considering both women and men “as individuals.” In this act, we see how closely Whitman aligns sociology, literary aesthetics, and broad democracy, and the ways the he uses representational aesthetics to capture this complicated social reality.²⁶³

Much of this work he does in a fastidiously documentary section of the *Vistas* in which he presents short portraits of the lives and livelihoods of several women in his acquaintance. While one of these descriptions fits rather cleanly within the Madonna mold, the majority present images of women who were impressively independent for the time. One particularly interesting passage tells of a young woman,

who, from taste and necessity conjoin'd, has gone into practical affairs, carries on a mechanical business, partly works at it herself, dashes out more and more into real hardy life, is not abash'd by the coarseness of the contact, knows how to be firm and silent at the same time, holds her own with unvarying coolness and decorum, and will compare, any day, with superior carpenters, farmers, and even boatmen and drivers.²⁶⁴

Against his own prior figuring of woman as mother, Whitman here uses specific documentary examples to more broadly imagine women as workers, craftspeople, and colleagues. Somewhat in opposition to the evocative aesthetics of *Leaves of Grass*, here Whitman uses specificities to imagine a more expansive vision of American democracy. As he himself notes,

²⁶³ See Jerome Loving, “The New American Bible,” *Walt Whitman: The Song of Himself* (Berkeley: University of California Press, 1999), 209-250.

²⁶⁴ *Democratic Vistas*, 49.

The foregoing portraits, I admit, are frightfully out of line from these imported models of womanly personality -- the stock feminine characters of the current novelists, or of the foreign court poems, (Ophelias, Enids, princesses, or ladies of one thing or another,) which fill the envying dreams of so many poor girls, and are accepted by our men, too, as supreme ideals of feminine excellence to be sought after. But I present mine just for a change.²⁶⁵

Immediately after this, he discusses the burgeoning issue of female suffrage, connecting alternative images of “feminine excellence” with the ability of women to not only nurture democracy, but to enact it. “I can conceive a community,” he writes, “where a couple of hundred best men and women, of ordinary worldly status, have by luck been drawn together, with nothing extra of genius or wealth, but virtuous, chaste, industrious, cheerful, resolute, friendly and devout.” Imagining his utopian meritocracy through a list of specific traits, he, as he did in *Leaves*, soon expands into a more evocative mode: “I can see there, in every young and old man, after his kind, and in every woman after hers, a true personality, develop'd, exercised proportionately in body, mind, and spirit.”²⁶⁶ Working across spectrums of age and gender, Whitman builds upon his specificities to imagine, through persistently inclusive rhetoric, a whole society. As he writes, “I can imagine this case as one not necessarily rare or difficult, but in buoyant accordance with the municipal and general requirements of our times.”²⁶⁷ While his binaric pairings at first seem a characteristically Whitmanian poetic flourish, a manic expression of what Santayana evocatively called his “barbaric yawp,” they actually model his fastidiously

²⁶⁵ Ibid., 50.

²⁶⁶ Ibid., 51.

²⁶⁷ Ibid.

documentary imagining of broad democracy. They stand in for the wide catalogues of individuals in which he does not always, unlike Melville, indulge.

These catalogues, though, as many have commented, are his most obvious attempt at literarily organizing this new kind of experience.²⁶⁸ While many early critics, as I've mentioned, saw disorder in his lists, since the mid-twentieth century, a growing number of critical works began to find structure where once they saw only anarchy. Stanley Coffmann's "Crossing Brooklyn Ferry: A Note on the Catalogue Technique in Whitman's Poetry," Mattie Swayne's "Whitman's Catalogue Rhetoric," and Gay W. Allen's *American Prosody*, in particular, promoted a view of Whitman's cataloguing not as spontaneous outbursts, but rather as strategic and structured aesthetics: their criticism as a whole is characterized by words like "logic," "order," and "pattern." Lawrence Buell offers an influential revision of these works in 1968's "Transcendentalist Catalogue Rhetoric: Vision Versus Form" and 1973's *Literary Transcendentalism*, where he looks at catalogues as a rhetorical tool of the Transcendentalists as a whole, since, as he writes, it "is the most natural literary form for expressing the Transcendentalists' most characteristic sense of the universal order."^{269 270} Observing that the earlier criticism was often limited to exploring grammatical and rhetorical catalogue logics, his works expanded the boundaries of what could be considered literary structure. Looking at the texts of many Transcendentalists, he showed how writers such as Whitman, Melville,

²⁶⁸ Whitman's catalogues have been heavily discussed in the scholarship. See, among others, Swayne (1941), Coffmann (1954), Buell (1968), and Belknap (2004). Of the latter, Freedman remarks "The best treatment of Whitman's catalogs remains that of Buell, who embeds Whitman in the transcendentalist rhetoric of cataloging the world as a way of enumerating and celebrating its multifariousness" (166-78).

²⁶⁹ *Literary Transcendentalism*, 169

²⁷⁰ He states earlier that "catalogue rhetoric seems an inherently 'democratic' technique" (167).

Emerson and Thoreau gave order to their literary catalogues by borrowing from myriad interdisciplinary models.

Cribbing ontologies from evolution, the calendar, contemporary history, and hierarchical and dialectical models, they structurally shaped their literary lists by the logics of largely rational disciplines. Still, though, Buell was hesitant to see too much order in Whitman's poetics, suggesting that "because Whitman's art is so implicit it is dangerous to analyze it too persistently in the way I have just done, stressing the instances of sophisticated design in his catalogues."²⁷¹ Though he does admit that "a surprising number" of Whitman's poems have "a definite organization," his fundamental suspicion of their order limits his investigation. He concludes that while there are "instances of sophisticated design in [Whitman's] catalogues," it would be "wrong to attach too much significance to it."²⁷²

As such, when Buell examines Section 33 of *Leaves of Grass*, he calls it the "longest and loosest catalogue in a long and loose poem." Tying catalogue rhetoric to what he sees as a Transcendentalist imperative to favor effect over organization, he concludes that the "true impact" of the section comes from "the language" and the "tremendous sense of vitality conveyed by running these and many more epiphanies together."²⁷³ While the power and formlessness of Whitman's poetry cannot be denied, the passages to which Buell refers are supremely ordered, almost to the point of absurdity:

²⁷¹ Lawrence Buell, "Transcendentalist Catalogue Rhetoric: Vision Versus Form," *American Literature* 40.3 (1968), 330.

²⁷² *Ibid.*, 332.

²⁷³ *Ibid.*, 337.

Where herds of buffalo make a crawling spread of the square miles far and
 near,
 Where the humming-bird shimmers, where the neck of the long-lived
 swan is curving and winding,
 Where the laughing-gull scoots by the shore, where she laughs her near-
 human laugh,
 Where bee-hives range on a gray bench in the garden half hid by the high
 weeds,
 Where band-neck'd partridges roost in a ring on the ground with their
 heads out (I. 761-765)^{274 275}

Of the first sixty-four lines of Section 33, thirty-four start with the word “Where” or a word that starts with “Where” (53%). Each of these stanzas, when they exceed the length of the line, are dropped to a newline and indented. The “Where” forms a kind of filing tab, indicating to readers the point at which each new thought-image begins. While the random, jumping nature of Whitman’s gaze does give a sense of cascading disorder, typographically the poem is organized into a visually-parsable, modular design. The syntactical parallelism also contributes to this effect, molding the poem into interchangeable parts, swappable units of similar form. In Robert Belknap’s 2004 book *The List*, he suggests that the poet’s anaphoric structuring “can be almost a numbering of components,” a way of grammatically, logically, and visually organizing an often overwhelming poetic vision.²⁷⁶

While the best structural examination of Whitman’s poetry comes from Belknap, the best theoretical justification for this way of thinking about his organizational

²⁷⁴ *Leaves Variorum*, 47.

²⁷⁵ Swayne looks at this brand of stanzaic cataloguing in “A Song of Joys,” but stops short of making any sort of observation on organization, instead merely suggesting that “this amplification of the catalogue into stanzaic units says a great deal for the hold which the cumulative form had upon Whitman’s style in general.”

²⁷⁶ 106.

principles comes from a short article by Jonathan Freedman called “Whitman, Information, Database.” One of several pieces in a *PMLA* special response section to Ed Folsom’s ““Database as Genre: The Epic Transformation of Archives,” Freedman’s essay posits “database not just as a new way of organizing bits and bytes of knowledge but as the basis of a new genre—a contemporary version of epic—that generates a new process of cultural, social, and (it seems) global community making.²⁷⁷ Suggesting Whitman’s catalog rhetoric takes him “closest to internalizing database into his work,” Freedman suggests his poetry offers a phenomenology of experience in a world organized by the relentless flood of information and offers itself as a kind of a mimesis of such a world.”²⁷⁸

Whitman imagined his work bridging this gap between the physical and informational, even if he could not anticipate the full scale of the nascent technological progress that had started to reshape his world. When asked in an 1879 interview about what a distinctively American literature looks like, he responded, “It seems to me...that our work at present, and for a long time to come, is to lay the materialistic foundations of a great nation, in products, in commerce, in vast networks of intercommunication, and in all that relates to the comforts and supplies of vast masses of men and families, on a very grand scale, and those with freedom of speech and ecclesiasticism.”²⁷⁹ He often called, throughout his career, for poetry that somehow reflected the technological, scientific, and

²⁷⁷ “Whitman, Information, Database,” 1596.

²⁷⁸ *Ibid.*, 1599.

²⁷⁹ *Whitman in His Own Time*, 14.

sociological facts of this brave new world. While early critics characterized Whitman's poetry as an unreserved outburst of emotion, he saw it more as a descriptive project:

The emotional element, for instance, is not brought to the front, not put in words to any great extent, though it is underneath every page. I have made my poetry out of actual, practical life, such as is common to every man and woman, so that all have an equal share in it. The old poets went on the assumption that there was a selection needed. I make little or no selection, put in common things, tools, trades, all that can happen or belongs to the mechanics, farmers, or the practical community.²⁸⁰

Whitman, though a supremely sensuous poet, often rejects affect in favor of a more documentary impulse. Whereas a Romantic might linger on a daffodil, and explore its metaphysical and emotional significance, he opts for a decidedly more panoramic approach.²⁸¹

When attempting to incorporate “tools, trades, and all that can happen or belongs to the...practical community,” a more rigorous organizational principle becomes necessary. Whitman himself, in conversations with his biographer Richard Maurice Bucke, wondered “whether modern poets might not best take the same ‘new departure’ that Lord Bacon took in science, and emerge directly from Nature and its laws, and from things and facts themselves, not from what is said about them, or stereotyped fancies, or abstract ideas of the beautiful, at second and third removes.”²⁸² Lord Bacon’s “new departure” references Sir Francis Bacon’s attempt to solve the growing logistical issues surrounding information management in Enlightenment Europe. Put forth in 1623’s *De*

²⁸⁰ Ibid., 42.

²⁸¹ For more on the panoramic visions of Whitman and Melville, see Wyn Kelley’s *Melville’s City*. For influences of the panoramic show on American Renaissance writers, see Joseph J. Moldenhauer, “Thoreau, Hawthorne, and the ‘Seven-mile Panorama,’” *ESQ* 44.4 (1998): 227-273.

²⁸² *Whitman in His Own Time*, 44.

Augmentis Scientiarum; or, The Arrangement and General Survey of Knowledge, and expanded in 1627's *Sylva Sylvarum; or, A Natural History*, Bacon's system sought to render navigable the newly overwhelming body of published scholarship made possible by Gutenberg's press and the professionalization of the academy. Splitting knowledge into two sub-divided categories, divine and human learning, Bacon nonetheless hoped "that all partitions of knowledge be accepted rather for lines and veins, than for sections and separations; and that the continuance and entireness of knowledge be preserved."²⁸³

It is not surprising that Bacon's scheme would go on to become the foundation for Diderot, the Library of Congress, the Dewey Decimal System, and Paul Otlet's Universal Decimal Classification: it embodied in its desire to unite knowledge the implicitly democratic ideals at the center of both modern encyclopedias and public libraries. Ordering knowledge grants it accessibility; as Alex Wright observes, "creating a more usable catalog was no exercise in ontological hairsplitting; it was, in fact, an act of revolution. [It opened] the library up beyond its traditional audience of privileged men of letters to attract a new class of common readers who initially might know little about books."²⁸⁴

With this conscious borrowing from Baconian taxonomies, Whitman often uses catalogues in a Melvillian *cum* encyclopedic style, listing specific people and objects fastidiously. Through this kind of cataloguing, he documents both the realities and possibilities of a truly mass modernity, enumerating and expressing the nearly infinite

²⁸³ Bacon, "Advancement of Learning," *The Works of Lord Bacon, Volume 1* (London, Henry G. Bohn, 1838), 40. Quotation also in Wright, *Cataloguing the World*, 28.

²⁸⁴ *Glut: Mastering Information through the Ages* (Ithaca: Cornell University Press, 2008), 169.

variabilities of a system technologically capable of integrating and representing all its citizens. The following passage specifically names nine of thirty-three states and territories, a Canadian province, four continents, and about twenty trades and identities in just short of thirty lines:²⁸⁵

One of the great nation, the nation of many nations—the smallest
the same and the largest the same,
A southerner soon as a northerner, a planter nonchalant and
hospitable,
A Yankee bound my own way ready for trade my joints the
limberest joints on earth and the sternest joints on earth,
A Kentuckian walking the vale of the Elkhorn in my deerskin
leggings,
A boatman over the lakes or bays or along coasts a Hoosier, a
Badger, a Buckeye,
A Louisianian or Georgian, a poke-easy from sandhills and pines,
At home on Canadian snowshoes or up in the bush, or with
fishermen off Newfoundland,
At home in the fleet of iceboats, sailing with the rest and tacking,
At home on the hills of Vermont or in the woods of Maine or the
Texan ranch,
Comrade of Californians comrade of free northwesterners,
loving their big proportions,
Comrade of raftsmen and coalmen -- comrade of all who shake
hands and welcome to drink and meat;
A learner with the simplest, a teacher of the thoughtfulest,
A novice beginning experient of myriads of seasons,
Of every hue and trade and rank, of every caste and religion,
Not merely of the New World but of Africa Europe or Asia
a wandering savage,
A farmer, mechanic, or artist a gentleman, sailor, lover or
quaker,
A prisoner, fancy-man, rowdy, lawyer, physician or priest.²⁸⁶

²⁸⁵ Though I avoid it when possible, when I discuss some of Whitman's larger-scale organizational schemes, it is often necessary to quote at length (though usually only to the end of the sentence) in order to demonstrate the ways that he imposes structure beyond principles of grammatical order. Also in these instances I will tend to favor the typography and punctuation of the original 1855 edition, which I feel represents Whitman's artistic intent as a professional printer. In other instances, I will utilize scholarly versions.

²⁸⁶ *Leaves Variorum*, 20-21.

An encapsulation of Whitman's democratic vision, the passage is also packed with information. Because he documents so meticulously here, calling by name so many individual occupations and identities, he sees a need to impose order. Deploying anaphoric cycles, he categorizes information into phases, pursuing thoughts and logics before moving onto a new thought, signaled by a new set of anaphora. This strategy groups information for the (likely overwhelmed) reader, signaling to them that lines with identical starts can in some way be taken together. Like the tabs of a filing system, Whitman's anaphora, along with the typographical, stanzaic organization which draws like data physically together on the page, allows readers to parse this informationally-dense passage much more easily. Similar to Melville's deployment of reference work forms, Whitman combines informational and poetic form to render literary data in an orderly manner.

Like Melville, he drew inspiration for his panoramic artistic vision not just from his experience with metropolis, but from his ability to quickly and easily come into contact with large swathes of the world. While he never travelled significantly outside the United States (he visited Bucke in Ontario in 1880), his endless capacity for wonder enabled him to find his own country quite cosmopolitan, rendering it with a sense of subtle diversity usually reserved for travel literatures. Though I, along with many others, have stressed the relationship between Whitman's urban atmosphere and his informational aesthetics, it is important to note that he deploys these strategies in a variety of literary settings. The verses above, for instance, are primarily rustic, offering a panoramic view of the US territories and, towards the end, the world at large. This type of interaction with rural scale is something that Whitman and those of his generation

would have been among the first to experience. For Whitman, these scenes were partially inspired by his 1848 trip to New Orleans, where he was to take up an editorship of the *New Orleans Crescent*. As Maverick Marvin Harris points out, “Traveling by rail, coach, and boat for the twenty-four-hundred-mile trip, Whitman experienced the vastness of the American land and fixed in his mind the fullness and diversity of his beloved America.”²⁸⁷ Whereas these kinds of sprawling scenes have, in other literary contexts, been represented within the registers of the sublime, Whitman’s imagination, conditioned by his urban modernity, enables him to represent the scene in an awe-inspiring, yet ordered fashion.²⁸⁸

While Whitman utilizes principles of logical organization to represent both urban and rural scenes, his specific strategies vary with his setting. In section 8 of “Song of Myself,” he pairs a short, descriptive catalogue of affective and rural imagery, with a more rapidly-paced urban assemblage:

The little one sleeps in its cradle,
I lift the gauze and look a long time, and silently brush away flies
with my hand.

The youngster and the redfaced girl turn aside up the bushy hill,
I peeringly view them from the top.

The suicide sprawls on the bloody floor of the bedroom,
It is so...I witnessed the corpse...there the pistol had fallen.

The blab of the pave...the tires of carts and sluff of bootsoles and talk of
the promenaders,
The heavy omnibus, the driver with his interrogating thumb, the
clank of the shod/horses on the granite floor,

²⁸⁷ “New Orleans, Louisiana,” *Walt Whitman: An Encyclopedia*, eds. J.R. LeMaster and Donald D. Kummings, (New York: Garland Publishing, 1998), 456.

²⁸⁸ For a discussion of the sublime in Whitman, see Harold Bloom’s “Whitman’s Image of Voice: To the Tally of My Soul,” *Walt Whitman*, ed. Harold Bloom (New York: Chelsea House Publishers, 1985), 127-142.

The carnival of sleighs, the clinking and shouted jokes and pelts of
snowballs
The hurrahs for popular favorites...the fury of roused mobs,
The flap of the curtained litter—the sick man inside, borne to the hospital,
The meeting of enemies, the sudden oath, the blows and fall,
The excited crowd—the policeman with his star quickly working his passage
to the centre of the crowd;
The impassive stones that receive and return so many echoes,
The souls moving along...are they invisible while the least atom of the
stones is visible?²⁸⁹

The first, three-couplet section starts with peaceful imagery: the first two stanzas present a “little one,” sleeping in a cradle, and a “youngster and redfaced girl” up a “bushy hill.” Each couplet presents a singular subject—the second a single compound subject—devoting the rest of the couplet to predicate. The final couplet follows a similar pattern, but the image sours, transitioning into the second, less Edenic section. The next image, one of a “suicide” sprawled on “the bloody floor,” Whitman launches into another catalogue, this one urban and at a much more rapid clip. The evocative opening phrase, “the blab of the pave,” effectively frames the quick and bubbling pace of the second list, which aggregates the sights, sounds, and physical spaces of an urban setting. Rather than a subject-predicate structure, this one favors a more repetitive, nominal-listing framework. The couplet organization also disappears, instead favoring the indentational, tab-like system deployed in the previously discussed “State” catalogue. Anaphora again proliferates, grouping and separating the urban scenes from the rural ones. The “the”’s offer structure to the passage: in starting each couplet with the same article, he effectively renders them entries, similar packets of information all following a similar ruleset.

They also serve to assault the reader aurally, evoking a sense of both repetitiveness and infinite variety. Thomas LeClair points to this dichotomy when he

²⁸⁹ *Leaves Variorum*, 9.

observes that “systems novels,” a term he uses to reference something like the more commonly used concept of encyclopedic narrative, “work the two extremes of low and high information, redundancy and overload.”²⁹⁰ LeClair is right to observe that repetition is often devoid of informational value, particularly within the literary realm. That said, repetition is a simultaneously a key feature of “raw data,” figures that have been gathered but not processed in any logical manner.²⁹¹ Within the world of data—and here I make one of my rare delineations between information and data—repetition, in the form of counting, is highly informational: modern data finds much of its meaning in the aggregation of like values. Anomalous figures, but also groupings of similar ones, are usually signposts for informational relevance.²⁹² It is only in repetition that significant trends can be identified. So while the reappearance of identical values appears as repetitive to the human mind, within an informational framework, it often denotes importance. Much the same principle applies in literature, where repetition of words and themes helps to convey the narrative importance of certain topics.

Whitman’s excessive repetition, and literary repetition in general, has a rather profound effect upon the readerly experience. While overload has a tendency, as LeClair observes, to “stop the reading, cause scanning, or produce a reorientation to the novel’s

²⁹⁰ Tom LeClair, *The Art of Excess: Mastery in Contemporary American Fiction* (Champaign: University of Illinois Press, 1989), 14.

²⁹¹ See Lisa Gitelman’s collection *Raw Data is an Oxymoron* (Cambridge: The MIT Press, 2013) for essays exploring the impossibility of raw data. Though the collection’s problematization of the concept is valuable and insightful, pointing to curatorial and other influences shaping the process of data collection, here I wish to use the term in its more common, admittedly less sophisticated sense.

²⁹² Aberrant values, too, have their own intricacies. Values that are too irregular are deemed “outliers” and often ignored in analytical processes.

information,” repetition, much like a song’s refrain, can reorient a reader, allowing her to gain a foothold back into the literature at a content level.²⁹³ Whereas Whitman’s long noun lists can wash over a reader, the steady structure of line-start repetition rhythmically grounds the reader like the steady beat of a bass drum; each line resets the phrase, never letting the reader go too far adrift into the cacophony of information. While repetition in life, and even in other books, can have the opposite effect, causing one to “zone out” or go on “autopilot,” Whitman’s careful balancing of replication and variety attracts rather than repels the reader.

That said, when my students read *Leaves of Grass* this semester they were nearly unanimous in their initial condemnation of the work, frustrated by what they saw as the work’s “repetitive randomness.” They were frustrated by exactly the things I found exciting about the poem: the long lists; the thing-centric odes to science, modernity, and materialism; the almost obsessive evocation of recurrent themes and tropes. Without considering the logic of Whitman’s repetitions, it is easy to read them as senseless, lazy, even bad writing. Students were quick to point out that they “could have written these lists,” that “he is just writing stuff down randomly.” As one student intimated, “he talks about Kansas, and then talks about some other arbitrary things, and then goes back to talking about Kansas again.” And the thing is that, within the context of the poetry they had probably read prior to this, they are right. The Romantic poetry that they had most likely had been taught as high school students, if they had been taught poetry at all, was probably framed within the context of formal structure, artistry, and deeper meanings. In other words, they were taught to decode poetry by understanding its literary structures.

²⁹³ *The Art of Excess*, 15.

Much of Whitman's poetry, however, finds its meaning (as early critics pointed out) through a sense of emotional immediacy and a relative absence of the kinds of literary form that contributed to the prestige and artfulness of most other poetic works.

As I have argued earlier, Whitman innovated by substituting logical for literary frameworks, and his habit of repetitively evoking ideas and objects is no exception. Over the course of his career, he developed a repertoire of somewhat standard catalogues, ones he would repeatedly turn to when he needed to expound upon one of his more salient themes. When he talked about the modernity of America, he would refer to words like "telegraph," "railroad," "network," and "electricity," and the concepts of "science," "facts," "wealth," and "materials."²⁹⁴ If he wanted to talk about America as a geographic or political entity, he would call upon many of the same places and images: "Georgia" "Florida," and "Texas" seemed particular favorites, perhaps because they evoked some further-flung reaches of his contemporary nation, but he also often named "Niagara, Yosemite, and the Mississippi."²⁹⁵ New York City, or Mannahatta as he was so fond of labelling it, had its own register of terms, toponymic shorthands like "Broadway," along with synecdochic indicators like "omnibus" and "ferry." The world at-large was often indicated by toponyms like "Europe," "Asia," and "Africa."²⁹⁶

There are many other examples of this practice, but these should suffice. What is interesting about this poetic strategy is that, in using these shorthands so often, he effectively creates an analog for what in computer science would be called a "list."

²⁹⁴ See, for instance, *Variorum* 620, 636, 638, along with the many instances I've already indicated from the 1855 *Leaves, Democratic Vistas*, and elsewhere.

²⁹⁵ *Variorum*, 769. See also 622, 635.

²⁹⁶ See *Variorum*, 569.

While lists and arrays are not subjects foreign to the humanities, their implementation as data structures in coding can help us to understand the unique ways that Whitman deploys his collections of terms. Lists in computer science are a kind of container that hold (usually related) values. They are a rather simple data structure, but the idea is that items can be stored in a static place, and that they can be modified (added, subtracted) and accessed (or called). While literary lists are usually uniquely constructed and used at the specific point in the narrative that they are needed, Whitman's lists are constructed for repeated use: like a variable (which I will discuss momentarily), these lists are called as necessary to evoke relevant emotions, themes, and topics. In a way, it is similar to the literary concept of the symbolic trope, whereby commonly used images are used to signify salient literary themes and concepts. The important delineation here though is that Whitman's tropes are enumerative and meant for repeated evocation. By this I mean that, instead of a rose calling to mind the concept of love, a rose, the color red, blushing, and fluttering hearts are all used to evoke the idea. As with many of his data-driven aesthetics, this tactic combines Whitman's dueling penchants for both excess and efficiency. Rather than using a single value to evoke his list, he uses a list to evoke a (possibly multivariate) concept. Still, by largely standardizing these lists he creates a sort of object-oriented process by which he can repeatedly and reliably evoke his (often unique) conceptions of democracy, modernity, and other Whitmanian constructions.²⁹⁷

In thinking about *Leaves of Grass* as a data-driven work, one that aggregates wide vistas of information into its poetic vision, it is worth returning briefly to catalogues to

²⁹⁷ Object-oriented is a term used to describe code that primarily operates through the calling of "objects," which can be repeatedly invoked at different points to perform a static function.

explore varying catalogue strategies the poet deploys at different scales. In the first “State” catalogue from above, there is a focus on individual scenes and affective evocation. It is small-scale, rural, and traditionally literary. As such, the sentence structure deployed is rather traditional. In the second, “blab of the pave” catalogue, the scene is much more modern and expansive, the task of description more involved. As such, nouns proliferate, the use of adjectives expands commensurately, and the previous focus on emotion, empathy, and humanistic concerns fades. It is to Whitman’s credit as a poet that these descriptive catalogues are still emotionally evocative, as their grammatical structure would suggest a much more clinical, descriptive approach.

The tendency toward the more granular, as witnessed in the second catalogue, is reflective of an Enlightenment Era fallacy: that man, through logic and reason, can perfectly describe and order the universe. Duly impressed with the power of the new methods of systematic, scientific thought, Enlightenment thinkers and their ideological descendants often assumed man’s infinite capacity for explication. Laura Dassow Walls describes intellectual posture when she points to “the era’s characteristic commitment to synthesis, which gathered ever more phenomena under ever fewer principles, as well as the equally characteristic detailed empirical researches that by rigorously narrowing the field promised to close in on the ultimate principles at last.”²⁹⁸ In constructing systems, an attribute of comprehensiveness was considered both desirable and possible. With modernity, as Edward Mendelson notes, this fallacy of completion was unveiled as a result of the exponential growth in technology, population, and material culture. As such, the idea of order becomes not a function of completion, but a function of efficiency: How

²⁹⁸ Laura Dassow Walls, *Emerson’s Life in Science* (Ithaca: Cornell University Press, 2003), 9.

is wholeness evoked without being literally represented? One does not, indeed cannot, capture everything, but an effective system can store and retrieve necessary things quickly and easily.

It is here that the comparison I want to make between digital and poetic data storage comes into sharpest contrast. Efficiency of storage and retrieval are two of the primary principles of digital storage, and data management in general: Ellulian notions of technique demand that devices and systems continually improve the rate and capacity of their information manipulation. Moore's Law, in fact, suggests that this dictum toward efficiency is so central to digital technologies in particular that they have tended to improve at an exponential, rather than a linear rate.²⁹⁹ Efficiency in poetry and literature is obviously not the same thing, but when writers struggle with the informational density of their works, thinking about aesthetics as techniques aimed at efficiency can shed light upon their underlying logics.

In *The Poetics*, Aristotle defines metaphor as "the application of an alien name by transference either from genus to species, or from species to genus, or from species to species, or by analogy, that is, proportion."^{300 301} What is interesting in this definition,

²⁹⁹ Moore's Law specifically refers to the idea that the number of transistors on an integrated circuit tends to double every two years, but this technical measure strongly correlates to things like processing power and storage capabilities.

³⁰⁰ *The Poetics of Aristotle*, ed. and trans. By S.H. Butcher (New York: The MacMillan Company, 1902), 77-78.

³⁰¹ See also Brooks, *The Well Wrought Urn* (New York: Harcourt Brace, 1947) and Richards, *The Philosophy of Rhetoric* (New York: Routledge, 2001), originally published 1936, for New Criticism's explorations of metaphor as a central device in poetry. Richards calls metaphor "the omnipresent principle of language" and also gives an excellent outline of then intellectual history surrounding literary metaphor; as such, I will forego a further exploration of this theme, but suggest the "Metaphor" and "The Command of Metaphor" chapters in the aforementioned volume for further reference. Brooks' work also contains much in this regard.

however, is the importance it places on *disproportion*, the idea that metaphor does not just relate two different things, but two things at different scales. Poetry's traditional gravitation toward synecdochic aesthetic devices like metaphor and figurative language means that Whitman was predisposed to the idea of literature as a function of efficiency.

The sciences have some dictum toward comprehensiveness exactness and the novel, stylistically and physically expansive, does as well.³⁰² Poetry, as a generally more evocative literary form, instead deals in systems of representative substitution: as I.A. Richards has observed, "Literal language is rare outside the central parts of the sciences."³⁰³ Whitman's aim was not complete poetic vision, but rather an investigation of the capabilities of the written word for efficient information transfer. Though he could not wholly adopt the scientific impulse toward exactitude, he did draw inspiration from its aspirations: "Exact science and its practical movements are no checks on the greatest poet but always his encouragement and support....The sailor and traveler..the anatomist chemist astronomer geologist phrenologist spiritualist mathematician historian and lexicographer are not poets, but they are the lawgivers of poets and their construction underlies the structure of every perfect poem."³⁰⁴ In artistically rendering his poetry's large urban, national, and democratic scenes, Whitman cribs from the organizational

³⁰² For the idea of the expansiveness of the novel, I draw on Bakhtin's essay "Epic and Novel," *The Dialogic Imagination* (Austin: University of Texas Press, 1981), 3-40.

³⁰³ *The Philosophy of Rhetoric*, 80. Similarly, Cleanth Brooks suggests, "it is the scientist whose truth requires a language purged of every trace of paradox; apparently the truth which the poet utters can be approached only in terms of paradox" (3).

³⁰⁴ "Preface, 1855, to first issue of 'Leaves of Grass,'" *The Collected Writings of Walt Whitman: Prose Works, Volume II*, 446-447.

schemes of these empirical disciplines to facilitate a logically responsible form of artistic representation.

As he observes, “their construction underlies the structure of every perfect poem,” but these logical structures are not the poems themselves: aesthetics are the technique by which they are adapted to artistic use. But here we also see the aesthetic difficulties this task of translation presents. A few pages earlier, he writes

The art of art, the glory of expression and the sunshine of the light of letters is simplicity. Nothing is better than simplicity....nothing can make up for excess or for the lack of definiteness. To carry on the heave of impulse and to pierce intellectual depths and give all subjects their articulations are powers neither common nor very uncommon. But to speak in literature with the perfect rectitude and insouciance of the movements of animals and the unimpeachableness of the sentiment of trees in the woods and grass by the roadside is the flawless triumph of art.”³⁰⁵

Whitman continues here a kind of Latourian documentary blurring of human and object. Perhaps more interesting, though, is his assertion that the acme of art is simplicity. As we have just seen, he finds it necessary to include a very inefficient eleven-item catalogue of different occupations that are not poets, rather than saying something to the effect of “Only poets are poets,” or “Scientists are not poets.” This is hardly the simplicity that he calls for just a few pages prior, and it’s an excessive aesthetic choice that would all but define his *oeuvre*.

But even in his excesses, Whitman has a way of at least gesturing toward the efficient and effective transfer of poetic information. Whereas Melville’s exasperated lists suggest absence, Whitman’s breathless catalogues more often suggest presence and overabundance. As we see at the end of the “State” catalogue, he moves from

³⁰⁵ Ibid., 443-444.

specifics—Californians, Kentuckians, and Louisianans—to more expansive terms: “Asia,” “the New World,” and “every caste and religion.” This movement from specific to general occurs constantly in Whitman’s poetry, giving his lists a sort of dovetail shape that captures much more than the kinds of specific enumerations that lists typically aggregate. After yet another exhaustive, enumerative catalog of the US, spanning about two pages and from “Maine” to the “Cuban Seas,”³⁰⁶ Whitman rather ironically asserts that “the expression of the American poet is to be transcendent [sic] and new. It is to be indirect and not direct or descriptive or epic.... Here the theme is creative and has vista. Here comes one among the wellbeloved stonecutters and plans with decision and science and sees the solid and beautiful forms of the future where there are now no solid forms.”³⁰⁷ Counterposing the “indirect” with the “direct or descriptive or epic,” he associates the former with “science,” the “creative,” and “vista.” These connections, though tenuous, suggest a vision of form that eschews completion and description—often the ideal of science, if not always the reality—in favor of what might be called innovation in incompleteness. In a discussion of epic and encyclopedic narrative, Mendelson writes that

No encyclopedic narrative can contain all of physical science, so examples from one or two sciences serve to represent the whole scientific sector of knowledge. One of the many points of distinction between epic and encyclopedia is the epic writer’s unconcern with fields of knowledge outside his experience. In the ancient world, no such fields exist, or none of any importance.³⁰⁸

³⁰⁶ Ibid., 741-742.

³⁰⁷ Ibid., 437.

³⁰⁸ “Gravity’s Encyclopedia,” 162.

The parallels between Whitman's and Mendelson's conceptualizations are striking. While many have referred to *Leaves of Grass* as a kind of epic, both Whitman and Mendelson might disagree on this point. Epic, though it conjures visions of immense scale, is self-contained in juxtaposition to the unprecedented breadth of modernity. Aesthetic representation of such immensity, then, must take new forms.

That is not to say that Melville's various strategies for handling narrative information were not successful; they were, in many ways, at the heart of one of the most esteemed literary ventures in the English language. His tactics, however, were also central to his own perception of the work as incomplete: a project of impossible scale. Comparing the efficiency of his aesthetics to Whitman's is not so much a comment upon the quality of his writing, but upon the extent to which his innovations allowed for the execution of his project. It also stands as a case study through which more substantial conversations can be had about technique, both technologically and literarily figured. Words, and, in particular, written words, are technical innovations, ones that allow for the transmission and storage of ideas. Poetics and aesthetics often further this process, with devices such as metaphor and figurative language allowing for the even more efficient execution of artistic visions. In refiguring literary writing in this light, we can begin to think about the ways in which literature is itself a project of information assemblage and gain insight into aesthetic innovations that might now seem the product of what we term artistic intuition. With the exponential pace of our own information age, with writers increasingly turning to the forms of database and the internet, a reconsideration of the role of data in literary form grants insight into the process of writing narrative in a world ruled by big data. Melville and Whitman, as denizens of their own information age, and

as great technical innovators, offer models of the ways in which writers strive to make meaning in a world that, more and more frequently, exceeds the human scale.

Whitman's interest in efficiencies of representation is apparent even from the preface to the 1855 *Leaves*. The first paragraph of the *Leaves* preface demonstrates this strategy. It reads:

America does not repel the past or what it has produced under its forms or amid other politics or the idea of castes or the old religions...accepts the lesson with calmness...is not so important as has been supposed that the slough still sticks to opinions and manners and literature while the life which served its requirements has passed into the new life of the new forms...perceives that the corpse is slowly borne from the eating and sleeping rooms of the house...perceives that it waits a little while in the door...that it was fittest for its days...that its action has descended to the stalwart and wellshaped heir who approaches...and that he shall be fittest for his days.³⁰⁹

This paragraph, which figures America as a kind of revolutionary renewal of the Old World, itself participates in a kind of incremental aesthetic innovation. "America" serves as the sole subject of the paragraph, but as its single sentence begins to proliferate with independent clause after independent clause, rather than start a new sentence and repeat the subject, he replaces it with ellipses and continues the same declarative. After the fourth such instance, he expands the symbolic substitution, using the ellipses to stand not solely for the subject, "America," but for subject-verb combination, "America perceives."

The ellipses that proliferate in this passage and elsewhere in Whitman's earliest iteration of *Leaves of Grass* were largely replaced by the 1860 version, but they are worth a moment of quick reflection despite their short lifespan. Appearing in the first lines of the poem and used consistently throughout, they are most often deployed as a rhythmic device, contributing to the free-wheeling, rambling cadence that so defines Whitman's

³⁰⁹ "Preface," *Collected Prose Works*, 434.

voice. Interestingly, in most cases they do not seem to indicate any sort of material omission, as is their standard usage. Take, for instance, their first occurrences in the 1855 edition, lines four through seven:

I loafe and invite my soul,
I lean and loafe at my ease...observing a spear of summer grass.

Houses and rooms are full of perfumes...the shelves are crowded
with perfumes.³¹⁰

These ellipses are almost brash in their refusal of standard semiotic function. Far from representing omission, they instead seem to evoke a sense of stubborn presence. In line five, they replace what would otherwise be rendered a comma, one that would not be strictly necessary according to modern usage (under the stricter rules of Whitman's time, it would). There is no absence for which the device stands in: the sentence is a concise, complete thought and there is no reason to think anything missing. The primary usage of the device is ignored in favor of a more artistic deployment. As his repeated use of the word "loafe" signals, Whitman's goal here is to inspire the reader herself to "loafe," to linger upon the line and stretch out its cadence. But it also imbues a certain breathless quality, perhaps an effect of the reader having to scan three punctuation marks rather than one in order to encounter the next stretch of text. She must jump from piece to piece, building up the momentous rambling effect the poem so masterfully evokes. Grammatically they signify a comma, and poetically they evoke movement. Many of the ellipses in *Leaves of Grass* follow this pattern.

The second example, in line six, has a slightly different effect. Grammatically, it could replace either a period or semicolon, separating the two independent clauses. But

³¹⁰ *Variorum*, 1.

while the first ellipses marked movement (the narrator goes from loafing and leaning to observing), the second seems only to reify the poetic stagnation of the line. The passive “are,” the shift from animate to inanimate subjects: all these factors have a stultifying effect, serving to govern the effect of the poem’s electrifying opening lines. The ellipses here, connecting the deadened subjects, the repeated passive verb constructions, and the repeated word “perfumes,” mark not movement, but stasis. Grammatically, it signifies a period; poetically, it signifies nothing.

Others, however, follow a slightly different logic. We see this in lines like “The latest news...discoveries, inventions, societies...authors old and new,” and “The sickness of one of my folks—or of myself...or ill-doing...or loss or lack of money...or depressions or exaltations.” Commas in these passages provide the dominant organizational structure, separating list items as in “discoveries, inventions, and societies.” The ellipses, then, would seem to represent items not rendered in the list. More closely related to their traditional usage, these ellipses do represent absence. However, elliptical omissions are, almost by definition, non-substantive: they represent portions of the text that are repetitive or not important enough to warrant rendering. Lists, broadly speaking, are practical devices: inclusion on the list suggests a baseline of importance. If an item were not important enough, it would not be included on the list because a list is a curatorial entity.³¹¹ Though list items can vary in importance, as can the criteria by which importance is judged, inclusion on a list suggests that the item needs

³¹¹ Smaller lists can also be exhaustive, but the very gesture toward exhaustiveness also grants a certain status to the objects enumerated. See Belknap 19 for further discussion of the legitimizing effect of listing.

to be there. By replacing an important piece of information with a symbol that cannot represent the content of that information, Whitman upends this logic.

The ellipse takes on increased importance, standing in for an essential datum, even as it refuses to represent the corresponding information specifically. While practical lists must be precise in order to serve their specific function, Whitman's literary lists often privilege imprecision. And it is in this imprecision that they make a technological leap. Whereas practical, logical lists must assemble every single relevant item, Whitman's literary list deploys a signifier in order to represent an imprecise signified. The ellipses can signify any number of items or ideas, a vague nature of which is conveyed by the surrounding information he has rendered. In the space between "news" and "discoveries," one can assume concepts such as "theories" or "observations." In essence, they function as what one would call a "variable" in computer science, a storage location where one can flexibly assign information. Variables can be of different types (eg. integer or character), of n-length, and can also encompass multiple values (eg. arrays, vectors, matrices, and data frames).³¹² Variables can be contrasted with constants, storage locations holding relatively static values that are not normally changed during program execution (they can, though, be reassigned prior to compiling and executing). Pi, for instance, is a commonly deployed constant because it is not a value one will need to update over the course of one's calculations: pi will always be 3.14...). One "calls" constants in a similar manner to variables, and it is this ability to summon a value via

³¹² Technically, these final structures are collections of variables, but in being assignable, mutable storage units, they are equivalent on a basic level.

shorthand, rather than rewriting it every time it is needed, that represents the constant's primary contribution to efficiency.

Constructing traditional literary lists is equivalent to writing out each and every value that must be rendered, a profoundly inefficient act. The coder must manually aggregate and represent each list item every time she wants to use it. Melville's lists, and many of Whitman's, function primarily in this manner: they exhaustively document every item to a state of representative completion. This type of compendium, though more complete in a strictly rational sense, often has the effect of gesturing toward its own incompleteness: in attempting to list everything, it ends up evoking all the things it could never practically include, at least in a literary work. Because literary works are subject to the constraints of plot and readability, they usually cannot reach the level of completion and accuracy that functional lists can and must. But, by using ellipses as variables, Whitman can "call" a much wider array of values in a much smaller space by using the resource of the reader's imagination to supply the missing items. For example, an attempt at a list of farm animals might read something like: cow, pig, horse, ox, chicken. This can alternatively be rendered as: cow, pig, etc. The second example has only three values, two specific and one variable, but one would expect a reader to think of horses, chickens, and perhaps dogs and cats in addition, when they encounter the "etc.". One has only used three "bits" of information, but has facilitated for an infinite amount of storage space. Whitman repeatedly uses this tactic in the 1855 *Leaves of Grass*, and even as he

shifts away from ellipses in his later works, still tends to use other forms of punctuation—commas, semicolons, etc—to similar ends.³¹³

Though Whitman’s later revisions of *Leaves* were less stylistically innovative in many ways, these life-long, aggregative reconsiderations of a single document speak to his profoundly data-driven mindset. To review much of these later revisions would be to belabor the point: most of the documents still stick to the organizational principles of the earliest edition, even as they morph and grow. By this I mean that though he moves from ellipses to commas in the 1860 version, the text surrounding the punctuation remains substantially the same. While ellipses are arguably more evocative as an informational stand-in, the text itself still gestures toward a substantive absence. In his foreword to *An American Primer*, Traubel recalls Whitman occasionally remarking,

this subject of language interests me—interests me: I never quite get it out of my mind. I sometimes think the *Leaves* is only a language experiment—that it is an attempt to give the spirit, the body, the man, new words, new potentialities of speech—an American, a cosmopolitan (the best of America is the best cosmopolitanism) range of self-expression. The new world, the new times, the new peoples, the new vista, need a tongue according—yes, what is more, will have such a tongue—will not be satisfied until it is evolved”³¹⁴

Linking linguistic innovation with a new world order, Whitman imagines poetry and language as not just artistic expression, but as a structural base for a democracy more broadly imagined. In order to encompass “the new world, the new times, the new peoples, the new vista,” he must devise “new words” and “new potentialities of speech”

³¹³ Whitman also expressed an interest in removing what he called “superfluity” from his works, a goal which informed much of his revisions of *Leaves*. This also partially accounts for aesthetic importance I place on the 1855 edition, where Whitman sought “to map out, to throw together for American use, a gigantic embryo or skeleton of Personality, fit for the West” (*The Collected Writings of Walt Whitman: The Correspondence, Volume 1: 1842-1867*, “Letter to William D Connor,” January 6, 1865, pp. 247).

³¹⁴ *An American Primer*, vii-ix.

which are able, through representationally efficient aesthetic strategies, to render such a radically expansive democratic vision.

Chapter 4: Toward a More Expansive Vision of Data-Driven Literature

While the works of Melville and Whitman represent a critical juncture in the development of data-driven writing, transitioning from the enumerative logic of the Enlightenment to the associative structures of the industrial and digital ages, it is hard to argue that they in any way wholly capture the structures and technics that have fundamentally reshaped the world since the nineteenth century. This coda is an attempt not just to explore the significance of their aesthetic experimentation to the data-driven writing of the twentieth century, but also to show how this kind of writing has evolved alongside the exponential growth in technology and information infrastructures in this timespan. It traces the ways literature has continued to interact with these worlds, to adopt, critique, modulate, and anticipate its forms. This interaction has become increasingly visible as these technics have exerted more and more influence on our lives and imaginations, and data-driven writing has, in many ways, become the default of contemporary literary writing. As such, literary criticism has offered a growing number of important and insightful explorations of the subject, many of which I have cited throughout this work. It is no longer critically novel to point to the structural intertwining of contemporary literature and contemporary technics, but I do think there is space to provide a corrective, especially with regards to the outsized influence of the encyclopedic conceptions of Frye, Mendelson, and others.

Therefore, what I wish to do in this coda is not so much to show that these interminglings exist, but rather to explore the ways in which latter-day writers have modified, rejected, or extended the aesthetics of Melville and Whitman. In doing so I hope to show how their critical moment has played into dominant aesthetic trends in

American, and indeed world, literature, and the ways in which the artistic tendencies of Melville and Whitman both combined and crystallized as they moved forward from that first moment of transition. I hope these explorations will demonstrate not only how literature has evolved, but also how technical progress has reflected the dialectic paradigms I have identified in the foundational works of these two writers. As a cursory, exploratory effort, this coda will often times be more suggestive than authoritative, more argumentative than documentary. This, of course, is not necessarily the desired form of a dissertation, but as I have tried to explain, this is why it is taking the form of a coda rather than a full-fledged chapter. It is my hope that its inclusion will help me to develop a justification for the growing importance of a data-driven critical interpretation in an increasingly informational world, and also the importance of thinking about literature as information, even when it may not seem to adhere to common conceptions about the way data behaves, both in writing and the real world.

The writers I look at in this chapter are, as a general rule, major writers, and the critical conversations with which I engage, to the extent that I do, are wide-sweeping, major academic arguments. I do not claim to be an expert in any of these subfields, but rather I am trying to pull them together by making slight adjustments to our understanding of these major players. Because I have already discussed in great detail many of aspects I identify as data-driven aesthetics, I will only devote considerable space to the works that rethink these stylistic choices in ways I feel are significant. Just as Melville and Whitman offered a point of comparison for understanding data-driven writing within the contemporary context of Romantic and Transcendental writing, and against the more standard intellectual formulation of encyclopedic narrative, the writers I

explore in this chapter model alternative data-driven forms to encyclopedically excessive latter-day critical paradigms such as systems novels (Tom LeClair) and the postmodern sublime (Joseph Tabbi), for instance. Therefore, I largely forego discussions of writers like William Gaddis, Thomas Pynchon, David Foster Wallace, and Mark Z. Danielewski in favor of authors who eschew or offer alternatives to their characteristically excessive aesthetic tendencies.

All of that said, perhaps the first major moment of interest in this narrative comes with the turn of American literature from the romance genre to realism, naturalism, and regionalism. Stylistically-related movements, these genres were in many ways direct repudiations of Renaissance Era writers like Melville and Whitman. Few writers working in these modes were stylistically excessive in the ways that Melville and Whitman often were, but despite this, they were often just as concerned with literature's capacity for information preservation and management. In rejecting bourgeois novelistic concerns with cultural capital, a middle-class worldview, and coastal, metropolitan lifestyles, their works centralized the issue of cultural preservation. Writing not against the nascent consumer capitalism of the prior generation, but the rampant robber baronism and large-scale industrialism expansions of the Gilded Age, they directly repudiated the full power of consumer capitalism, prioritizing the preservation of local narratives and narratives of the disenfranchised, both of which were under threat from the hegemonic force of industrialization.³¹⁵

In some ways, this is a continuation of what Mumford labels Melville's "valedictory" mode, but while Melville sought to utilize the methodical strategies of

³¹⁵ See Mumford, *The Golden Day*, 78 for a more cynical interpretation.

Enlightenment organization, these later writers often gravitated toward *volk* methods of cultural preservation, in greater recognition of the totalizing inertia of systemic bureaucracy. Their works took the forms of yellow journalism's exposés and quotidian reports, and dealt heavily in vernacular and customs; they are on the whole quieter narratives, less concerned with epic scale than with the exploration of human-scale effects of dehumanization and acculturation.³¹⁶

In many ways, works of realism and regionalism were the antithesis to the sometimes rowdy, sometimes chaotic themes and aesthetics of urban- and global-inspired writers like Melville and Whitman. Willa Cather's *The Professor's House*, for instance, tells a story of cultural preservation, focusing on Southwestern Native American cultures at odds with the westward march of capitalistic development. When protagonist Tom Outland and his partners discover an ancient Puebloan cliff city, Tom travels to Washington D.C. to convince the Smithsonian to buy and preserve the artefacts uncovered by the amateur archaeologists. As news reaches Tom's colleague back in the Southwest that his efforts are proving unsuccessful, he unilaterally decides to sell to a German collector. Tom is furious when he hears the news, but not because his colleague sold at fire sale prices. He admits to the reader that he had

hoped we'd be paid for our work, and maybe get a bonus of some kind, for our discovery. "But I never thought of selling them, because they weren't mine to sell—nor yours! They belonged to this country, to the State, and to all the people. They belonged to boys like you and me, that have no other ancestors to inherit from. You've gone and sold them to a country that's got plenty of relics of its own."³¹⁷

³¹⁶ Tom Lutz offers a similar argument in "Democratic Vistas and the Cosmopolitan Charge," *Cosmopolitan Vistas: American Regionalism and Literary Value* (Ithaca: Cornell University Press, 2004), 37-48.

³¹⁷ Willa Cather, *The Professor's House* (New York: Vintage Classics, 1953), 219.

The sense of historical loss is palpable, especially in Outland's attempt to connect his orphan identity to the contingent historical status of Native Americans. He poignantly casts historical and genealogical erasure in contrast to relic-rich European countries like Germany.

During the summer after this loss, Tom decides to stay at the site, studying Spanish and reading "the twelve books of the *Aeneid*." The summer was clearly cathartic for Tom: he writes "I can scarcely hope that life will give me another summer like that one. It was my high tide." But what he initially portrays as a period of mind-clearing work and study—he tidies up the ruins when not reading—soon becomes an extended meditation on the idea of informational permanence. During his time at the site prior to the sale of the artefacts, Tom kept a diary of his work, but "all that summer," he tells us, "I never went up...to get my diary—it's probably there yet. I didn't feel the need of that record." Distressed from losing the fruits of his recovery work, Tom avoids the recovery of his own record. At the same time, however, he worried that he was reading the *Aeneid* too fast to remember it, so he "began to commit long passages of Virgil to memory." It is clear Tom values the retention of information intensely, but personal and emotional issues seem to complicate this sentiment in some way. He does not retrieve the diary that summer, he suggests, because he "didn't want to go back and unravel things step by step."³¹⁸ As with the slave narratives discussed in the first chapter, we see cultural trauma acting as an occluder of narrative information. Though Tom has precious little connection to the Pueblo people, he identifies in some way with their outsider status, and

³¹⁸ Ibid., 227.

even this largely imaginary comradeship seems enough to affect his (and Cather's) narrative.

On a later journey, though, Tom does retrieve the journal. It eventually ends up in the hands of his mentor, history professor Godfrey St. Peter, who half-seriously begins "to edit and annotate it for publication."³¹⁹ ³²⁰ The closest glimpse we get of the contents of the journal, aside from the "Tom Outland's Story" section of the novel, is a referential description of the text's style and subjects. St. Peter tells us that Tom "had noted down the details of each day's work among the ruins, along with the weather and anything unusual in the routine of their life. There was a minute description of each tool they found, of every piece of cloth and pottery, frequently accompanied by a very suggestive pencil sketch of the object and a surmise as to its use and the kind of life in which it had played a part." By all accounts, then, a straightforward, descriptive work. "To St. Peter," though, Cather writes "this plain account was almost beautiful, because of the stupidities it avoided and the things it did not say. If words had cost money, Tom couldn't have used them more sparingly. The adjectives were purely descriptive, relating to form and colour, and were used to present the objects under consideration, not the young explorer's emotions."³²¹

³¹⁹ Ibid., 150.

³²⁰ Interestingly, this narrative action leads into the second section of the novel, a kind of quasi-embedment of Tom's diary within the narrative. Though it seems more free-indirect than a direct citation of Tom's account, it is written in the first person and fills in much of the background that was missing in the first section and rendered Tom a rather enigmatic character. Though perhaps not "information" in the most rational, quantitative sense, the section is interesting as a sort of narrative necessity, required to build out a literary reality. The fact that this insertion is motivated by the professor's desire to publish the diary as a record makes it all the more interesting.

³²¹ *The Professor's House*, 238.

In the journal, we see the impulse toward the often rationalist, always object-oriented stances of contemporary thinkers like Bruno Latour, Jane Bennett, and Bill Brown. Explicit acts of preservation in both *The Professor's House* and “A White Heron” serve as metaphors for the works’ authorial and political acts. The acts are scientific in nature—ornithological and archaeological—and focus on objects—local fauna, tools, clothes—at the expense of human actors, much like philosophical worlds of Latour et al. But unlike their philosophies where, as Heather Love has observed, “the context of Science and Technology Studies . . . makes it difficult to maintain the distinction between a meaningful world of human actions and intentions on the one hand, and an inert and insignificant world of material objects on the other,” for Cather and Jewett, the concomitant loss of human agency to which Love points seems to arise from a fear of commerce and the commodification of culture.³²²

And it was not just rural culture under threat. Novels like *Maggie: Girl of the Streets* did much to document the lives of the ethnic, urban poor, rapidly growing populations whose very existence was threatened by a bevy of bureaucratic inequalities, deteriorating urban conditions, and public health issues. Dealing heavily in dialect, it also did much to flesh out the lives and environments of the urban poor.³²³ Works from Jewish writers like Abraham Cahan and Anzia Yezierska were also notable for participating in this mode. Though naturalism and realism are often thought to prioritize society-scale issues, works like Rebecca Harding Davis’ “Life in the Iron Mills” took a

³²² Heather Love, “Close but not Deep: Literary Ethics and the Descriptive Turn,” *New Literary History* 41.2 (2010), 376.

³²³ As part of my digital humanities project, I ran a topic modelling program on the Wright American Fiction Library, which contains most of the novels written in America between 1850 and 1875. German dialect (along with Black Dialect) was so prevalent in the corpus that I had to add German-American orthographies to my stop-list to prevent the “topic” from dominating the computer-generated topic matrix.

much more personal approach to the ills of industrialization, delving into the lives and struggles of individual persons. Like the flourishing penny press, these works trafficked in scandalizing reports from the far-reaches of the urban and industrial wilds.

It is perhaps strange to say but, at the same time works of regionalism and naturalism collapsed their narrative vista to more local scales, they maintained what was heretofore a panoramically-figured concern with information. They took seriously the task of literature to record and preserve facets of culture being erased by mass culture, and in order to do that they needed to zoom into the nooks and niches where regional culture still existed. As Amy Kaplan has observed, realism was a “strategy for imagining and managing the threats of social change—not just to assert a dominant power but often to assuage fears of the powerless.”³²⁴ ³²⁵ While Kaplan, I think, had something a bit different in mind, I would argue that one of the ways realism managed these fears was through the act of artistic recording: it took material action to preserve the ways and customs of the underclass, in the likely event that hegemony would win out. What all these works have in common is their desire to protect what they saw as unique and valuable about American culture from the quickening tide of development.³²⁶ While Whitman in particular often celebrated the march of progress, industry, and urban development, many of these writers recoiled from it, locating their works either in as-yet

³²⁴ *The Social Construction of American Realism* (Chicago: University of Chicago Press, 1992), 10.

³²⁵ On a slightly different note, Bill Brown offers a material reading of regionalism in 2004’s *A Sense of Things: The Object Matter of American Literature* (Chicago: University of Chicago Press, 2004), 84. See for connections to Latour, Love, and others.

³²⁶ Though space does not permit me, I believe further examination of works like *The Octopus*, *The Jungle*, *Sister Carrie*, etc. shows potential for expanding the definition of data-driven writing, specifically with relation to works of realism, naturalism, and regionalism. *The Octopus*, in particular, and in relation to *The Professor’s House*, could be used to meaningfully talk about the factor of Western geography and expansion on the genre. See also Mary Hunter Austin’s works of cultural and ecological reporting.

unspoiled areas of the American wilderness, or in the seedy underbellies of cities suffering at the hands of the very forces Whitman toasted.

Perhaps the next major moment in this narrative comes with the Lost Generation, the American writers who escaped 1920s America, many in reaction to the still quickening march of industry and consumerism. Gertrude Stein, as one of the earliest of these expatriates, serves as a good demonstration of the continuities between Melville and Whitman and this later literary generation. Starting her career as a graduate student of William James, continuing on to Johns Hopkins where C.S. Peirce and others were stationed, she was in many ways inculcated with the Pragmatist philosophy that ran adjacent, if not entirely parallel to, the American Renaissance.³²⁷ As a student of James, Stein researched psychology at the time nervous conditions were quickly becoming pathologized. One such condition was “neurasthenia,” otherwise known as “Americanitis,” referring to the uniquely (or at least predominantly) American trait of being mentally overloaded by “the changing configurations of capitalism,” which “continually push attention and distraction to new limits and thresholds, with an endless sequence of new products, sources of stimulation, and streams of information.”³²⁸

Interestingly, it is at exactly the point that Stein speaks of William James in *The Autobiography of Alice B. Toklas* that she gives her diagnosis of modern American culture. “The important person in Gertrude Stein's Radcliffe life was William James,” she writes. She then remarks that she was not interested in Henry James at the time, “for whom she now has a very great admiration and whom she considers quite definitely as

³²⁷ See Menand, which I use heavily in the introductory chapter.

³²⁸ Term attributed to Annie Payson Call's 1891 *Power Through Repose*. Quote and some observations from Stephens, 42.

her forerunner, he being the only nineteenth century writer who being an American felt the method of the twentieth century.” She goes on to make a striking observation, one she liked so much that she would use it again thirteen years later, almost verbatim, in *Brewsie and Willie*. “Gertrude Stein always speaks,” she writes

of America as being now the oldest country in the world because by the methods of the civil war and the commercial conceptions that followed it America created the twentieth century, and since all the other countries are now either living, or commencing to be living a twentieth century of life, America having begun the creation of the twentieth century in the sixties of the nineteenth century is now the oldest country in the world.³²⁹

Stein, in linking the earlier Pragmatists to the Modernist avant-garde, is deeply sensitive to the radical modernity of the world of Melville and Whitman. While many of the forces we most associate with modern culture were, admittedly, nascent in the nineteenth-century, Stein was often more receptive to the fundamental continuities that stretched across the *fin-de-siècle*.

Remarkable in this sense, Stein offers several important correctives to what we traditionally think of as the encyclopedic aesthetic, ones best illustrated by a quick look at *Tender Buttons*. As many have noted, the collection draws heavily on the language of women’s magazines, domestic guides, and instruction manuals, rendering these texts in a syntactically-schizophasic manner. Critics like Paul Stephens have also pointed to the “poetics of information overload” in Stein’s work, pointing to the grammatic impenetrability of her poetry as signifying an understanding of modern text as fundamentally overabundant. In *The Poetics of Information Overload*, Stephens observes that Stein induces “states of distraction in her readers” through the use of repetition: “We

³²⁹ *The Autobiography of Alice B. Toklas*, 96.

as readers,” he suggests, “cannot help but be caught up in the rhythmic repetition of the aspiration to listen—but we, too, cannot ‘completely’ read.”³³⁰ Stephens proposes that the reader’s resulting “attention to attention” mimics mental responses to information overload. Dealing in “distraction, uncertainty, polysemy,” Stein’s dogged repetition reproduces the symptoms of Americanitis, the distinctly modern pathology she had studied as William James’ student.³³¹

More to my point, Stein’s syntactical experimentation models what Claude Shannon refers to as a “stochastic process” in his foundational 1948 article “A Mathematical Theory of Communication.” Stochastic processes are a collection of random variables selected from a finite set, the selection of which can be governed by probabilistic (or other) rules. For instance, in constructing a natural language sentence, one might select words from a dictionary according to their prevalence in the English language. This is, as Shannon explains, a logic of first-order approximation. Second-order approximation would give higher probabilities to words according to their likelihood to appear after the preceding word. Third-order would take into account the prior two words, and so on. A second-order word approximation sentence Shannon presents reads as follows: “THE HEAD AND IN FRONTAL ATTACK ON AN ENGLISH WRITER THAT THE CHARACTER OF THIS POINT IS THEREFORE ANOTHER METHOD FOR THE LETTERS THAT THE TIME OF WHO EVER TOLD THE PROBLEM FOR AN UNEXPECTED.”³³² He notes that the sentence has

³³⁰ Stephens, *The Poetics of Information Overload*, 49, 53.

³³¹ *Ibid.*, 61.

³³² C.E. Shannon, “A Mathematical Theory of Communication,” *The Bell System Technical Journal* 27.3 (July 1948), 388.

“reasonably good structure out to about twice the range that is taken into account” in its construction, meaning that syntactical sense is typically maintained across four word units in second-order approximations. This quantification of literary “sense” would seem instructive in looking at a writer so habitually quixotic as Stein.

Shannon explores stochastic processes in order to figure out “how much information is ‘produced’ by such a process.”³³³ In Shannon’s understanding of communicational information (which laid the groundwork for modern information theory), information is placed in opposition to noise or entropy: communication is only informational when it is an accurate signal, of use to its receiver by virtue of its fidelity. Stein, throughout her *oeuvre*, upends the linguistic primacy of sense, of communication through the transmission of common understanding. In fact, her idea of information transmission directly contradicts Shannon’s pragmatic understanding of communicational efficacy: in working through a profoundly inefficient avant-garde register, she actually points to the strictly uncommunicative capacities of language.

Her gravitation toward words with multiple meanings, of multiple parts-of-speech, embedded in sentences that chimerically shift in meaning with the reader’s fluctuating understanding of its various components. In the poem, “VEAL,” for instance, appearing in the “Food” segment of *Tender Buttons*, Stein writes:

Very well very well, washing is old, washing is washing
Cold soup, cold soup clear and particular and a principal
a principal question to put into.³³⁴

³³³ Ibid., 11.

³³⁴ Gertrude Stein, *Selected Writings of Gertrude Stein*, ed. Carl Van Vechten (New York: Vintage Books, 1945), 492.

Stein here subverts the imperative, instructional tones of turn-of-the-century homemaking and fashion manuals with her distinctive style that mimics the kind of half-sensical productions of stochastic processes. “Washing” in the first line can be read as a noun, gerund, verb, or adjective; “well” as an adjective, a verb, or a noun. While no specific configuration of parts-of-speech renders the statement meaningful, the imaginative tendency of a reader to vacillate among these assignments produces an effect wherein the sentence oscillates among an exponential range of possible partial-meanings. The sing-songy start of the next line—“Cold soup, cold soup clear and particular”—makes grammatical sense, offering a contrast to the hard-to-pin-down first line. The repetition of the subject again invites the reader to vary her interpretation. The second repetition—“and a principal/a principal question”—has a similar effect. It should be noted that these repetitions are actually more nonsensical than stochastically produced text, since the logic of ordered approximation would be less likely to repeat words in close proximity. By this measure, Stein’s reproduction of technical styles of writing actually corrupt meaning more than artificially rendered text. The sentence-ending preposition cements this effect, coupled with the objectless transitive verb “to put” again refuse logical sense. Stein’s wordplay tampers with rules of grammar even as it simultaneously arises from an essential understanding of words and literature as information, as not inherently meaningful in a humanistic sense.

In other words, while she seems to be motivated by what Shannon might describe as an inverse relationship between noise and information, or I might describe, within the broader context of this project, as a loss of meaning as a result of informational volume, the means she deploys for mimicking this effect are often grammatical in nature. For

example, much of the informational entropy in her writing comes from an overrepresentation of words of ambiguous parts of speech. This has the effect of refusing grammatical sense by ensuring that these words, according to either usage, is not supported by auxiliary grammar that would typically render it meaningful. To an average reader, though, it would appear as a second- (or more likely) third-order word approximation. Elsewhere, she uses conjunctions and other transitional parts of speech to splice together clauses in a collage-like fashion, constructing sentences that fit together in the same way that cadaver parts fit together in Frankenstein's monster: they are conjoined and anatomically contiguous, but that does not mean they are "right." More simplistic word substitutions also serve to refuse meaning-making. Stein's wordplay is most interesting to me in its modeling of a mathematical, informational, communicational understanding of language. It sees words and clauses as variables, maintaining macro-linguistic structures, while substituting individual pieces according to a quasi-probabilistic algorithm. Like Whitman, in particular, she innovates aesthetically, and in doing so, ends up anticipating the mathematical and data-centric foundations of literary language.

Other major writers in her period were not quite so technical in their understanding of literature as information, but many nonetheless seem to imagine literary texts as machinery for data management. Epic poetry, often critically linked to both the encyclopedic impulse and ideas of literary memory, was heavily revisited in this period of American literature, primarily in the figures of Ezra Pound, T.S. Eliot, and William Carlos Williams. This trio demonstrates some very interesting valences in the mobilization of data-driven aesthetics, particularly as they relate to political and social

loyalties. Pound and Eliot were as fervent in their aggregation of what they saw as valuable culture, typically manifested as traditional myth, as Melville and Whitman were in their representations of quotidian, democratic life. In *The Waste Land*, Eliot appropriates the Fisher King from Arthurian legend, emphasizing his role as socio-cultural protector, one injuries prevented him from performing in the Arthurian myths, reflect the urgency Eliot sees in the act of cultural preservation. Whereas the Fisher King's fishing in myth represents his, albeit enforced, neglect of *noblesse oblige*, in Eliot's poem it is a constructive act, reassembling culture from the eponymous wasteland. There is no need to heal the Fisher King, only for the Fisher King to heal his kingdom.

Metanarratively, Eliot performs this same role, and in an early example of literary footnotes assembles the highbrow knowledge he sees being put at risk by the entropy and disorder of modernity. Eliot himself suggested that these notes were primarily a practical consideration, meant to pad the poem's length

when it came time to print *The Waste Land* as a little book—for the poem on its first appearance in *The Dial* and in *The Criterion* had no notes whatever—it was discovered that the poem was inconveniently short, so I set to work to expand the notes, in order to provide a few more pages of printed matter, with the result that they became the remarkable exposition of bogus scholarship that is still on view to-day.³³⁵

While the notes themselves may have been an offhand addition, the influence of Eliot's resources are all too clear, a fact which he admits in the introductory endnote to the original hardcover edition:

Not only the title, but the plan and a good deal of the incidental symbolism of the poem were suggested by Miss Jessie L. Weston's book on the Grail legend: *From Ritual to Romance* (Macmillan). Indeed, so deeply am I indebted, Miss Weston's book will elucidate the difficulties of the poem much better than my notes can do; and I recommend it (apart from the

³³⁵ "The Frontiers of Criticism," *The Sewanee Review* 64.4 (1956), 533.

great interest of the book itself) to any who think such elucidation of the poem worth the trouble. To another work of anthropology I am indebted in general, one which has influenced our generation profoundly; I mean *The Golden Bough*; I have used especially the two volumes *Adonis, Attis, Osiris*. Anyone who is acquainted with these works will immediately recognize in the poem certain references to vegetation ceremonies.³³⁶

Some modern critics have dismissed the notes, characterizing them as tongue-in-cheek satire of the fastidiousness of a professionalizing, disciplinarily rigorous academe. While the notes are not of one valence, and not all of them should be taken with the same seriousness, it is clear that Eliot saw at least some value in them as an organizing device. If he was worried about the length of the poem, it probably made more sense to add more poetry. We also know that the work was extensively edited by Pound; setting some of that material would have been another solution. Eliot, however, chose to supplement the poem with a collection of literary allusions.

Perhaps the best clue for his reasoning behind this comes in his review of Joyce's *Ulysses*, another masterwork of mythologically data-driven literature. There, he writes, "in using the myth, in manipulating a continuous parallel between contemporaneity and antiquity, Mr. Joyce is pursuing a method which others must pursue after him."³³⁷ A few sentences later, he continues, connecting the observations with many of the same contemporary sources he refers to in his *Waste Land* notes, "Psychology (such as it is, and whether our reaction to it be comic or serious), ethnology, and *The Golden Bough* have concurred to make possible what was impossible even a few years ago. Instead of narrative method, we may now use the mythical method. It is, I seriously believe, a step

³³⁶ T.S. Eliot, *The Waste Land* (New York: Boni and Liveright, 1922), 53.

³³⁷ T.S. Eliot, "Ulysses, Order, and Myth," *The Dial* (November 1923), 483.

toward making the modern world possible for art, toward that order and form.”³³⁸

Similar to Whitman and Melville, Eliot finds order in outside forms, this time in myth.³³⁹

While myth does not seem to offer the same kind of concrete, logical structure that information systems provided for the two earlier writers, it is clear that for Eliot, they provide a framework of tradition that is every bit as concrete.

In fact, Eliot locates a sort of cosmic order in this myth-based organization system, suggesting that those who follow Joyce’s model “will not be imitators, any more than the scientist who uses the discoveries of an Einstein in pursuing his own, independent, further investigations. It is simply a way of controlling, of ordering, of giving a shape and a significance to the immense panorama of futility and anarchy which is contemporary history.”^{340 341} Here Eliot explicitly pits the familiar structure of traditional classicism against what he sees as the entropy of modernity. Whereas Melville and Whitman both looked to relatively contemporary technologies for literary order, Eliot looks to the past, attempting as Frazier did before him to demonstrate the saliences of both history and humanity.

³³⁸ Ibid.

³³⁹ It is worth noting that many of Eliot’s poems, including notable works like Prufrock, “Coriolan,” and much of *Four Quartets*, prioritize contemporary, urban images. The “Triumphal March” section of “Coriolan,” in particular, includes an itemized accounting of military technology that both echoes the granular war poetry of Melville and Whitman, and also mirrors and anticipates more modern forms.

³⁴⁰ “Ulysses, Order, and Myth,” 483.

³⁴¹ For the centrality of Einsteinian physics in Eliot’s poetry, see the first section of “Burnt Norton” from *Four Quartets*. Some academic inquiries include Thomas Vargish and Delo E. Mook, *Inside Modernism: Relativity Theory, Cubism, Narrative* (New Haven, Conn: Yale University Press, 1999); Daniel Albright, *Quantum Poetics: Yeats, Pound, Eliot, and the Science of Modernism* (New York: Cambridge University Press, 1997); N. Katherine Hayles, *The Cosmic Web: Scientific Field Models and Literary Strategies in the Twentieth Century* (Ithaca: Cornell University Press, 1986); and *Quantum Poetics: Science and Spirit in Twentieth Century American Poetry*, a Ph. D. dissertation by Patricia Monaghan at the Union Institute.

The piece itself, however, is so multitextual that it is hard to parse without extensive knowledge of world myth, religion, and literature, among other subjects. Unlike Melville and Whitman, who often used style and form to enact a kind of user/reader-friendliness, much of *The Waste Land* seems to abjure it. The poem is rife with exotic words (Ganga, Himavant), foreign languages, and obscure references. While much of the mythology and religious allusions would have been more familiar to his contemporary readers, the poem still seems to delight in its obtuseness, an obtuseness only made more evident by the need for endnotes in the first place. And even they seem to relish difficulty, many rendered in French, Latin, and German, languages only likely to be known (in America at least) by foreign nationals or those with exceedingly rare classical educations.

Eliot establishes this detached mode from the start. The poem begins, after the famous first lines, in the foreign (both literally and figuratively) world of European royals: “Summer surprised us, coming over the Starnbergersee/With a shower of rain; we stopped in the colonnade,/And went on in sunlight, into the Hofgarten,/And drank coffee, and talked for an hour.” Narrated by the Countess Marie Larisch, the poem then breaks into German, “bin gar keine Russin, stamm; aus Litauen, echt deutsch.”³⁴² Eliot’s information, whether he meant it to or not, has the effect of distancing him from his readers, only occasionally breaking this division. While the footnotes sometimes offer insight into the poem, as often as note they serve only to pile on more cryptic information.

³⁴² “The Waste Land,” *T.S. Eliot: Collected Poems 1909-1935* (New York: Harcourt, Brace & World, Inc., 1971), 37.

It is only a few times in the main text that Eliot concedes to his audience, a gesture he made much more often in earlier, narrative poetry like “The Love Song of J. Alfred Prufrock.” Many of these sections call back to that text, referencing urban, working class spaces that need little mediation to land with the average early twentieth-century reader: “Unreal City,/Under the brown fog of a winter dawn,/A crowd flowed over London Bridge, so many,/I had not thought death had undone so man.”³⁴³ The start of “The Fire Sermon” also begins with a variation of this modern, urban scene of London, a city he directly mentions again in a small catalogue in the final section, “What the Thunder Said.”³⁴⁴ Ironically, what all these moments of directness and cogence have in common is that they are all scenes of apocalypse. While Michael Tratner has argued convincingly for Eliot’s populist vision, the poet consistently speaks of death and destruction at the only times the public could have been expected to understand him.³⁴⁵ Tratner suggests, in an effort to work against the conception, that “*The Waste Land* has become an icon of modernism’s sense of the incomprehensibility of modern life and of impending apocalypse.”³⁴⁶ I am less interested in the political implications of this observation than in the informational ones. Stephen Burn has observed that “in turbulent times, writers...see their projects as cultural databanks shored against the gathering storm clouds.” One can see this attitude in Diderot’s desire to save knowledge “from time and

³⁴³ Ibid., 39.

³⁴⁴ Ibid., 43, 48.

³⁴⁵ See Tratner, “Movements Unconscious of Their Destiny: The Culture of the Masses in ‘The Waste Land,’” *Modernism and Mass Politics: Joyce, Woolf, Eliot, Yeats* (Stanford: Stanford University Press, 1995), 168, for an opposing take on Eliot, difficulty, and populism.

³⁴⁶ Ibid., 166.

from revolutions,” in Whitman’s proposal that a poem could preserve a lost American civilization, in Joyce’s suggestion that if Dublin were to disappear, it could be rebuilt from the pages of *Ulysses*.³⁴⁷ Faced with the flood, one clings to what flotsam and jetsam may come. Pound follows in much the same line, and to pile on examples would be to repeat myself. Anyone familiar with *The Cantos* knows they are best attended to with either a very expensive education or a less expensive (though still substantial) reading companion. While Melville and Whitman’s use of these aesthetics were, to greater or lesser extents, attempts to enact forms of social justice—Melville’s documented disappearing indigenous and working-class lifestyles and culture, Whitman’s indicated a broadly constructed vision of democratic society—Pound and Eliot used them to preserve an idealized version of the past and high culture.

This trend is, in some ways, countermanded by William Carlos Williams, particularly in his epic poem *Paterson*. Believing that American modernism should be grounded in America, Williams largely separated himself from the majority of American expat artists, preferring instead to “create somehow by intense, individual effort, a new - an American - poetic language.” Feeling like *The Wasteland* “had given the poem back to the academics,”³⁴⁸ Though he primarily worked within the Poundian strictures of Imagism, in *Paterson* he instead takes a maximalist approach, hoping, as he writes in his autobiography, “to find an image large enough to embody the whole knowable world

³⁴⁷ Diderot’s sentiment from “Encyclopedia.” Whitman’s from Bucke, 62. Joyce’s from Frank Budgen, *James Joyce and the Making of Ulysses* (New York: Oxford University Press, 1972), 18.

³⁴⁸ *The Autobiography of William Carlos Williams* (New York: New Directions, 1967), 146.

about me.”³⁴⁹ Invoking Whitman in the chapter on *Paterson* in his autobiography, Williams writes,

In the end the man rises inland toward Camden where Walt Whitman, much traduced, lived the latter years of his life and died. He always said that his poems, which had broken the dominance of the iambic pentameter in English prosody, had only begun his theme. I agree. It is up to us, in the new dialect, to continue it by a new construction upon the syllables.³⁵⁰

In the epigraph to *Paterson* Williams imagines himself constructing “a local pride; spring, summer, fall and the sea; a confession; a basket; a column; a reply to Greek and Latin with the bare hands.”³⁵¹ This is a not-so-veiled critique of the erudite elitism of Pound and Eliot, despite their intermittent gestures toward the everyman.

Pound also evoked Whitman, in Canto LXXXII, but one cannot help but think it a bit disingenuous with his lapsing into Greek (rendered in the Greek alphabet), Latin, and Italian within lines of the reference. Williams’ own criticism of Pound’s *Cantos* insightfully interrogates Pound’s project of preservation through Whitmanian aesthetic rhetoric: “The epic poem would be our ‘newspaper,’ Pound’s cantos are the algebraic equivalent but too perversely individual to achieve the universal understanding required. The epic if you please is what we’re after, but not the lyric-epic sing-song. It must be a concise sharpshooting epic style. Machine gun style. Facts, facts, facts, tearing into us to blast away our stinking flesh of news.”³⁵² Facts as epic. This concept, at its heart,

³⁴⁹ Ibid., 391.

³⁵⁰ Ibid., 392.

³⁵¹ William Carlos Williams, *Paterson* (New York: New Directions, 1992).

³⁵² Quoted in James E. Miller “William Carlos Williams’s ‘Paterson,’” *Modern American Poetry*, ed. Harold Bloom, (Philadelphia: Chelsea House, 2005), 200, in turn quoted in Mike Weaver, *William Carlos Williams: The American Background* (Cambridge: Cambridge University Press, 1971), 120). For further

Williams has no problem with: it is the individual fact, the solipsistic nature of Pound's (and Eliot's) aggregative project that renders them informationally bereft. They are impressively data-driven, but at the same time insistently construct real and difficult barriers to knowledge.

The Harlem Renaissance, part of and parallel to Modernist movement, was also concerned with the literary expression of fact, but its desire to actually convey knowledge offers an interesting contrast to the projects of Pound and Eliot. One major example of this was the Renaissance's conflicted views on dialect. Whereas the largely white regionalist movement embraced (its own) dialect as an artistic expression of at-risk cultural heritage, black writers often struggled with the political and social signification of African American vernacular. Poets such as Countee Cullen refused to work in it, citing "the natural limitations of dialect for poetic expression." He believed, along with many others, that social equality for black people could only be attained once they were considered equals of whites in matters artistic and intellectual. As he wrote, "the Negro poet would be foolish indeed to turn to dialect."³⁵³ Others instead embraced quotidian cultural imagery and black slang. Paul Laurence Dunbar and Langston Hughes, in particular, are noted as integrating, alongside more traditional literary conventions, the intricacies of African-American dialect, the rhythms of jazz, and the slang of bebop and club culture. As with the naturalist and regionalist writers, these poets worked to

discussion of Pound's somewhat tortured self-identification with Whitman, see his essay "What I Feel About Walt Whitman" and J.T. Barbarese's "Ezra Pound's Imagist Aesthetics" in *The Columbia History of American Poetry*, eds. Jay Parini and Brett Candlish Millier (New York: Columbia University Press, 1993).
³⁵³ Countee Cullen, "Foreword," *Caroling Dusk: An Anthology of Verse by Black Poets of the Twenties* (New York: Harper & Brothers Publishers, 1927), xiv.

preserve in art ways of life that were either under threat or ignored by mainstream society. See, for instance, Langston Hughes' *Montage of a Dream Deferred*, the bebop aesthetics of which John Lowney insightfully points to in "Langston Hughes and the 'Nonsense' of Bebop."³⁵⁴ Perhaps most noteworthy here is the expansion of the documentary influence to aural phenomena. Whereas regionalism and its adjacent movements primarily focused on information that could be rendered readily in print: dialect, social practices, descriptions, or even transcribed poetry and music, Harlem Renaissance poetry incorporated elements of rhythm and tonality not easily translatable into the print medium.

This coalescence of cultural material in poetry is, in part, a function of larger social forces. As Houston A. Baker, Jr. has argued, while the modernist era was interpreted by many white, male writers (and critics) as a time of ideological, political, and artistic fracture, for minority writers, it often times created the conditions necessary for an organized form of cultural self-knowledge and self-expression.³⁵⁵ In politically organizing and articulating black identity, figures like Hughes, Marcus Garvey, and Alain Locke linked the relatively elite strata of cultural production with the quotidian realities of African-American life.³⁵⁶

Likewise, in the sixties, the Black Arts movement renewed an interest in art as cultural heritage, reflected in an overall reinvigoration of Afrocentric thought. The Black

³⁵⁴ *American Literature* 72.2 (2000), 357-385.

³⁵⁵ Here I'm indebted to Kathryn R. Kent, *Making Girls into Women: American Women's Writing and the Rise of Lesbian Identity*, (Durham: Duke University Press, 2003), 143. See in Baker, *Modernism and the Harlem Renaissance* (Chicago: The University of Chicago Press, 1987), 8.

³⁵⁶ *Modernism and the Harlem Renaissance*, 81.

Power movement brought with it a reinvigorated interest in African and slave pasts, an interest reflected in its literature and music. Perhaps the subtlest literary example comes in Alice Walker's "Everyday Use," a short story about a big-city college girl's return to her family's humble, rural home. The girl, born Dee, comes back "Wangero Leewanika Kemanjo."³⁵⁷ She is accompanied by her boyfriend whose name is misheard by the narrator, Dee's less urbane mother, and consequently referred to as either "Hakim-a-barber" or "Asalamalakim."³⁵⁸ Walker, reflecting her vexed relationship to a poor, rural childhood and privileged adulthood, presents more nuanced pictures of both Dee's urban sophistication and her family's seeming ignorance. As a child, Dee was pathologically ashamed of her modest home and its simple contents. When she returns from college, though, aware of a proud past of struggle and resistance, she does so with an appreciation for her cultural heritage that Walker skillfully portrays as simultaneously both enlightened and shallow.

The major conflict in the story comes when Dee asks that she be allowed to take back with her an old, homemade churn top, the accompanying dasher, and a collection of hand sewn quilts. She tells them that she will "use the churn top," which her mother utilizes for butter making, "as a centerpiece for the alcove table...and...think of something artistic to do with the dasher."³⁵⁹ The quilts, which mostly consist of "old clothes" from her ancestors, Dee says she will hang, "as if that was the only thing you

³⁵⁷ "Everyday Use," *Everyday Use*, ed. Barbara T. Christian (New Brunswick: Rutgers University Press, 1994), 29.

³⁵⁸ The name was, as the mother notes, "twice as long and three times as hard" as Dee's (30).

³⁵⁹ *Ibid.*, 31.

could do with quilts.”³⁶⁰ Of all the quilts, she favors the ones that are handstitched, shunning the ones that “are stitched around the borders by machine.” Her mother, on the other hand, is partial to the latter variety, citing the fact that the machine stitching will “make them last better.”³⁶¹ Though the newfound and seemingly superficial quality of Dee’s cultural appreciation renders it suspect, the utilitarian attitude of the mother and Maggie (Dee’s sister) are also called into question.

Walker talks back against both the “in vogue” quality of much of the cultural posturing of *Black Pride*, while also expressing anxiety over those who do not appreciate their own past. One of the quilts contains a piece “from Great Grandpa Ezra’s uniform that he wore in the Civil War,” and Dee fears that if they are given to Maggie, as the mother plans, she would wear them out by putting “them to everyday use.”³⁶² The mother seems nonplussed, stating that Maggie “can always make more” as she “knows how to quilt.”³⁶³ This practical approach to family heritage is at odds with many literary representations of the vital role of self-knowledge for the geographically and historically dislocated African-American. Dee enacts the role of cultural preserver, a role that Walker and other writers concerned with information metanarratively perform in their acts of inscription.

In addition to the Pan-Africanist imperative to preserve cultural history, Black Arts writers reinvigorated an interest in documenting contemporary black life. While Amiri Baraka proclaimed he wanted “poems that kill,” he and others also composed

³⁶⁰ *Ibid.*, 32.

³⁶¹ *Ibid.*

³⁶² *Ibid.*, 32, 33.

³⁶³ *Ibid.*, 33.

pieces that preserved, creating contemporary cultural touchstones, foundations upon which a proud black identity could be based. While Baraka's earlier poems like "In Memory of Radio," written under his birth name of Leroi Jones, catalogued and celebrated more broad-based cultural touchstones such as his Beat friend Jack Kerouac, *The Shadow*, and *Red Lantern*. Though he does call attention to the unattractiveness of programming from "WCBS and Kate Smith," the broadcast nature of radio assumes a common cultural ground. After the assassination of Malcolm X and Jones' consequent radicalization, this kind of poetic namedropping tends to work along rather than across racial lines. In his ode to Malcolm X, "A Poem for Malcolm X," he repeatedly invokes the activist's name, using him in a much more actively confrontational manner. He begins the poem "For Malcolm's eyes, when they broke/the face of some dumb white man," imbuing the figure with seemingly supernatural power that upset the presumed racial order. Included in his first collection published after the assassination of Malcolm X, we see Baraka use proper nouns in a much more divisive, Afrocentric manner, a shift evident in the works of many Black Arts poets.

Sonia Sanchez, for instance, memorializes Billie Holiday in her poem "for our lady." In "Beautiful Black Men," Nikki Giovanni calls out "jerry butler, wilson pickett, the impressions/temptations, mighty mighty sly." Another poet whose literary productions were radicalized over the course of her career, Gwendolyn Brooks, memorializes Emmett till in her two 1960 poems "A Bronzeville Mother Loiters in Mississippi. Meanwhile a Mississippi Mother Burns Bacon" and "The Last Quatrain of the Ballad of Emmett Till." She also lists "Belafonte, King,/Black Jesus, Stokely, Malcolm X or Rap" in "The Blackstone Rangers." As much as these famous figures,

though, writers again sought to inscribe quotidian African-American life as represented by local culture, dialect, and common experience. As Baraka puts it in his poem by the same name, “Black Arts,” should be “live/words of the hip world live flesh &/coursing blood.”

“Live words of the hip world” indicates an investment in colloquial language, an artistic choice that became increasingly prevalent in the Black Arts era. Dialect, rather than the vexed representation in found in the Harlem Renaissance, was often used as a powerful affront to white readers, rendering them outsiders to an often-cryptic poetic language, while also asserting the value and beauty of common black speech and experience. This change in attitude came with a more pointed materialist critique. Audre Lorde poignantly writes in *Sister Outsider*,

Of all the art forms, poetry is the most economical. It is the one which is the most secret, which requires the least physical labor, the least material, and the one which can be done between shifts, in the hospital pantry, on the subway, and on scraps of surplus paper. Over the last few years, writing a novel on tight finances, I came to appreciate the enormous differences in the material demands between poetry and prose. As we reclaim our literature, poetry has been the major voice of poor, working-class, and Colored women. A room of one’s own may be a necessity for writing prose, but so are reams of paper, a typewriter, and plenty of time.³⁶⁴

The immense flowering of poetry in the Black Arts movement, in opposition to more maximalist forms like novels, represents the populist foundation in a movement that wanted to make art that was not just producible, but approachable for the average black citizen. Colloquial language, or what linguists today would identify as African American Vernacular English, made for a stark contrast to the almost unassailable poetry being

³⁶⁴ Audre Lorde, “Age, Race, Class, and Sex: Women Redefining Difference,” *Sister Outsider: Essays and Speeches* (Freedom, CA: The Crossing Press, 1984), 116.

written by increasingly university-affiliated white poets in the period. It also differentiated itself from the austere and formal traditions of Renaissance and Romantic poetry, and from those black writers, like Hughes and Cullen, who had strategically attempted to prove African-American equality through mastery of European form. Black Arts poetry was for the people, and as such it had to be constructed in such a way so as to allow for the most efficient transfer of political information. Speaking in common language was one way it did this.

This minimalist style, evidenced at the macro-level by a turn to poetry, extends the poetics of efficiency I explored in Whitman's works. Gwendolyn Brooks' "We Real Cool" is a good example of this. While most of Brooks' poetry, especially her early works, is notable for its linguistic and formal mastery, works like "We Real Cool" look to achieve a decidedly different goal. Conspicuously short among Brooks' works, it registers in its minimalist style the absences that Brooks otherwise insistently records in works like "The Last Quatrain of the Ballad of Emmett Till" and "To the Diaspora,"

We Real Cool

THE POOL PLAYERS.
SEVEN AT THE GOLDEN SHOVEL.

We real cool. We
Left school. We

Lurk late. We
Strike straight. We

Sing sin. We
Thin gin. We

Jazz June. We
Die soon.³⁶⁵

³⁶⁵ *The Bean Eaters* (New York: Harper & Brothers, 1950), 17.

Working in the quotidian registers of the truant pool players, Brooks' simplistic, staccato, and sometimes nonsensical statements ("We/Jazz June") call attention to themselves as outside her normal range of poetic grammar. The insistent enjambment of every line produces a syncopated rhythm that both mimics, as Hughes' bebop poetry did, the strains of African-American music, while at the same time creating in the reader an "off-balance" sensation. Through these poetics, it calls attention to itself as distinctively folk: though minimalist and, as such, refusing many specificities beyond the name of the pool hall and the number of players, it simultaneously marks itself as a vernacular and relatable voice: as for and by a black writer. It records a reality not as accessible to white readers, who may struggle through Brooks' stylistic flourishes. Ultimately this reality is tragic, with the speakers' sin, gin, and skipping of school all pointing to the ultimate absence of the poem: their dying soon. In stark contrast to the voice and tone of much of her *oeuvre*, "We Real Cool"'s approximation of African American Vernacular English, with its dropped helping verbs ("We real cool.") and other grammatical gaps, registers in its language the absences and trauma evocatively rendered in the poem itself.

Nikki Giovanni's and Sonia Sanchez's poetry continues this memorial mode, self-aware their acts of remembrance and recording, often taking the form of odes. Their consistent choice to write in all lowercase emphasizes this mission aesthetically, visually evoking the smallness of a violently oppressed voice. The contrast between the unassuming text, and the strong, vibrant imagery and language is striking. In "for our lady," Sanchez's tribute to Billie Holiday, the poet deploys a combination of this small type, shortened words, and vernacular language to evoke the sense of loss she wishes to convey with respect to Holiday's passing:

yeh.
 billie.
 if someone
 had loved u like u
 shud have been loved
 ain't no tellin what
 kinds of songs
 u wud have swung
 gainst this country's wite mind
 or what kinds of lyrics
 wud have pushed us from
 our blues / nites.
 yeh. billie.
 if some blk / man
 had reallee
 made u feel
 parmanentlee warm.³⁶⁶

The sense of loss and absence is overwhelming. Not only does Sanchez lament the loss of Holiday's presence, she mourns for the "kinds of songs" she never could "have swung" because she was never loved properly by "some blk / man." While in some ways Holiday's silence is attributed to a lack of love, it is also juxtaposed "gainst this country's wite mind," suggesting that Holiday may have produced some sort of musical counter-knowledge to racial and cultural dominance. The staccato, recurring "yeh"s, scat-like, stand in as fillers for the words that were not, cannot be produced. Finally, the lowercase typography and collapsed orthographies figure the poetic voice as almost unbearably small, a feeling that is carried through Sanchez's (and also Giovanni's) works. Graphically, it evokes the voice of the subaltern, perhaps speaking, but into a hegemonic space. It is only in the act of memorialization, in naming "billie," and in rendering these specificities textually, that Sanchez seems to gain purchase against this cultural force.

³⁶⁶ *We A BaddDDD People* (Detroit: Broadside Press, 1970), 41

This struggle to render information is at the center of another interesting data-driven work, *White Noise*. While works like *Underworld* fall rather neatly within the tradition of the encyclopedic tome, it is in his much shorter *White Noise* that DeLillo most interestingly intersects with the idea of data-driven writing, being more interested in the idea of data than its textual integration. In it, Professor of “Hitler Studies” Jack Gladney faces down his own mortality when an “Airborne Toxic Event” occurs in his bucolic college town. His comically specific, satirical field of study points to a world where knowledge has become so specialized that it has rendered itself trivial. Jack “invented Hitler studies in North America in March of 1968.” He goes on to say that when he “suggested to the chancellor that we might build a whole department around Hitler's life and work, he was quick to see the possibilities. It was an immediate and electrifying success,” with the chancellor going on “to serve as adviser to Nixon, Ford and Carter before his death on a ski lift in Austria.” Also skewering the commodification of education in the neoliberal university, “Gladney’s Hitler” studies has made the college “internationally known. Gladney has “evolved an entire system around this figure, a structure with countless substructures and interrelated fields of study, a history within history.”³⁶⁷ DeLillo’s sense of the nested structure of contemporary academic knowledge and the commodification of information both point to a writer keenly aware of both the simultaneous contemporary impulses toward both the expansion and policing of data.

DeLillo in *White Noise* is sensitive to the proliferation of information, in a way that Melville, Whitman, and even Pynchon were not. Many of the novel’s settings are positively Latourian, reveling in crowded, object-oriented scenes. The opening

³⁶⁷ Don DeLillo, *White Noise* (New York: Penguin, 1985), 11-12.

paragraph depicts students moving into Gladney's College-on-the-Hill, unburdening their parents' station wagons of "stereo sets, radios, personal computers; small refrigerators and table ranges; the cartons of phonograph records and cassettes; the hairdryers and styling irons; the tennis rackets, soccer balls, hockey and lacrosse sticks, bows and arrows..."³⁶⁸ The list continues for another three lines, and a similar list occupies three lines earlier in the paragraph. A recurring setting of the novel is a neighborhood supermarket, where families go to shuffle around in a bewildering Baudrillardian consumerist aura:

They walk in a fragmented trance, stop and go, clusters of well-dressed figures frozen in the aisles, trying to figure out the pattern, discern the underlying logic, trying to remember where they'd seen the Cream of Wheat....They scrutinize the small print on packages, wary of a second level of betrayal. The men scan for stamped dates, the women for ingredients....But in the end it doesn't matter what they see or think they see. The terminals are equipped with holographic scanners, which decode the binary secret of every item, infallibly. This is the language of waves and radiation, or how the dead speak to the living.^{369 370}

Earlier DeLillo describes the same space with the sentence fragment "blasts of colors, layers of oceanic sound." Gladney watches his friend pick "up a box of Hand-Wrap II, reading the display type, studying the colors." He smells "a packet of dehydrated soup. The data was strong today."³⁷¹ The spaces DeLillo creates are all-consuming, humming

³⁶⁸ Ibid., 3.

³⁶⁹ Ibid., 309-310.

³⁷⁰ On the subject of Baudrillardian consumer-scapes, see also "I was suddenly aware of the dense environmental texture. The automatic doors opened and closed, breathing abruptly. Colors and odors seemed sharper. The sound of gliding feet emerged from a dozen other noises, from the sublittoral drone of maintenance systems, from the rustle of newsprint as shoppers scanned their horoscopes in the tabloids up front, ... (160-1); "It is all a corporate tie-in. The sunscreen, the marketing, the fear, the disease. You can't have one without the other (252).; The supermarket is full of elderly people who look lost among the dazzling hedgerows" (159); 83; 37.

³⁷¹ Ibid., 275.

with what Baudrillard poetically refers to as “the fluidity of objects and needs.”³⁷² Jack tells his students, “Look at the wealth of data concealed in the grid, in the bright packaging, the jingles, the slice-of-life commercials, the products hurtling out of darkness, the coded messages and endless repetitions, like chants, like mantras.”³⁷³

More than the all-encompassing consumerism, though, is all-encompassing environment of data. Walking around his house, Gladney imagines “huge amounts of data flowing through the house, waiting to be analyzed.”³⁷⁴ His daughter’s room “around him was rich in codes and messages, an archaeology of childhood, things Denise had carried with her since the age of three, from cartoon clocks to werewolf posters.”³⁷⁵ ³⁷⁶ After the Airborne Toxic Event causes an evacuation, Gladney pictures German Shepherds “prowling the empty streets, heavy-gaited, alert. Able to hear sounds we couldn’t hear, able to sense changes in the flow of information.”³⁷⁷ The air of information is thick, but inaccessible.

³⁷² “Consumer Society,” *Jean Baudrillard: Selected Writings*, ed. Mark Poster (Stanford: Stanford University Press, 2001), 32-59.

³⁷³ *White Noise*, 51.

³⁷⁴ *Ibid.*, 100.

³⁷⁵ *Ibid.*, 102.

³⁷⁶ On the topic of datascares, see also “‘The flow is constant,’ Alfonse said. ‘Words, pictures, numbers, facts, graphics, statistics, specks, waves, particles, motes’ (66); ‘the kitchen, where levels of data are numerous and deep’ (48).

³⁷⁷ *Ibid.*, 148.

More than the atmosphere, though, data has become embodied. In perhaps the most memorable moment of the novel, Jack converses with a SIMUVAC agent about his exposure to the Airborne Toxic Event:

“But you said we have a situation”

“I didn’t say it. The computer did. The whole system says it. It’s what we call a massive data-base tally. Gladney, J.A.K. I punch in the name, the substance, the exposure time and then I tap into your computer history. Your genetics, your personals, your medicals, your psychologicals, your police-and-hospitals. It comes back pulsing stars. This doesn’t mean anything is going to happen to you as such, at least not today or tomorrow. It just means you are the sum total of your data. No man escapes that.”³⁷⁸

DeLillo’s data-driven work is interesting to the extent that it avoids data itself, in its privileging of the concept of information over its aesthetic, formal aggregation.

Countermanding the examples of Melville and Whitman, and even his own instincts a decade later in *Underworld*, DeLillo in this passage and in *White Noise* generally deals with the troubling ephemerality of contemporary information.³⁷⁹

Though Gladney receives what is effectively a death sentence from “the sum total” of his data, none of the particulars of this data are rendered for him, textually or otherwise. Though the technician offers a brief summary of the components of his “massive data-base tally”—Gladney’s genetics, personals, medicals, and the like—the things that are troubling about these reports are never quantified and never represented within the work. The troubling bureaucratic impersonality of the scene arises directly from this unquantifiability.

³⁷⁸ Ibid., 136.

³⁷⁹ For an influential argument against this ephemerality, see Matthew Kirschenbaum’s *Mechanisms: New Media and the Forensic Imagination* (Cambridge: The MIT Press, 2012).

Though there seems to be a sizeable amount of data on Gladney, it is his inability to access and assess this data that forms DeLillo's primary concern. Whereas Melville and Whitman struggled with a kind of information overload, Gladney faces down a flood of data effectively hidden behind corporatist and bureaucratic walls of control. As such, *White Noise* does not just refuse, but is literally unable to represent this information aesthetically. Data becomes, as the title of the book suggests, a kind of white noise, a vague but ever-present force that fills a room with emptiness.

As I suggested in the introductory chapter, it was a similar state of informational exclusion that characterized many early works of African American writing, particularly slave narratives. Cut off from information infrastructures like the press and the education system, they were forced to figure data, and literary data, in alternative ways. Alex Haley and Toni Morrison both reconsider this relationship to the data-driven aesthetic in interesting ways. Additionally, they show just how flexible the style can be, adapting to fit a much wider variety of lived circumstances than the relatively homogenous social milieu of authors typically considered to be "encyclopedic."³⁸⁰ As I argued in the first chapter, African American writing in particular, tends to frame itself explicitly around issues of knowledge acquisition. Though the knowledge it tends to value—personal genealogy and Afrocentric history—tends to be overlooked in

³⁸⁰ Many of the ideas in this section were inspired by a discussion with Dr. Donette Francis, who posed the question, "Do encyclopedic novels of minority writers necessarily look like traditional encyclopedic narratives?" In some ways, I think, this was the impetus for the idea of "data-driven" writing in the first place, the notion that writing can prioritize the idea of information, but that it express itself in different ways.

discussions of encyclopedic or data-driven works, works by black writers often deal with information as a literary theme in a way that is much more direct than their white counterparts. That is to say that their writings tend to prioritize forms of information complicated by the black experience in America, bringing into focus notions of data that are altogether overlooked by white writers. Gesturing toward *de jure* and *de facto* policing of black bodies and minds, exploring the very different informational landscapes of a people who were historically legislated out of education and genealogical and personal self-knowledge.

In stark contrast to many of the white writers discussed, they favor tend to favor information of a personal nature over vast aggregations of impersonal data, information absence over information overload, and the trauma of knowledge over its liberating influence. These large-scale reconsiderations of the very nature of information in literature raise questions about contemporary social and infrastructural realities that contribute to vast and growing educational and informational inequalities that tend to run along lines of color and gender. In thinking about African-American literature, which has taken information acquisition as a central theme since its inception, as being data-driven, we can begin to think more explicitly about the humanistic implications of information equality, and the differing ways that ways that these issues shape our understanding of data and data aesthetics.

On the back cover of my thirtieth anniversary edition of *Roots* there is a quotation from Alex Haley reading, “In all of us there is a hunger, marrow deep, to know our heritage....Without this enriching knowledge, there is a hollow yearning no matter what our attainments in life.” In Michael Eric Dyson’s excellent introduction to the edition,

entitled “Haley’s Comet,” he starts, “From the very beginning, Alex Haley’s *Roots* counted as much more than a mere book. It tapped deeply into the black American hunger for an African ancestral home that had been savaged by centuries of slavery and racial dislocation....No longer were we genealogical nomads with little hope of learning the names and identities of the people from whose loins and culture we sprang.”³⁸¹

Dyson also talks about how this shift changed America’s “story,” working in registers of narrative and authorship. “Haley wrote black folk into the book of American heritage....Haley’s monumental achievement helped convince the nation that the black story is the American story.”³⁸² He imagines, much like Haley, the genealogical quest of the roots “saga” as one to discover and textualize one’s self-knowledge.

In Dyson’s introduction to *Roots*, he also talks about silence: “Until Haley’s book, there was little public grappling with the drama of American slavery....The book and miniseries also sparked the phenomenon of black self-discovery. For too long, slavery had been an American terror that left the lives of black folk scarred by memories of pain and humiliation.”³⁸³ If Haley’s maximalist project is an effort to transgress these emotional boundaries, Morrison’s minimalism in *Beloved* is an attempt to defamiliarize them, to restate their lingering effects. Whereas *Roots* looked to sate the hunger for black American self-knowledge, *Beloved* sought to show the vexed nature of this information, revealing the inherent difficulty in narrativizing and aestheticizing the trauma of the black experience. For Morrison, it was not so much a question of if the information could be

³⁸¹ Michael Eric Dyson, “Haley’s Comet,” *Roots: The Saga of an American Family, The 30th Anniversary Edition* (Philadelphia: Vanguard Press, 1974), ix.

³⁸² Ibid.

³⁸³ Ibid., x.

known, but if it should be known. Dyson observes in his introduction that Haley's book sparked a kind of genealogical renaissance in black communities, inspiring people to move past "the haunting imperatives of white supremacy," and embrace a history that could often be uncomfortable or painful. He hails the book as "putting millions of us on the right path to racial and historical knowledge," observing that "DNA tests to determine black ancestry are more popular than ever."³⁸⁴ Writing in the wake of this phenomenon, Morrison wonders if these stories of self-discovery blacks were encountering were meant "to pass on."

Roots in many ways scans as an encyclopedic novel. The edition I am using is nearly nine hundred pages, spanning two centuries, nine generations, and two continents. Subtitled "The Saga of an American Family," it attaches itself consciously to the epic tradition. *Roots* is remarkable, though, in the ways that it removes itself from this tradition, standing, if not in opposition to it, in stark contrast. Whereas Melville and Whitman were reacting to an overabundance of easily available information, Haley frames his story around its almost complete absence. While on the slave ship, Kunta Kinte talks explicitly about the information around him and the ways in which it could be used for escape. He notes that "The most useful information of any sort had come from the women's singing as the men danced in their chains: that about thirty toubob (white men) were riding with them on this big canoe," and later, "The relaying of any information from whatever source seemed about the only function that would justify their staying alive." Rather than direct revolt, "exchanging a whisper now and then in their

³⁸⁴ Ibid., xi.

desperation to communicate, [the slaves] picked at each other's minds to learn a new word here, another there, in their respective tongues."³⁸⁵ Their struggle is not such much against the slavers, but against their inability to access latent data in this new environment.

When Kunta has a daughter, Kizzy, he teaches her all the Mandinka words he can, and she, in turn, teaches them to her son, George. She thinks "how much it would please her pappy, wherever he was, for his grandson to also know the African words."³⁸⁶ "George" becomes "Chicken George," a slave proficient at cockfighting, given special privileges of movement and developing a personal relationship of sorts with his owner and father, "Massa Lea." In this position, George, like his grandfather Kunta, gains access to the white world, travelling to and participating in cockfighting tournaments. Through him, the reader hears about Andrew Jackson's partiality to chicken fighting, large shipments of slaves, the Nat Turner rebellion, and the Indian Removal Act.³⁸⁷ As with the narratives of Jacobs and Douglass, and many other slave narratives, reliable information seems only to be sourced from formal, technological networks.

Soon both the narrative and familial mantle gets passed to Tom Murray, George's son and an able blacksmith. In possessing a valuable trade, Tom, like his father and grandfather before him, is privy to the inner-workings of white society. He is also privy to his family's history: the night after Tom was born, Chicken George, "for the third time,

³⁸⁵ Alex Haley, *Roots: The Saga of an American Family, The 30th Anniversary Edition* (Philadelphia: Vanguard Press, 1974), 214

³⁸⁶ *Ibid.*, 572.

³⁸⁷ *Ibid.*, 660, 664

gathered everyone around to listen as he told his family's newest member about the African great-gran'daddy who called himself Kunta Kinte."³⁸⁸ Tom brings the slaves news of the telegraph, Frederick Douglass, and Lincoln's election, overheard from the idle talk of white folks in his blacksmith shop.³⁸⁹ It is via telegraph that he hears news of the outbreak of the Civil War, and the "Mancipation Proclamation."³⁹⁰

The narrative thread repeatedly passes through Haley's most informationally privileged ancestors, those with simultaneous access to formal news networks and the folk and familial knowledge passed on by Kunta Kinte. Access to information becomes a narrative epistemology, information that Haley then transcribes. The African griots, Kunta Kinte the chauffeur, Chicken George the cockfighter, Tom Murray the blacksmith, Haley himself: these characters are constantly trying to piece together snippets of news they hear about slave rebellions, the Civil War, Emancipation. Their struggle to assemble knowledge of the outside world becomes Haley's; the policing and destruction of information by the white world becomes the narrative obstacle for both his characters and himself. Perhaps the epic aspect of Haley's narrative is this act of assemblage, the artistic and personal question to piece together this information that comes so effortlessly and abundantly to writers like Whitman and Melville. The ability to "save" personal information, family stories, heritage becomes central to the African American experience in *Roots*.

³⁸⁸ Ibid., 663.

³⁸⁹ Ibid., 708, 709, 800.

³⁹⁰ Ibid., 826.

In Morrison's version of this experience, the opposite is true, though *Beloved* still revolves around the collection and transmission of historical and genealogical information. Much of Sethe's narrative task in the novel revolves around trying to outrun her past, to escape the ghosts that haunt her. While Haley's family history is rendered in full, gory detail (the yellow pus), Morrison eschews the realities of slavery, suggesting, as does the refrain of the closing chapters, Sethe's "is not a story to pass on." The onion peel structure of the story reflects this, obscuring critical knowledge from the reader until it is absolutely necessary. Sethe's memory, rendered mercifully unreliable by the traumas she has experienced, becomes one of several competing narrative records set forth in *Beloved*. While Sethe's memories and perceptions often shape the narrative in fundamental ways, the gaps between reality and Sethe's understanding of it are made evident early on.

Thinking about her former plantation "Sweet Home," Sethe muses, "it never looked as terrible as it was and it made her wonder if hell was a pretty place too. Fire and brimstone all right, but hidden in lacy groves. It shamed her—remembering the wonderful soughing trees rather than the boys. Try as she might to make it otherwise, the sycamores beat out the children every time and she could not forgive her memory for that."³⁹¹ What Sethe calls her "rememory" is often a source of distress, forcing her to wrestle with the cruelties of her past. Speaking with her daughter, Denver, Sethe assures her

some things go. Pass on. Other things just stay. I used to think it was my rememory. You know. Some things you forget. Other things you never do. But it's not. Places, places are still there. If a house burns down, it's gone, bu the place—the picture of it—stays, and not just in my rememory,

³⁹¹ *Beloved* (New York: Vintage, 2004), 7.

but out there, in the world. . . .Someday you be walking down the road and you hear something or see something going on. So clear. And you think it's you thinking it up. A thought picture. But no. It's when you bump into a rememory that belongs to somebody else. Where I was before I came here, that place is real. It's never going away.³⁹²

Sethe's musings point to the surprising permanence of memory, perhaps even spilling into the material world. At the same time, she connects these memories to the idea of trauma—"where I was before"—lamenting the stubborn salience of her haunting past. Sethe's (and the reader's) struggle in the novel is to negotiate among different sources of narrative permanence and veracity, to determine exactly what has happened and how it is to be understood. Kimberly Chabot Davis, in "Postmodern Blackness: Toni Morrison's *Beloved* and the End of History," argues that "despite the indeterminacies of her fiction, Toni Morrison's *Beloved* can be read as an overt and passionate quest to fill a gap neglected by historians, to record the everyday lives of the 'disremembered and unaccounted for.'"³⁹³ While Morrison's project in *Beloved* gestures toward this act of recovery, psychological trauma consistently acts to prevent the recovery of solid historical information. As Chabot Davis later notes, *Beloved* also "teaches that a historical memory also has its costs, resulting often in the reopening—rather than the healing—of old psychic wounds. More often than not in the novel, these wounds precludes the possibility of clean history.

Another force competing with Sethe's rememory is the news media, which often serves as a sort of narrative anchor. Much of what the reader comes to know about Sethe's reality, with any degree of certainty, is pulled from various narrative encounters

³⁹² *Ibid.*, 43.

³⁹³ *Twentieth Century Literature* 44.2 (1998), 245. Internal quotation from *Beloved*, 274.

with print media. The center of Sethe's repressed memories, her infanticide of Beloved to prevent the baby's enslavement at the hands of slave hunters, is only verified when her live-in boyfriend and former Sweet Home slave Paul D is given a Cincinnati newspaper article detailing the tragic event. Unable to read, but sensitive to the contours of news coverage, Paul D recognizes Sethe's face in the article, and reasons that

a Negro's face in a paper... was not there because the person had a healthy baby or outran a street mob. Nor was it there because the person had been killed, or maimed or caught or burned or jailed or whipped or evicted or stomped or raped or cheated, since that could hardly qualify as news in a newspaper. It would have to be something out of the ordinary—something whitepeople would find interesting, truly different, worth a few minutes of teeth sucking if not gasps. And it must have been hard to find news about Negroes worth the breath catch of a white citizen in Cincinnati.³⁹⁴

While Paul D's encounter with the newspaper clipping lends credibility to the rumors of a horrible act in Sethe's past, the exact nature of the act has to be delivered to him by Stamp Paid, the escaped slave and Underground Railroad conductor, who shows him the article. The paper itself lends informational fidelity to Stamp Paid's tale, which might otherwise be dismissed as gossip by Sethe's lover and old acquaintance. It also helps to nail down the identity of the eponymous Beloved, who to this point has only been mentioned in a sideways manner, seemingly a spirit of unconfirmed identity haunting Sethe's new home, 124.

Newspapers are given a place of privilege in this world, serving as a kind of system of record, an information system that stores and reconciles conflicting or differently formatted bits of data. Think of it as a master record. Though the gossip

³⁹⁴ *Beloved*, 183

about Sethe's act was all over town, it is not made real to Paul D, a newcomer, until he sees it in the newspaper.³⁹⁵ When Stamp Paid later thinks about his decision to enlighten Paul D, he ponders why "he had insisted on privacy during the revelation" and "whom he was protecting." "How did information that had been in the newspaper," he continues, "become a secret that needed to be whispered in a pig yard?" "Paul D," as Stamp observes, "was the only one in town who didn't know," but by revealing already-public information to him in the form of the newspaper, he renders the event real in Paul D and Sethe's relationship. Sethe, for her part, questions the inequity of the situation, and the fact that the news was much more consequential for Paul D (who leaves her) than the unpleasant news he brought to her (about the insanity-inspiring torture her former husband suffered after she escaped Sweet Home): "Paul D dug it up, gave her back her body, kissed her divided back, stirred her rememory and brought her more news: of clabber, of iron, of roosters' smiling, but when he heard *her* news, he counter her feet and didn't even say goodbye."³⁹⁶ Surely a function of traditional gender roles and relationship norms, Paul D's infidelity also seems a function of the (ironically) fidelity of the news itself. As he observed earlier, it takes something truly horrific for a black person to make the newspaper.

Morrison leans heavily upon the idea of news shaping reality. In one of the few instances of solid information aggregation, she depicts Sethe attempting to come to terms with Paul D's departure. "She should have known that he would behave like everybody else in town once he knew," she thinks. She mourns for the twenty-eight days of freedom

³⁹⁵ Chabot Davis insightfully argues, "In this novel, the appearance the newspaper clipping is one of the few intrusions of the dominant culture's process of historical documentation (246).

³⁹⁶ *Beloved*, 222.

she had before the infanticide, and the way that Paul D dug it all up again. She would never again have “women friends” or feel “part of the neighborhood.” “All of that was gone and would never come back. No more dancing in the Clearing or happy feeds.” Paul D’s presence reminded her of a connection to community that was both intimate and domestic. But more than that, he reminded her of the ways she connected informationally to the outside world. There would be, she thinks, “No more discussions, stormy or quiet, about the true meaning of the Fugitive Bill, the Settlement Fee, God’s Ways and Negro pews; anti-slavery, manumission, skin voting, Republicans, Dred Scott, book learning, Sojourner’s high-wheeled buggy, the Colored Ladies of Delaware, Ohio, and the other weighty issues that held them in chairs...No anxious wait for the *North Star* or news of a beat-off.”³⁹⁷ Chabot Davis points out that these items are some of “only a few references to historically recognizable ‘encyclopedia’ events of the period” in the novel, set against predominantly personal and emotional histories. Her wording is interesting within the context of my arguments, pointing to the informational veracity of the list, as opposed to the potentially “bad data” arising from memory and traumatic experience.

Moving into list form, Morrison encodes Sethe’s intimate and communal relationships in the language of current events. Perhaps as a result of the vexed historical relationship of African-Americans to literacy and the free flow of information, this more than anything seems to define her personhood. The specificity of the events, the kind of freewheeling conversation they would seem to crib from: they conjure a self-identity somehow more whole than the hushed gossip and “secret information” Stamp Paid and

³⁹⁷ Ibid., 204.

other escaped (and free) slaves trafficked in in their states of contingent freedom and safety.³⁹⁸ The list is dominated by proper nouns, things that have been named or legislated or entered into the record of history: they are not impermanent in the way that oral tradition is often considered to be. By naming them (and printing them) they become official, transmissible, impersonal, yet salient.

Here Morrison lists in the “situated” way that Melville, Whitman, and other informationally privileged writers are able to do. Information for them is present and often painless, rendering its literary representation a question of logistics rather than emotional trauma and Spivakian issues of narrative agency. In her state of relative emotional normalcy before the infanticide, and during Paul D’s residence, she can interact with these facts in a matter-of-fact fashion. When Paul D enters the house, he exorcises the revenant Beloved, bringing back the peace Sethe had had before the incident. When he leaves, the house descends again into a supernatural state, time and reality both blurring. The reader herself is forced into this condition of informational disparity, grappling with Morrison’s shift into a kind of magical realist aesthetic. The effect mimics the state of exception caused by Sethe’s intense trauma, and partially manifested in an inability to relate to what Emerson would call “bare lists” in anything but a contingent manner.³⁹⁹

This idea, of course, becomes the refrain of the closing chapter. Sandwiched between nearly every paragraph is the single, repeated sentence: “It is not a story to pass

³⁹⁸ Ibid., 199.

³⁹⁹ For more from Morrison on this, see “Rootedness: The Ancestor as Foundation,” *Black Women Writers (1950-1980): A Critical Evaluation*, ed. Mari Evans (Garden City, New York: Anchor Press, 1984), 342.

on,” morphing in its last iteration to “This is not a story to pass on.” The poignant narrative of this section tells how the townspeople, and eventually Paul D, Denver, and Sethe forget Beloved, “until they realized they couldn’t remember or repeat a single thing she said, and began to believe that, other than what they themselves were thinking, she hadn’t said anything at all.”⁴⁰⁰ While recording the particular story of Beloved, albeit in complicated and strangled manner, these closing lines, and the haunting refrain point to the difficulty of aggregating history, stories, and information literarily when the data itself is so complicated and painful. Sethe and her family ultimately choose that a willful forgetfulness enabled normalcy in a way that a kind of elegiac remembrance could not. Morrison’s novel powerfully illustrates the gaps and absences that proliferate not just in the personal histories of African-Americans, but in the literary record, too. A sort of failed data-driven work, *Beloved* wants to record a story, but cannot through the tears.

Morrison’s approach serves as a counter point to Haley’s in interesting ways. Addressing issues of heritage and remembrance in many of her essays, she would seem to agree with Haley (and Dyson’s interpretation of Haley) in a theoretical sense. As she writes in “Rootedness: The Ancestor as Foundation,” “if we don’t keep in touch with the ancestor we are, in fact, lost.”⁴⁰¹ The work of remembrance and recovery, then, seem central to her artistic vision. However, in discussing the relationship between memory and research, she separates herself from the kind of project Haley enacts in *Roots*. In “Memory, Creation, and Writing,” she writes, “Memory (the deliberate act of remembering) is a form of willed creation. It is not an effort to find out the way it really

⁴⁰⁰ Ibid., 324.

⁴⁰¹ Ibid., 344.

was-that is research.” Haley’s work might be seen as more akin to research, with the final chapters being devoted to a first-person narrative of the research he conducted, in African and elsewhere, to assemble the preceding narrative. Morrison continues,

I depend heavily on the ruse of memory...for two reasons. One, because it ignites some process of invention, and two, because I cannot trust the literature and the sociology of other people to help me know the truth of my own cultural sources. It also prevents my preoccupations from descending into sociology. Since the discussion of Black literature in critical terms is unfailingly sociology and almost never art criticism, it is important for me to shed these considerations from my work at the outset.⁴⁰²

In distinguishing her work from “sociology,” Morrison insightfully identifies her innovation in the realm of data-driven writing, what sets her apart not only from Haley, but from white writers like Whitman and Melville as well. I should be clear that this is not an attempt to essentialize style along racial terms, but rather an attempt to show how different cultural considerations can produce writing that is “data-driven,” but aesthetically quite different from the kinds of encyclopedic aesthetics most intuitively associated with the idea of data in literature. This is, however, a cursory essay, and I appreciate the fact that some of it may, in fact, simplify matters to an undesirable extent.

That said, Morrison’s project seems to be the evocation, rather than the documentation, of lived experience. Whereas encyclopedic efforts prioritize a documentative heuristic, Morrison centralizes memory to introduce elements of inexactness, lapses, and interpretation. She draws not upon the organizationally pristine systems of descriptive science or information management, but on the messiness of human remembrance. While her work, like these other texts, prioritizes the assemblage and presentation of an entirety of experience, in rooting itself structurally in the memory,

⁴⁰² Toni Morrison, “Memory, Creation, and Writing,” *Thought* 59.235 (December 1984), 386

so vulnerable to trauma and repression, she develops a distinct data-driven aesthetic stressing the inherent failure of information. At about three hundred pages, *Beloved* does not look like a typical encyclopedic narrative, but in thinking about it as data-driven, as being motivated by a desire to be encyclopedic, but facing insurmountable obstacles toward that goal, I think there is room to reconsider basic assumptions about the role of information in literature. As I have intimated, the idea of encyclopedic literature as currently figured presupposes an uncomplicated relation of the individual to information: that information access is free, easy, and abundant. This assumption then shapes formal investigations of informational literature to prioritize works that materially manifest data on the page: maximalism and excess are seen as the *r'aïson d'etre* of the genre.

However, by focusing not on the manifestation of literary data, but the impetus toward it, one can begin to include a much broader swathe of literature in conversations about the genre that will only become more prevalent as we move further into the information age. Currently almost exclusively the domain of white males, the encyclopedic novel must be reshaped to consider issues of information poverty, a phenomenon disproportionately affecting, now and historically, disadvantaged people and people of color. Though there are works, like *Roots*, that both imitate while complicate traditional encyclopedic aesthetics, a reconceptualization of this critical space is necessary to imagine a more inclusive space for data in literature.

Though this project heretofore has strategically limited itself to the American context, where a confluence of accelerating innovations in communication, transportation, and urbanization allowed me to isolate a shift toward digital ontologies in literature, it should be noted that this trend extends far beyond the geographical and

temporal borders of nineteenth-century America. Mendelson himself points to works like *Don Quixote* and *Tristram Shandy*, and one could make, as I gesture toward in the introduction of this work, a convincing argument for the data-driven qualities of even the first works of Western literature, poems like *The Iliad* and Hesiod's *Works and Days* and *Theogony*.

In addition, the recent rise of global community, along with the proliferation of industrial and information economies has quickened the generic predominance of the data-driven novel, to the extent that it was not always-already a global phenomenon. Mendelson observed in "Gravity's Encyclopedia" that *Gravity's Rainbow* represented a geographical expansion of data-driven writing, encompassing, "a new international culture, created by the technologies of instant communication and the economy of world markets."⁴⁰³ With the rise of global locality, the sense of informational and spatial boundlessness inherent to the New World found more expression elsewhere, and it seems the data-driven novel has become, in some ways, the international form. Wallace's novels, for example, have an outsized influence in the Hispanophone world, where books like Roberto Bolaño's *2666* seem to bear this out. Zadie Smith gives stunning realization to the style from her cultural position as a half-English/half-Jamaican writer, particularly in what is probably her most well-known title, *White Teeth*.⁴⁰⁴ Junot Díaz also works

⁴⁰³ "Gravity's Encyclopedia," 165. Mendelson's labeling of *Gravity's Rainbow* as "international" comes as a result of what I view as a rather arbitrary assertion, which at points he seems to waver on, that each nation produces only one encyclopedic writer. In Pynchon's case, "because Melville has already fulfilled the encyclopedic role in North America, Pynchon's international scope implies the existence of a new international culture" (164-5). Though I agree with his assessment of the international qualities of the novel, I would question his notion of the singularity of national encyclopedic narratives, and also the binaric nature of his national vs international qualification.

⁴⁰⁴ James Wood, critiquing Smith, grouped the book with *Infinite Jest* and other similar works under the title "hysterical realism," which Smith admitted was "a painfully accurate term for the sort of overblown,

from an interstitial position as a Dominican-American writer, extensively deploying Wallace-esque footnotes in his ode to geekiness, *The Brief and Wondrous Life of Oscar Wao*. These are only a few of the most well-known, and I have no desire to elaborate much further.

The point is rather that I write this chapter, and indeed this dissertation, to trace the formation I've labelled data-driven writing not because it is exceptional but because it is not. Melville and Whitman, I will maintain, do offer perhaps the best crystallization of an aesthetic shift, instigated by global forces of innovation, from analog to digital ontologies. But they are not the first to respond literarily to these forces, and, even if we include writers like Homer and Hesiod in this narrative, I don't even think they represent some sort of maturity point for the style. On the contrary, I suspect that they mark a particularly early transition point in our humanistic understanding of information, one we are only starting to understand as the technologies of our world to the digital logics underlying the aesthetic structures imagined by Whitman and Melville in their works. This chapter in particular is meant as a plea for a wider consideration of the full diversity of informational, literary writing. I have put forward a very few examples of writing I believe can fit into this broader configuration: ones that deal with data but do not aggregate it, ones that evoke information in absences and trauma, ones that insistently document in the face of cultural hegemony. This is not meant to be a full range of this aesthetic, but merely a small collection of potentialities.

manic prose to be found in novels like my own *White Teeth* and a few others" ("This is How it Feels to be Me," *The Guardian*, October 13, 2001). The Wood comment appeared in *The Guardian* a week earlier ("Tell Me How Does it Feel?," October 5, 2001). Both were written as early explorations of the aesthetic form literature should take in the post-9/11 world.

Epilogue

The concept of data-driven literature that I have put forward in this dissertation allows us to think about the logical functions and aspirations of literature in a way that does not preclude creative impulses, but rather argues that the rational and artistic often overlap as strategies of representation and narrativization. As a correction to something like Kenneth Goldsmith's notion of "uncreative writing," my theorization suggests that the numbers, lists, mimeographs, and sciences in literature are not so much a surrender to the hegemonic rationalization and bureaucratization of the modern world, but instead a profoundly creative and innovative aesthetic act, opening up literature to far more capacious realms of expression. In attempting to deal with the information that was flooding them, writers like Whitman and Melville innovated aesthetics prioritizing principles of data manipulation: aggregation, storage, readability, and transmission. The unique historical circumstances under which they labored—in America during the Transit of Technology, as the country shifted from agrarian to urban, and the nation, and indeed the world, was in the process of networking itself, communicationally and transportationally—helped them to see the information infrastructures of their world in high relief and to imagine literary devices that both imitated and anticipated data management strategies of that world and the future. In doing so, they ended up making a shift, in their aesthetics, from analog to what were essentially digital logics of information management. Furthermore, the poetic and organizational strategies they imagined came to define many of the most distinctive aesthetic innovations of the American Renaissance.

That said, Melville and Whitman's nascent world of information has since become a defining characteristic of modernity. A recent *Economist* article proclaimed in its headline, "the world's most valuable resource is no longer oil, but data."⁴⁰⁵ The project I had originally planned, and still hope to complete, imagines a much larger canon of writers whose works explicitly interact with notions of data and information. As I have tried to show at instances in this project, Melville and Whitman represent but a transition point in the wide range of writers and spectrum of literary-information devices. More and more information has taken center stage in our world and in its structures, and more and more it has worked its way into our art and imaginations. Our current moment allows us to observe, more clearly than ever, the flows and influence of information in the world at times and places we heretofore had not. Literature has increasingly internalized the shapes and rhythm of data and data management strategies, which in turn draw inspiration—as I have tried to show in the works of Whitman, Gertrude Stein, and others—from avant-garde approaches to literary representation. Lev Manovich, as I have noted, controversially declared narrative and database "natural enemies;" Katherine Hayles, offering a necessary corrective, instead suggested the two were "symbionts." This project, I hope, can suggest a third way: that more than symbionts even, database and narrative represent merely alternate strategies toward the singular goal of organizing and representing reality, not so much competing or collaborating as they are mirroring and inspiring the other's epistemologies and logics.

⁴⁰⁵ "The world's most valuable resource is no longer oil, but data," *The Economist*, March 6, 2017.

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