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REMAKING COLLECTION

Graphic Criticism and the Material Possibilities of Digital Texts

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Narratives of material loss are often attributed to the process of digitising cultural heritage collections. Not being able to physically hold a literary artefact denies the reader an embodied understanding of the text made possible through tangible and contextual cues. What the artefact feels like—the dimensions, weight, volume, and paper quality—and where it is located—the institution, collection, shelf, or archival box—all play a role in the production of textual meaning. Thus, the argument stands that by removing these cues certain ways of knowing a text are diminished.

The process of digitisation, however, is not solely one of loss. Scholars working with digital texts are finding new ways to search, model, analyse, and rearrange written language, and in doing so are benefiting from the interpretive possibilities of textual mutability. While some scholars are taking advantage of digital materiality through computational text analysis, far less attention has been paid to the non-verbal materialities of a text, which also play a role in the production of meaning. To explore the potential of these non-verbal materialities, we take a digitised version of Herman Melville's *Moby-Dick; or, The Whale* and alter graphic features of the page such as line length, type size, leading, white space, and tracking. Through a critical design practice we show how altering these non-verbal elements can reveal textual qualities that are difficult to access by close reading, and, in doing so, create new, hybrid works that are part literary page, part information visualisation.

'And, like the whale, once it is carved and rendered into its separate components, it is no longer the same creature it was when it was whole.'
(Middleton, 1969: 1)

Introduction

Over the past two decades, the digitisation of cultural collections has generated vast numbers of textual surrogates. While initially understood to be place-holders for the original, recent discourse has begun to position digital textual surrogates as unique artefacts with distinct qualities and capacities. These artefacts are being reimaged as new, non-identical objects, with their own 'ontological identity', a process which challenges the conventional understanding of representations as mere copies and, furthermore, recognises that 'for some purposes [the potential of these new forms] may exceed that of the originals' (Mueller, 2013: para 9). One significant way in which these artefacts 'exceed that of the originals' is through their digital malleability; that is, they can be computationally searched, modelled, analysed, and rearranged, unlike their print counterparts. While this malleability has enabled scholars to develop new textual practices in the humanities, these methods have not attended to the non-verbal elements of a text. These include the graphical qualities of a page, which, like written language, 'make an important contribution to the production of semantic meaning ... and can and should be understood as integral to textuality' (Drucker, 2009a: 162).

Nonverbal elements 'often pass without registration or remark' (Mak, 2011: 9). When reading a page, we do more than attend to the written language; we register the typeface and size, number of columns, width of margins, absence or presence of headers, footers, or title—not consciously, nor as single entities, but rather as interdependent actors that shape the page and in turn shape our understanding of the textual artefact (Drucker, 2009b). At a macro level these visual qualities denote the genre of the artefact—for example a novel, a manuscript, a newspaper, a dictionary—while at a micro level they operate as a series of content directives—a subheading signalling a new section, an indent for a new paragraph, italics for emphasis, and indices and page numbers for navigational devices. These graphical features and the spatial relationships they generate are the under-acknowledged material qualities

of the page, rendered invisible by habituation, yet critical to the interpretation of a text.¹ It is this understanding of the graphic and spatial qualities of the page as having semantic agency that has been under-theorised in humanities scholarship.²

In this next section, we explore the productive potential of an expanded understanding of materiality by *remaking the page*; that is, by showing how *making* or more specifically *thinking-through-making* can be used as a method of inquiry. While humanities scholars have only recently begun to recognise the potential of *thinking-through-making*, it has long been an essential condition for design-based research (Burdick et al., 2012: 13). This shift towards an epistemology of making suggests new possibilities for design in humanities scholarship. As Thompson Klein (2018: 25) explains, making 'brings the creative practice of design to the centre of research, favouring process over product'. Stephen Ramsay (2011: para 5) goes so far as to call this process a 'new hermeneutic—one that is quite a bit more radical than taking the traditional methods of humanistic inquiry such as reading, writing, analysis, and interpretation'.

By employing this methodology, we begin to ask 'how can making with a focus on the semantic potential of graphic materiality reveal new insights?' or, more specifically, 'what qualities of a text are we unable to apprehend through conventional practices of interpretation, such as close reading?' To explore these questions, we take a digitised version of Herman Melville's 1851 novel *Moby-Dick, or, The Whale* and alter the graphic features of the page, such as line length, type size, leading, white space, and tracking. Even though we are using a digitised version of the novel, we maintain the format of a printed literary page, a persistent form encoded into digital interfaces. It is precisely the familiarity of the literary page that is required in order for defamiliarisation to occur. This process of graphically altering a text—what we refer to as graphical 'deformance'—creates hybrid works that are

¹ We are not assuming that meaning lies exclusively within the material, and is therefore accessible through a rich description of physical properties, which would be to fall into the trap of literal materiality (Drucker, 2009b). A material's capacity to produce meaning is a consequence of its associations with particular cultural and social contexts, not its inherent properties.

² Some recent notable exceptions include Johanna Drucker (2013), N. Katherine Hayles (2002) and Bonnie Mak (2011).

part literary page, part information visualisation. These new forms provide scholars with additional ways of exploring a text, and therefore graphical deformation can be understood as a hermeneutic act.

Designing deformation

Before introducing the notion of graphical deformation we will look at some historical precedents in literary studies. In this field the process of altering, disrupting, or re-organising a text in order to bring to the surface previously inaccessible or obscured qualities of a work is called 'deformation'. Deformation describes an intervention into a text in order to bring attention to textual qualities eluded by conventional criticism. As Jerome McGann and Lisa Samuels (1999: 36), who introduced the term, write, through this process 'we are brought to a critical position in which we can imagine things about the text that we did not and perhaps could not otherwise know'. These interventions may include reading a poem backwards, reordering the lines of a poem, or isolating only the nouns and verbs in a poem. In the following example, Samuels and McGann rework the Wallace Stevens poem 'The Snow Man', by reading the poem backwards so that the final line becomes the first, the second-last line becomes the second, and so on (**Figure 1**). The final stanza in Stevens' poem reads:

Nothing that is not there and the nothing that is.
And, nothing himself, beholds
For the listener, who listens in the snow,

Those of you familiar with the Paris-based experimental collective *Ouvroir de Litterature Potentielle* (OULIPO), founded in 1960, will recognise these playful yet unconventional approaches to literary criticism. The OULIPIANS also experimented with the application of formal and procedural constraints in order to explore literature's possibilities. One of their best-known formulae is 'n + 7'. In this experiment a writer takes a poem already in existence and substitutes each of the poem's nouns with the noun appearing seven nouns away in the dictionary. Thus, n + 7. By taking Wallace Stevens' 'The Snow Man' again, and applying this process, we end up with a new poem, 'The Soap Mandible'³ (**Figure 2**). Therefore,

³ For the poem, see <https://www.poets.org/poetsorg/text/brief-guide-ouliipo>.

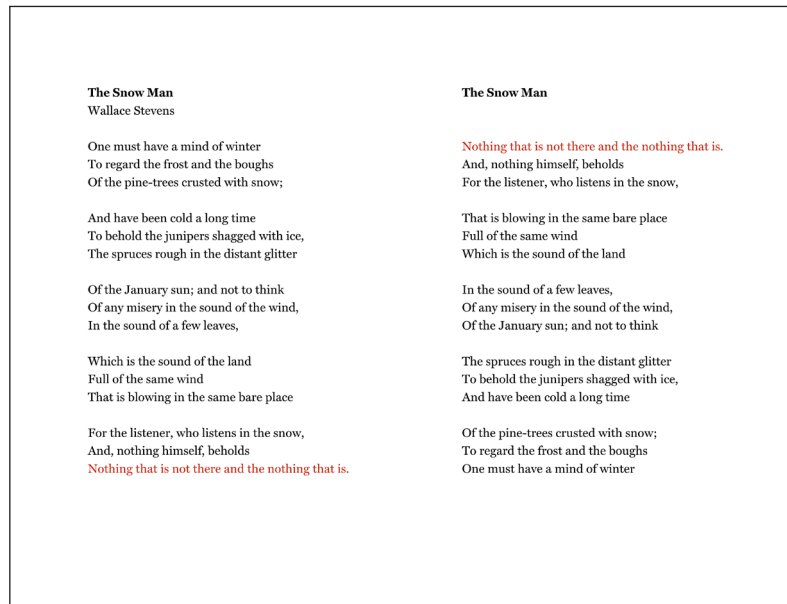


Figure 1: 'The Snow Man' (1921) by Wallace Stevens.

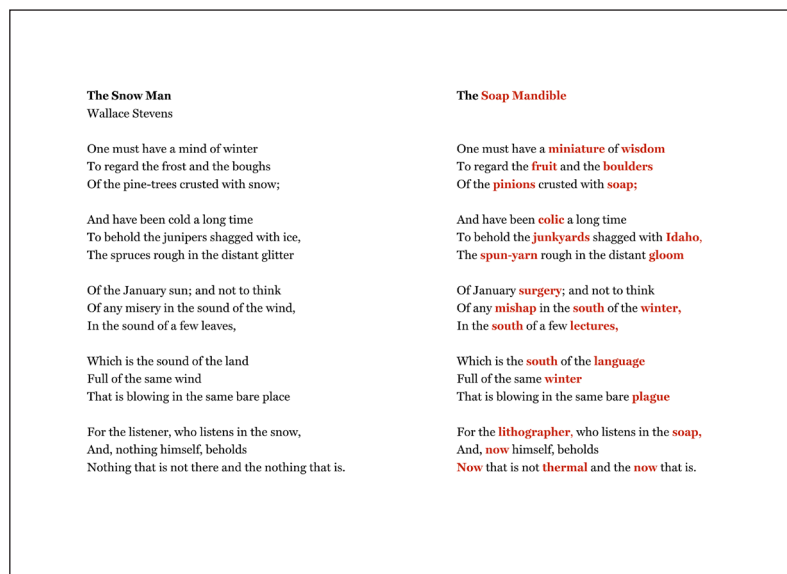


Figure 2: Applying the n + 7 formula to 'The Snow Man' by Wallace Stevens.

'One must have a mind of winter' becomes 'One must have a miniature of wisdom';
'To regard the frost and the boughs' becomes 'To regard the fruit and the boulders';
and, 'Of the pine-trees crusted with snow' becomes 'Of the pinions crusted with soap'.

What is critical to understand about these practices of textual deformation is that the purpose is not to ascribe new meaning to a text—it is not, in the first instance, to assist with the act of interpretation. Nor, writes Stephen Ramsay (2011: 3), is it for ‘the immediate apprehension of knowledge’. Rather, deformance is used to defamiliarise the text, to enable texts to be seen anew. This process of defamiliarisation, referred to as ‘estrangement’ by Russian Formalists in the early part of the 20th century, is a method of presenting familiar things in an unfamiliar or strange way. Critically, defamiliarisation demands a slowing down of the reading process and an increased awareness of the creative devices that construct a text. On reading backwards, Mark Sample (2012: para 4) writes that it ‘revitalizes a text, revealing its constructedness, its seams, edges, and working parts’.

Digital technologies have made deformance a more common practice. The transformation of print artefacts into machine readable forms, coupled with computational text analysis tools that can read them, allows text to be treated as infinitely malleable and mutable. This has enabled scholars to explore sources in ways that were previously difficult, if not impossible. Sample (2012: para 7), paraphrasing Ramsay, makes the point that in the branch of digital humanities that focuses on text analysis and data-mining, deformance is a key methodology: ‘Computers let us practice deformance quite easily’, he writes, by ‘taking apart a text—say, by focusing on only the nouns in an epic poem or calculating the frequency of collocations between character names in a novel’.

We are more interested, however, in practices of deformance that attend to the graphical, not linguistic, features of a text—the oft-forgotten ‘architectures of a page’ which are intrinsic to the interpretation of texts (Mak, 2011). We are specifically concerned with acts of deformance that transform graphical features such as line length, type size, leading, white space, and tracking. The page dimensions and the placement of the text box, however, reflect design conventions in this study. We retain these conventions not by default nor for reasons of nostalgia but because the standard form of the page is a critical reference point from which all subsequent alterations can be recognised. Without conventions there can be no deformance.⁴

⁴ For an excellent account of the typographic conventions of the novel and their disruption, see Zoe Sadokierski (2011).

The transformation of these graphical features, with the specific intent of revealing qualities of textual artefacts, is familiar territory to a handful of design practitioners. Through visual means, designers Stefanie Posavec (2006), Owen Herterich (2013), and Jonathan Puckey (2006), among others, explore (respectively): abstracting the sentence length and paragraph structure of the opening chapters of classic novels; isolating the spoken discourse in novels to reveal frequency, intensity, and patterns of dialogue; and shifting font size and weight, and using redaction strategies to map the evolution of daily news (Lorber Kasunic and Sweetapple, 2015). While none of these designers position his or her work as graphic deformation, they are apprehending written artefacts visually and are therefore important reference points for this research.

Experimentations

To explore the potential of graphical deformation as a critical strategy and to better understand how the formal elements of a page might shape the structure of a text, we remake all, or parts of, Herman Melville's 1851 US edition of *Moby-Dick; or, The Whale*. This classic work of American literature is in part the story of Captain Ahab's monomaniacal hunt for the white whale ('Moby Dick') and Ishmael's spiritual journey from 'alienation to harmony to skepticism and finally to detached balance' (Middleton, 1969: 78). Inspired by the story of the *Essex*, a whaling ship that sunk in 1820 after an encounter with a whale, *Moby-Dick* is a fictional voyage that follows Ahab's ship the *Pequod* as it crosses the world. It draws extensively on Melville's own experiences as a seaman and his engagement with scientific issues of the 19th century (Wilson, 2000). As a result of the novel's availability on the web it has become a common text for digital humanities students to computationally analyse and study. This is partly due to its length (approximately 212,758 words), making it a good size corpus to algorithmically interrogate, and partly due to the voluminous critical attention dedicated to it through a variety of academic journals, centres, and platforms.⁵

⁵ This includes *Leviathan: A Journal of Melville Studies*, the Melville Society and the Melville Electronic Library at Hofstra University, to name but a few.

The aim of these experiments is to show how a focus on graphic materiality can operate as a critical approach to exploring a text. As we have discussed, literary scholars have largely ignored graphic materiality when apprehending a text. However, designers, with their epistemological understanding of the role of the visual in signification, are well placed to do this.

1. *One chapter, two pages*

One of our first experiments, *One Chapter, Two Pages*, is the deformation of two well-recognised graphic elements: type size and leading. The design of a novel is highly standardised, with text blocks commonly set in a 10–12 point serif typeface, leading at 120–5% of the type size (e.g. 10pt text, 12pt leading), justified, margins of equal size,⁶ and paragraph indents about the width of the characters' cap height. The sizes of novels are also standardised.

In *One Chapter, Two Pages*, we challenge these conventions by taking each chapter of *Moby-Dick* and resize the type so that an entire chapter fits within the margins of a double-page spread. Thus, 135 chapters fall over 135 double-page spreads. The size of the typeface is therefore determined by the length of the chapter and its capacity to fit across the two pages—starting at the top of the first page and ending at the bottom of the second. Subsequently, as the length of the chapters in *Moby-Dick* varies considerably, so too does the point size of the text. The shortest chapter, 'Midnight Aloft – Thunder and Lightning' (Chapter 122, **Figure 3**), contains 46 words and is set at 96.05/113.05pt (type size over leading), whereas the longest chapter, 'The Town-Ho's Story' (Chapter 54, **Figure 5**) contains 7947 words, and is set at 5.89/8.64pt. **Figures 3–5** illustrate the increase in number of words per chapter and the corresponding decrease in type size.

One of the consequences of typesetting a book so that each chapter fills a double-page spread is that we end up with a novel of unusually large dimensions (410mm × 265mm). Typically, the format of the book is decided by the publisher, leaving the designer to choose the typeface, size, and leading (as well all the other

⁶ As long as the inner margins don't make the text disappear into the gutter.

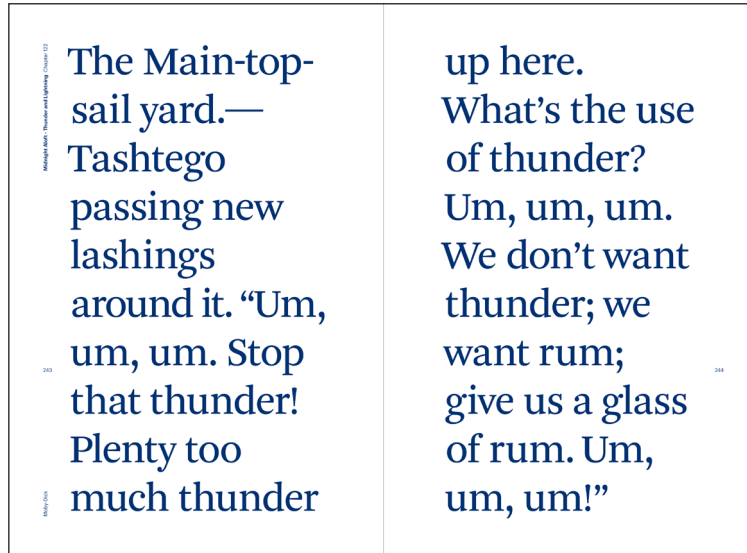


Figure 3: Typesetting Chapter 122 ‘Midnight Aloft – Thunder and Lightning’ as a double page spread.

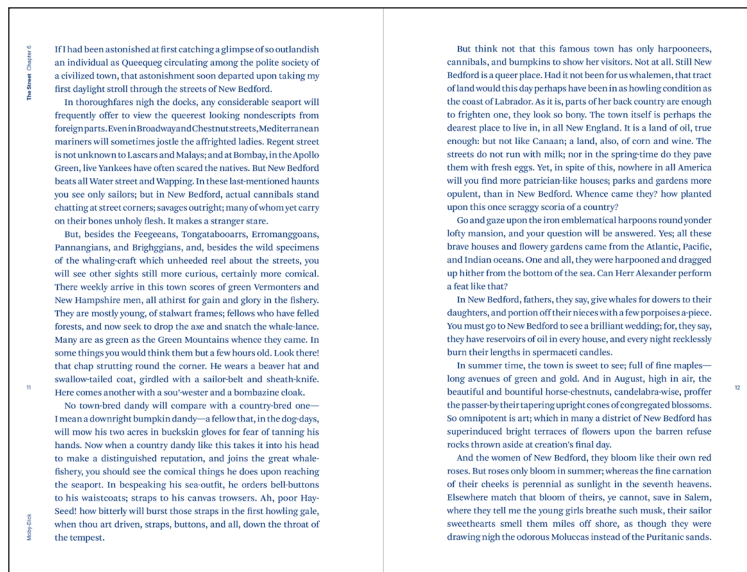


Figure 4: Typesetting Chapter 6 ‘The Street’ as a double page spread.

paratextual elements) according to reading conventions. The length of the novel, or the number of pages, is a consequence of these typesetting choices and the word count. However, in *One Chapter, Two Pages*, the format of the book is not given prior

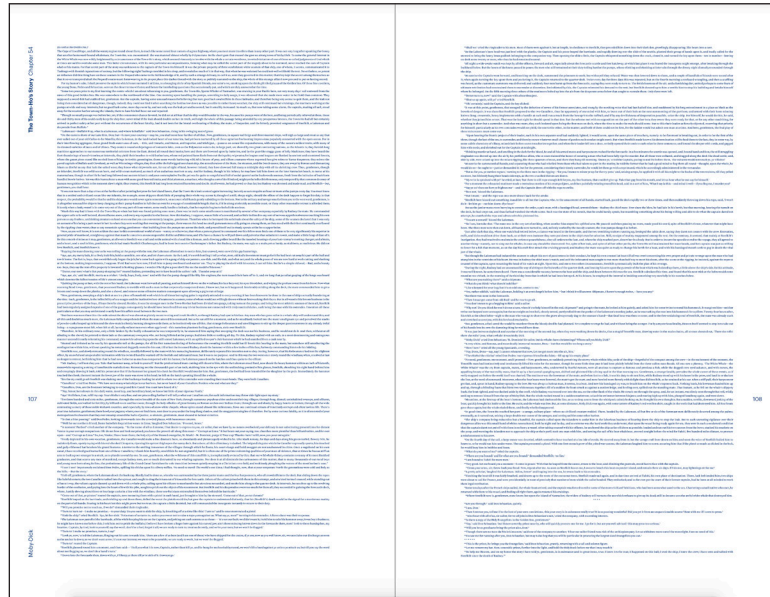


Figure 5: Typesetting Chapter 54 'The Town Ho's Story' as a double page spread.

to its design. Rather, it is determined by the size of the page required to typeset the largest chapter (7947 words) over two pages at a legible point size. And even though it is legible, it is difficult to read. Not only is the type very small but the sentences are well over the recommended line length—220–230 characters compared to a more standard 50–60 characters.

While this process of altering the graphical elements of a text—taking the shorter chapters and expanding them to fit across two pages while simultaneously compressing the longer chapters—may not tell us anything specific about the plot or the content of the novel, it does draw our attention to the book's overall structure. What is revealed through graphical deformation is the way Melville changes the pace of his text by dramatically shifting chapter lengths. This is illustrated by flipping through the pages, but also by the thumbnail overview at the end of our publication (**Figure 6**).

2. Tracking and sentence length

The second act of graphic deformation also attends to Melville's writing style, but instead of focussing on the length of his chapters, we create a visual strategy that reveals the variation in sentence length throughout the novel. By varying the tracking—the space between the letters—in relation to the number of words

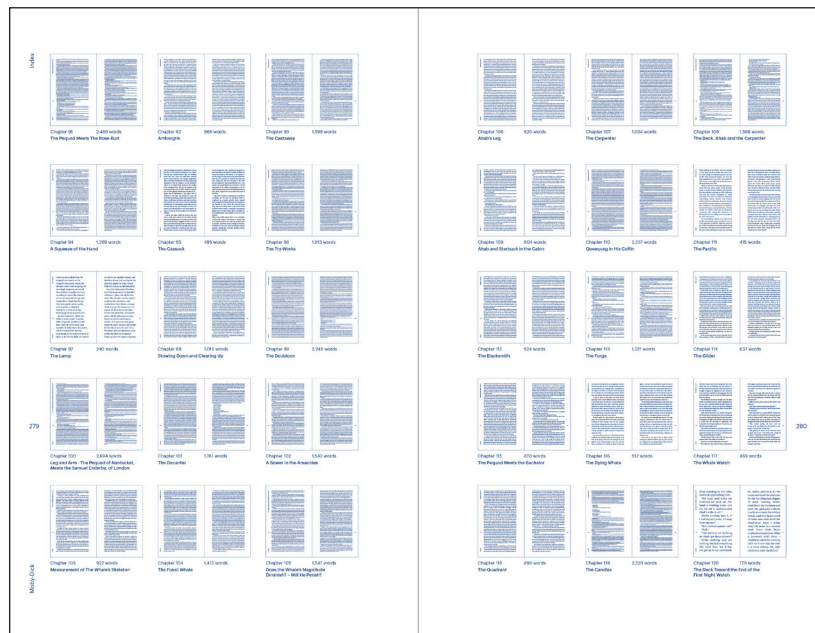


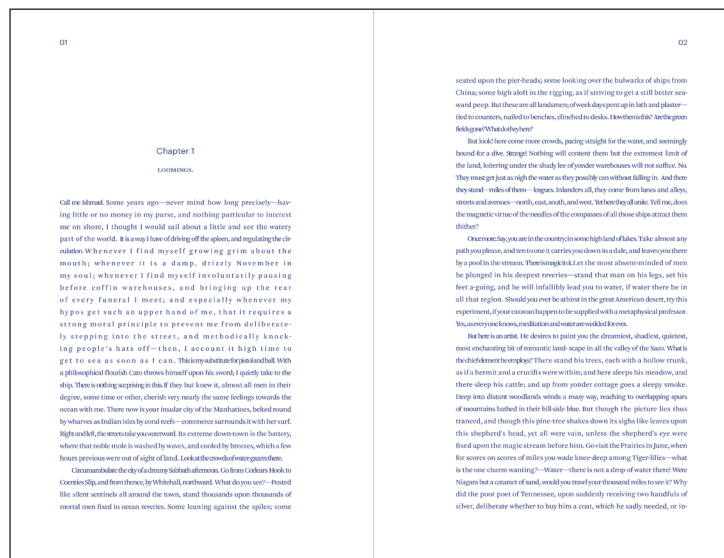
Figure 6: Thumbnails of chapters 91–120.

in each sentence we can begin to see the rhythms or patterns in Melville's prose. Any sentence with less than the average word count (21.32 words per sentence) has incrementally reduced tracking (e.g. a 7–9 word sentence would have –90 tracking), and, conversely, any sentence longer than average has incrementally reduced tracking (e.g. a 124–26 word sentence would have 310 tracking). We decided to tighten tracking for short sentences and expand tracking for long sentences in order to emphasise and reinforce the effect of different sentence structures. Short sentences grab the reader's attention. They are quick and dynamic, creating drama and intensity, and are often used to describe action. Longer sentences slow the pace of the narrative, can be reflective or rambling, and provide space for rich description or the building of suspense. It is, however, the combination of lengths that gives these varying sentences their potency.

This process of graphic deformation, specifically the visual tightening of short sentences, quickly reveals a characteristic of Melville's writing: concise opening lines. Leafing through the newly tracked pages shows tightly clustered letters at the beginning of many chapters and paragraphs. Melville (2002 [1851]: 18) starts his novel as he intends to proceed by opening with one of literature's shortest

and best-known first lines, 'Call me Ishmael'. The lead sentences in Chapter One's fourth and fifth paragraph are equally brief: 'Once more' and 'But here is an artist' (19) (**Figure 7**). This pattern repeats throughout the book. Chapter 132 marks the beginning of the three-chapter chase of the white whale, a climactic and fatal event which begins 'It was a clear steel-blue day' (404) (**Figure 8**). Its clarity and brevity do nothing to foretell the ensuing drama. And although many of the opening lines are longer than a handful of words, they are more often than not shorter than Melville's average sentence length (21.32 words).

Revealed through this graphic strategy is Melville's extraordinary range of sentence lengths, from one-word sentences to the seemingly endless 471-word sentence in Chapter 42 ('The Whiteness of the Whale'). In this chapter Ishmael accounts for his fear of whiteness: 'It was the whiteness of the whale that above all things appalled me' (159). He begins with a discussion of virtues commonly associated with the colour white, purity and even holiness, before moving into more philosophical terrain, where white is associated with ghostliness, absence, a void, the unknown. A 21-word sentence opens the chapter (tracked at -50), followed by sentences of 64, 13, 27, and 471 words (tracked at 100, -70, -30, and 1450, respectively) (**Figure 9**). This variation becomes apparent through the shifting visual



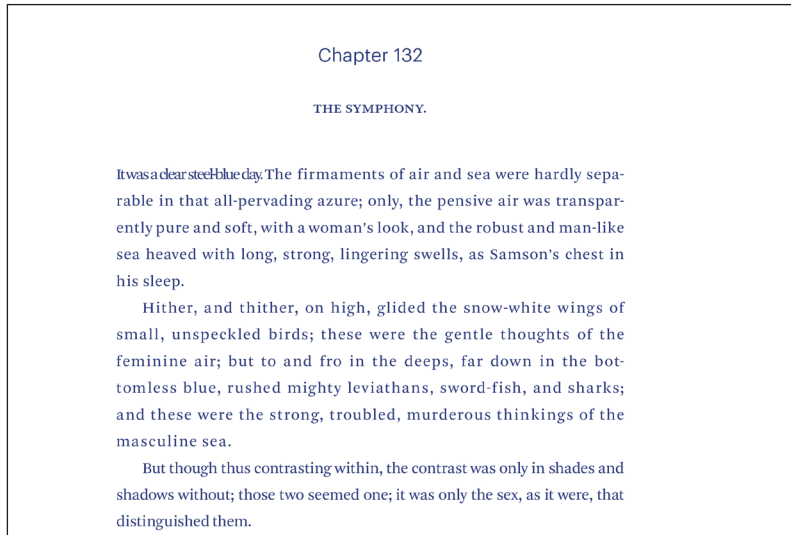


Figure 8: Using tracking and sentence length as a graphic strategy on Chapter 132 'The Symphony', a close up view.

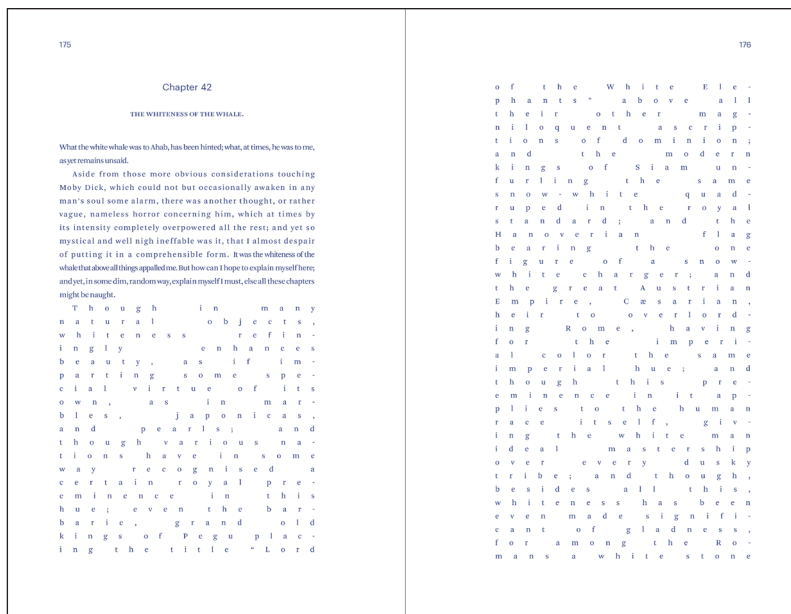


Figure 9: Using tracking and sentence length as a graphic strategy on Chapter 42 'The Whiteness of the Whale'.

density of the sentences and text blocks. In a serendipitous moment, the very subject of the chapter—whiteness—is rendered textually by the generous tracking of the third paragraph, which is a single sentence running to over four pages (Figures 9–11).

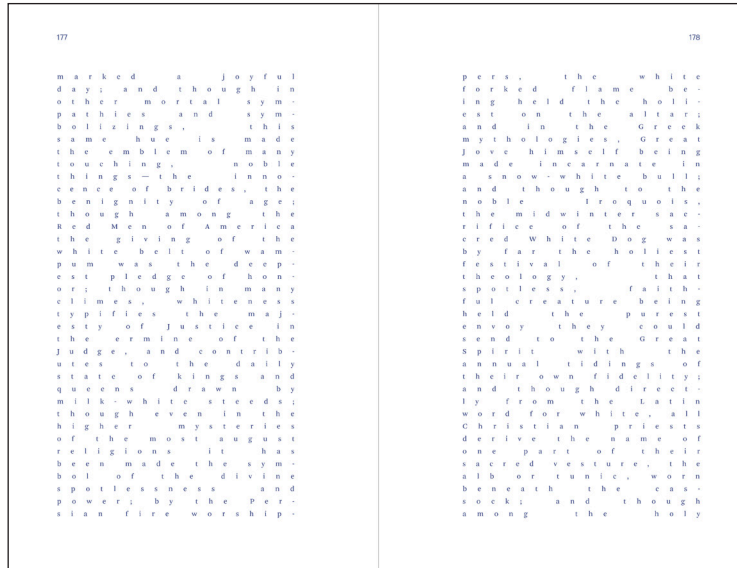


Figure 10: An example of Melville using long sentences in Chapter 42.



Figure 11: An example of the variation in tracking and sentence length in Chapter 42 continued.

Words are pulled apart, isolating letters which now float on the page and which are only partially tethered to a lexical unit. The horizontal lines of type that are typical of Western reading and writing conventions momentarily disintegrate, tending instead towards vertical coherence at the edges of the text blocks.



Figure 12: Page 165 of Chapter 42 'The Whiteness of the Whale'.

The pull of justified type creates these perpendicular lines of code that seem to promise readability if read from top to bottom, not left to right. This promise, however, is quickly broken by a string of nearly-words: 'thorb', 'peoct', 'maan', 'satal', 'dosab' (**Figure 10**). Towards the middle of the text blocks, the letters swim, belonging to neither warp nor weft, leaving white holes in the fabric of the page. Rarely, however, does another long sentence immediately follow. When looking through the graphically altered pages a visual rhythm appears: long, airy sentences are followed by tightly written sentences, creating the illusion that the longer sentences are pushing up against the short. In the final paragraph of this chapter, aware of the complexity as well as the fragility of his long sentences, Melville pulls tight the narrative thread by finishing with two short sentences: 'And all of these things the Albino whale was the symbol. Wonder yet then at the fiery hunt?' (165) (**Figure 12**). The purpose of these sentences, ensuring the key ideas are set firm and clearly anchored in the reader's mind, is visually reflected in the tightly knitted

words, welded together by the negative tracking of a short sentence. This strategy of graphic deformation is simultaneously analytical and descriptive, drawing attention to the structural properties of the text whilst expressively embodying the function of the sentences—to draw out the narrative or pull it together.

And while much is made of Melville's innovative and unorthodox approach to novel writing, Chapter 135 ('The Chase – Third Day') illustrates how conventional his sentence structures can be. In this, the final chapter (before the epilogue) and day three of the battle with the whale, it becomes apparent that only death will release Captain Ahab from his obsession. His crew and the *Pequod* seem similarly doomed. Melville delivers this inevitable end through a combination of short and long sentences; rarely are they average in length.

This common writing strategy of short sentences to describe dramatic action and create urgency, and long sentences to build suspense and tension, is made visually apparent through graphic deformation. Throughout this chapter we see pages of text rendered barely legible through the too-tight tracking of staccato sentences (**Figure 13**):

"Is my journey's end coming? My legs feel faint; like his who has footed it all day. Feel thy heart,—beats it yet?—Stir thyself, Starbuck!—stave it off—move, move! speak aloud!—Mast-head there! See ye my boy's hand on the hill?—Crazed;—aloft there!—keep thy keenest eye upon the boats:—mark well the whale!—Ho! again!—drive off that hawk! see! he pecks—he tears the vane"—pointing to the red flag flying at the main-truck— "Ha! he soars away with it!—Where's the old man now? sees't thou that sight, oh Ahab!—shudder, shudder!" (422)

This is followed by a long sentence, spread wide, shifting the narrative pace and providing a break in the action (**Figure 13**):

The boats had not gone very far, when by a signal from the mast-heads—a downward pointed arm, Ahab knew that the whale had sounded; but intending to be near him at the next rising, he held on his way a little sideways from the vessel; the becharmed crew maintaining the profoundest silence, as the head-beat waves hammered and hammered against the opposing bow. (422)

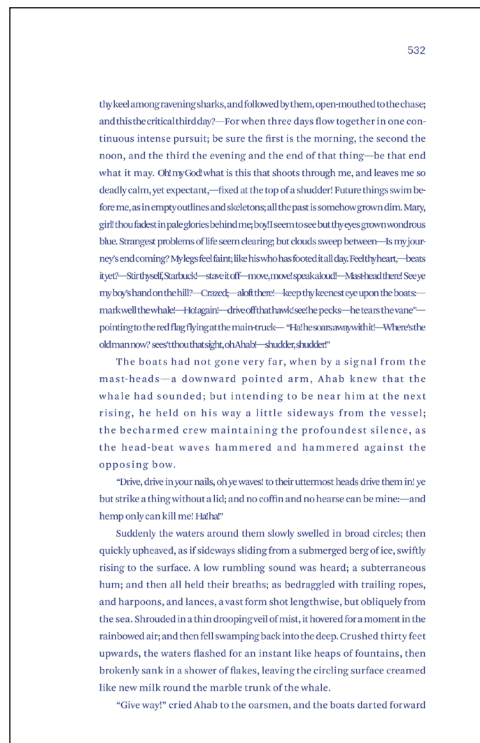


Figure 13: An example of Melville using short sentences for effect in Chapter 135 'The Chase'.

This long sentence also creates an opportunity to build tension before the next round of action which follows (**Figure 13**):

“Drive, drive in your nails, oh ye waves! to their uttermost heads drive them in! ye but strike a thing without a lid; and no coffin and no hearse can be mine:—and hemp only can kill me! Ha! ha!” (422)

This pattern of short-long-short, visually rendered by compacted line lengths and loose, drawn-out sentences, continues until the end, when Melville changes the pace to match the slow sinking of the *Pequod* with the penultimate paragraph, which consists of two long sentences: 80 and 114 words. He concludes the chapter with a modest 38-word sentence, looking for neither drama nor suspense, but rather an ending in which the ship and all but one of the crew are buried beneath ‘the great shroud of the sea’ (427) (**Figure 14**).

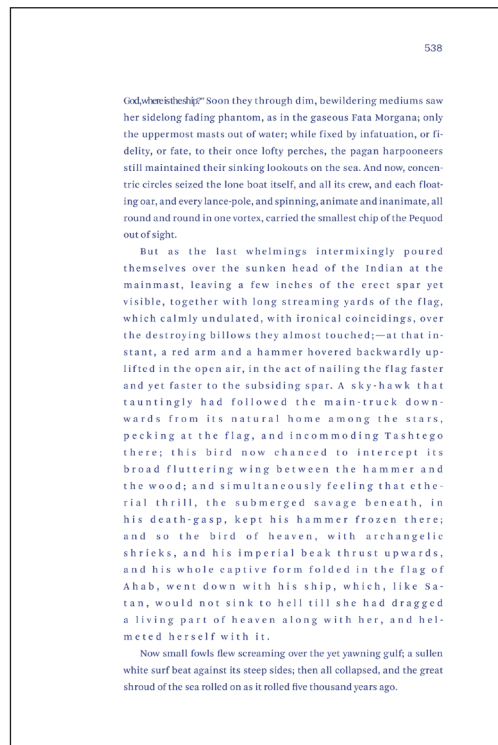


Figure 14: A pattern of short-long-short sentence lengths visualised in the penultimate paragraph of Chapter 135.

What the changes in the length of chapters or sentences means from a literary perspective is not for designers to speculate on. However, what we do know, as designers, is that meaning is graphically constituted, and therefore that making and remaking a text becomes a productive and generative research method through which to critically apprehend texts.

3. Character speech

In this next deformation experiment, we first identify and then graphically isolate the speech in Melville's text. By speech, we refer to conversations between two or more characters, as well as soliloquies and monologues. In *Moby-Dick*, speech has an important function. It reflects the various stages of the *Pequot's* journey from Nantucket to the Pacific (Eldridge, 1967) and also enables Melville to radically alternate between the 'active, strenuous presence of the crew' and 'the long, deliberate swell of the middle section of *Moby-Dick* [where] there is tense calm before the boiling

climax of the chase' (Middleton, 1969: 14). Melville uses speech as a way to increase and ease the dramatic tension in the text, as well as to 'affect the structure, tone, narrative rhythm, and characterisation' of the novel (Middleton, 1969: 2).

To isolate the speech on the page, we erase the non-speech text, leaving the area blank. Erasure, or the removal of text, has long been an important strategy in art and design practice.⁷ White space is not a void or an absence but a material element that is part of the semantic value of a text. It is integral to the way we read a text. As Drucker (2009: 162) explains:

an unprinted area ... is not a given, inert or neutral space, but an espace, or field, in which forces among mutually constitutive elements make themselves available to be read ... White space is thus visually inflected, given a tonal value through relations rather than according to some intrinsic property.

This strategy of graphically omitting the non-speech passages enables us to read the speech as it occurs in the book, on each page, chapter by chapter.

The most immediate effect of this graphic deformation is a sense of the volume of speech Melville creates, and where and when it occurs in the novel. For instance, there are chapters where Melville uses speech intensively, such as Chapters 37, 38, and 39 ('Sunset', 'Dusk', and 'First Night Watch') (**Figures 15–17**).

Here the reader encounters a range of lengthy soliloquies (internal monologues) as the book shifts from the 'colloquial speech of Nantucket to the lingua franca of the sea itself' (Middleton, 1969: 13–14). In contrast, in Chapters 92 to 96 the speech is sparse and only appears occasionally on the page (three lines overall) (**Figures 18–24**).

There are also long periods in the novel where there is no speech at all, only an endless sea of white, such as Chapter 32 ('Cetology'), which is 12 pages long. Here Melville categorises species of the whale as if he were cataloguing his library of folios.⁸ These sections with no speech are significant because they provide periods of

⁷ A recent special issue of *Media-N: Journal of the New Media Caucus* which focuses on the 'Aesthetics of Erasure' is typical of the productivity of this practice in the digital realm.

⁸ Seventeen of the book's 135 chapters focus on whale anatomy or behaviour. These chapters include 'The Sperm Whale's Head – Contrasted View' and 'The Right Whale's Head – Contrasted View'. Phillip

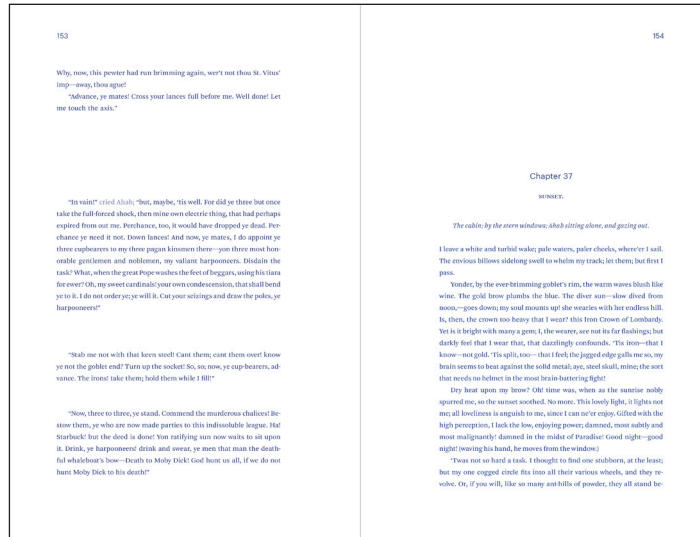


Figure 15: Visually isolating Melville's use of speech in Chapter 37 'The Sunset'.

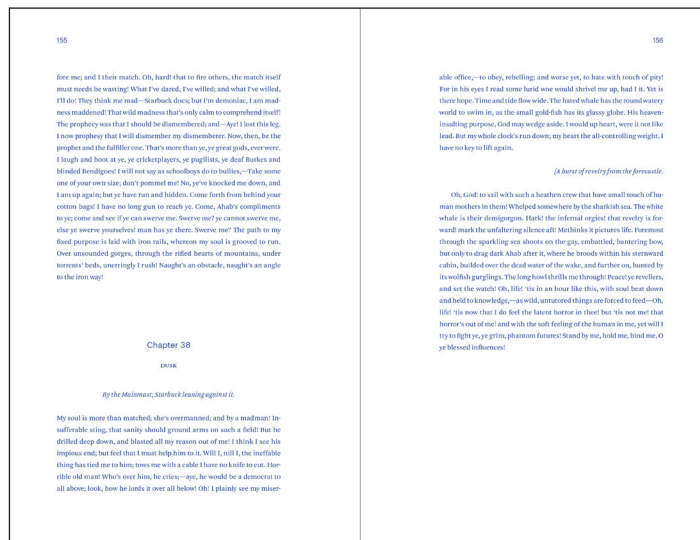


Figure 16: Visually isolating Melville's use of speech in Chapters 37, 38 and 39 ('Sunset', 'Dusk', and 'First Night-Watch').

peace which are periodically broken by the presence of drama such as the sighting of the whale – 'There she blows!' (see Figures 25 and 26).

Hoare (2013: 160–2) explains that such sections lay out the whales' physical structure with a wry mixture of known facts and arch analogy, and are void of dialogue.

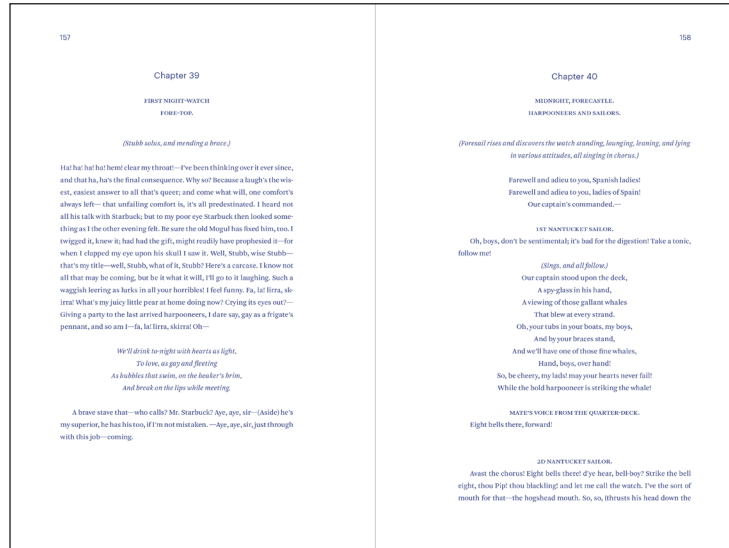


Figure 17: Visually isolating Melville's intense use of speech in Chapters 39 and 40 ('First Night-Watch' and 'Midnight-Forecastle') continued.

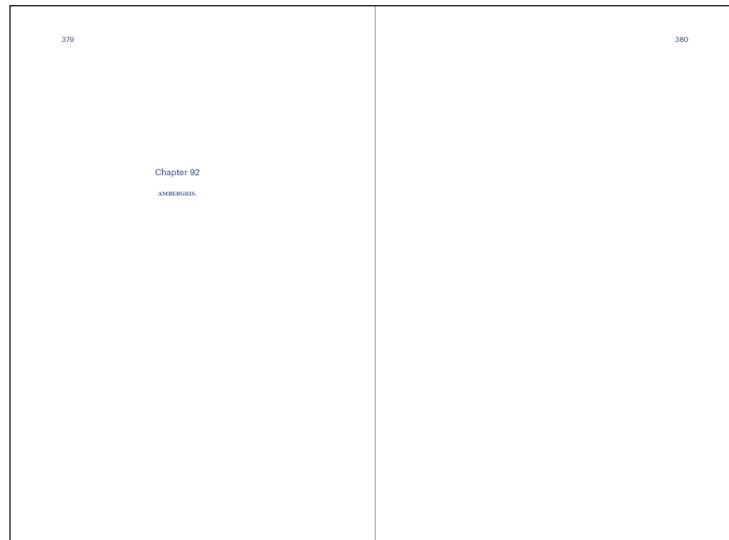


Figure 18: Chapter 92 'Ambergris' contains little or no speech.

While the speech first appears inconsistent, this process of graphic deformation reveals how Melville's use of speech signifies the changing geographic stages of the *Pequod's* journey across the Atlantic Ocean, Indian Ocean, Eastern Seas, Pacific Ocean, and finally the central Pacific whaling grounds (Eldridge, 1967).



Figure 19: Chapter 93 'The Castaway' contains little or no speech.

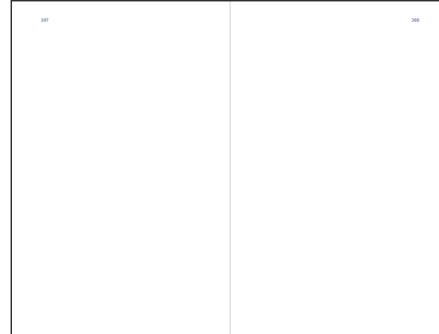


Figure 22: An example of Melville using no speech in his text.



Figure 20: Chapter 93 'The Castaway' using speech sparingly.

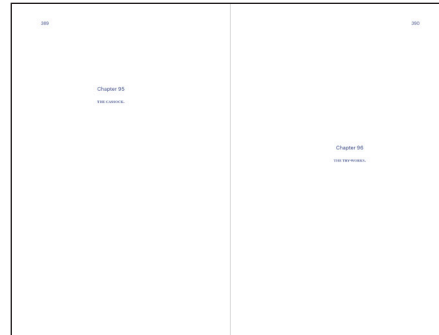


Figure 23: Graphic evidence of Melville using speech sparingly in Chapter 95 'The Cassock'.

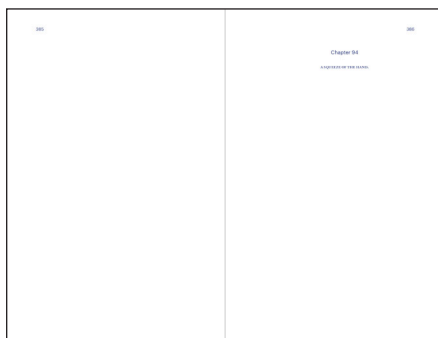


Figure 21: The first three pages of Chapter 94 'A Squeeze of the Hand' uses no speech at all.



Figure 24: Graphic evidence of Melville using speech sparingly in Chapter 96 'The Try-Works'.

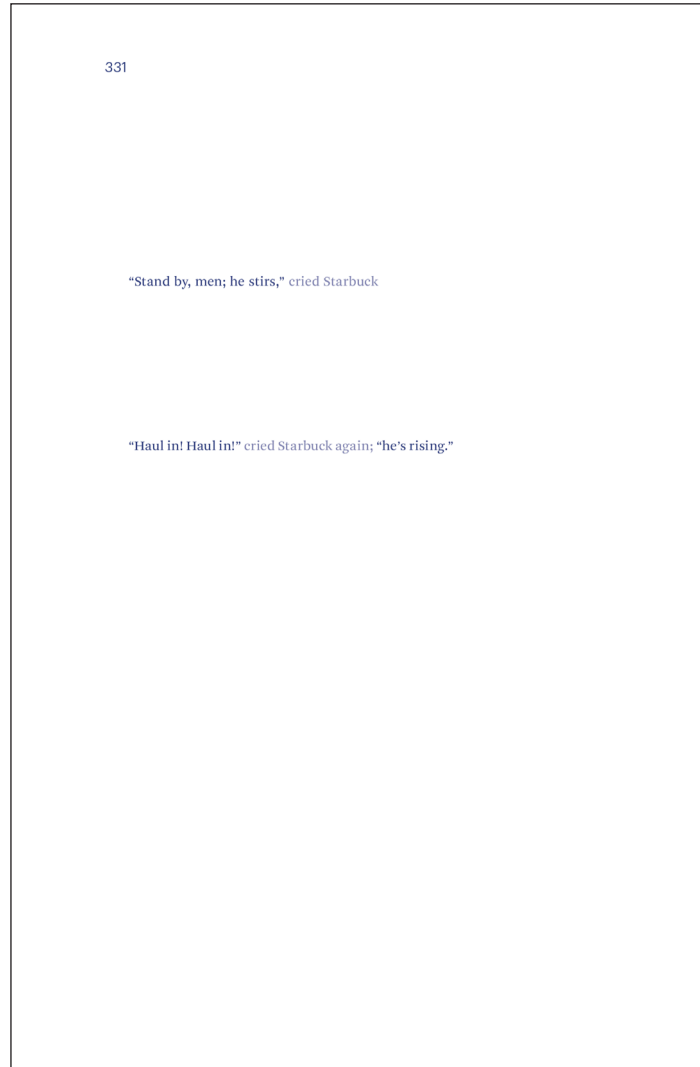


Figure 25: Long periods of prose are broken up by sightings of the whale.

By viewing the chapters as thumbnails, graphic deformation enables us to see Melville's arrhythmical use of speech, which is nonetheless strategic in the way it functions to drive narrative, and to mark the shifting geographic and psychological landscapes. This distant view reveals the changing dynamic between action and repose, described by Middleton (1969: 71) as the 'two signatures of the dual rhythm of *Moby-Dick*'.

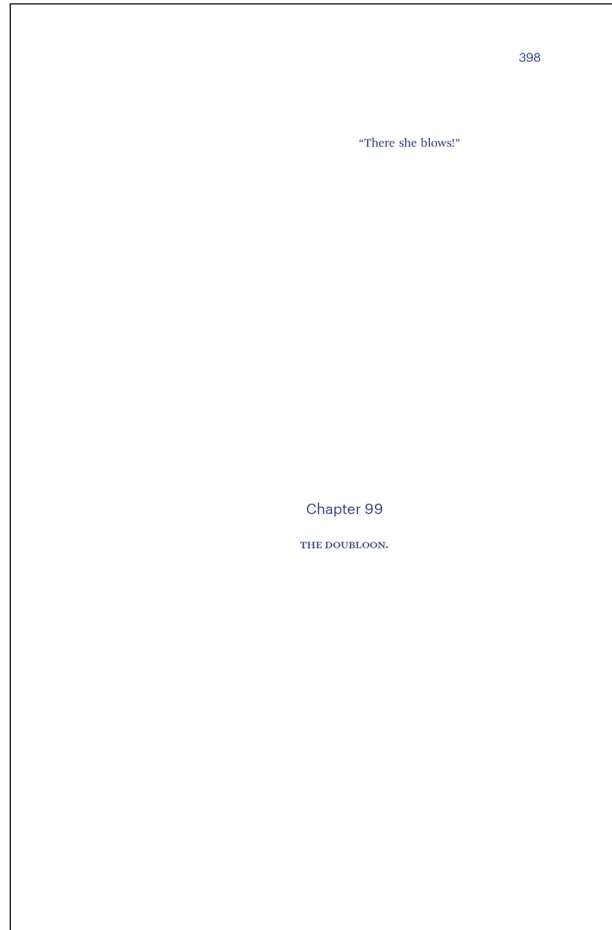


Figure 26: Long periods of prose are broken by sightings of the whale.

Isolating the speech also enables intimate perspectives of the characters when viewed at the level of a single page. By removing the non-spoken text, the voice of an individual character is amplified. The detailed context within which the characters appear is silenced, enabling us to see their eccentricities and habits. **Figure 27**, for example, shows an exchange between Flask and Stubb.

Graphic deformation not only indicates the concentration of speech, but also the type: for example, dialogue or monologue. A monologue such as the one found in Chapter 9, 'The Sermon' (**Figure 28**), is easily recognised, because it appears as a solid block. In contrast to this, dialogue between two or more people can be identified

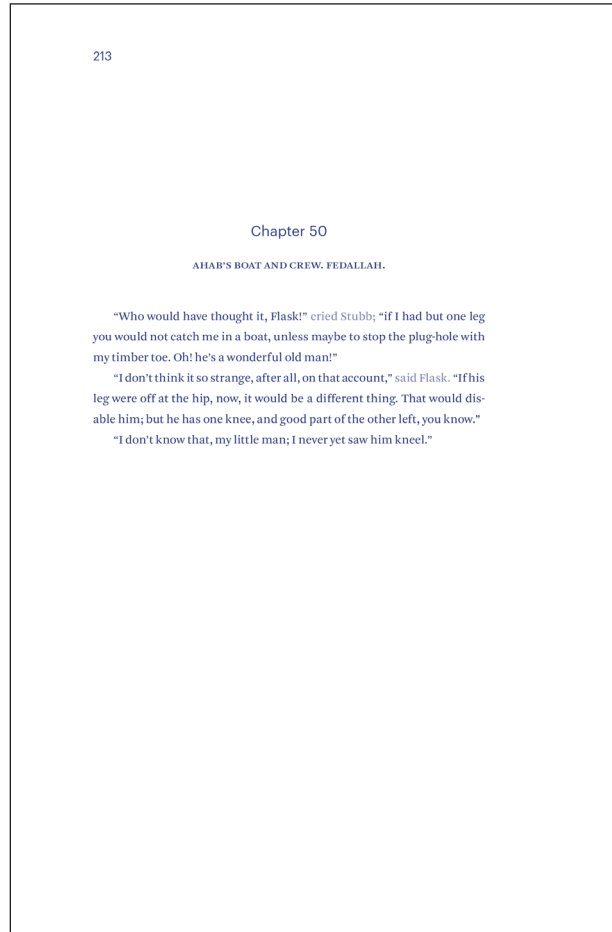


Figure 27: An exchange between two characters Flask and Stubb in Chapter 50 'Ahab's Boat and Crew. Fedallah'.

through the shape of the isolated text which consists of broken line lengths and the punctuated white space of the page (**Figure 29**). The dynamic visual relationship set up by these irregular shapes, and the spaces between them, prompt a to-ing and fro-ing between the characters.

By enabling a distant view of the novel, one which encompasses all of the chapters, as well as a close reading of a single page, the semantic potential of graphic materiality is made available for visual processing, and thus provides an alternate possibility for critically appraising a text.

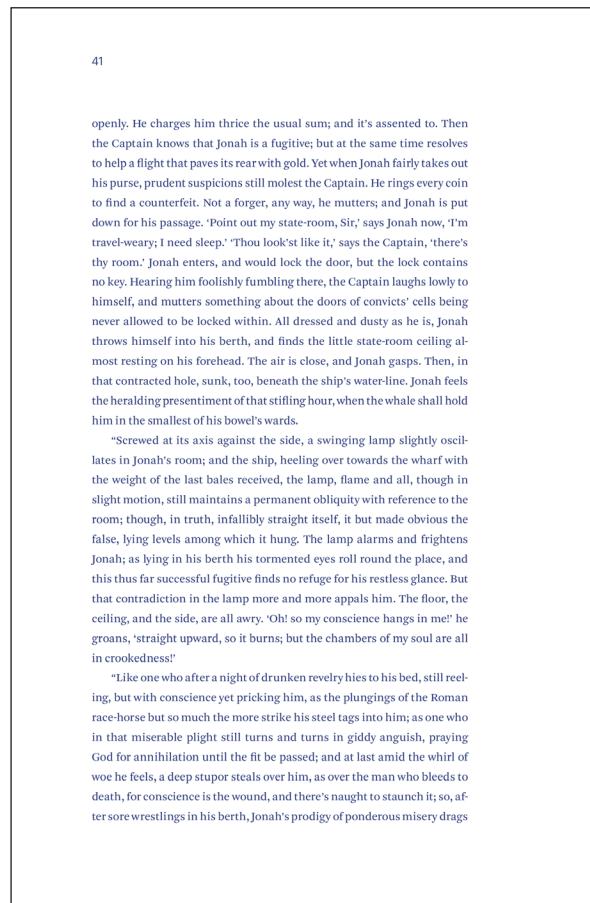


Figure 28: An examples of a monologue in Chapter 9 'The Sermon'.

4. *Moby-Dick* dictionary

The final experiment differs considerably from the three previous examples. It is simultaneously a linguistic and graphical deformance. We start by taking the entire novel *Moby-Dick* and transforming it into a hybrid dictionary-concordance. Each unique word is identified computationally and placed in context; that is, each word is shown as it would appear in every sentence over the course of the whole book (**Figure 30**).

Graphically, it is typeset like a dictionary, a format that is highly regulated in terms of its structure, but it operates like a concordance. This process of expanding the text (taking an unusually long novel of 212,000+ words and making it even

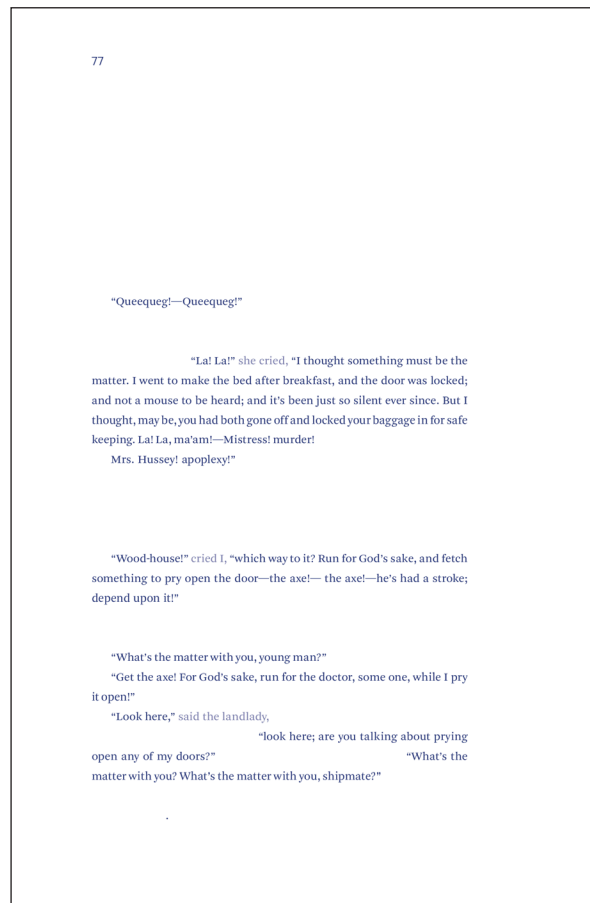


Figure 29: Dialogue expressed as broken line lengths and white space on page 77.

longer, over 7 million words) can be understood as linguistic deformation. While the text has not been reduced, it has been significantly altered, no longer resembling the narrative that Melville initially constructed.

At first glance this example may seem to be a relatively conventional piece of design work, reflecting the typographic practices of a reference text. However, this example also exhibits high levels of graphic deformation if we are to consider its origin as a novel. By transforming a page of prose into two columns, and introducing indentation, bold, and italicised text, as well the paratextual elements of a dictionary, we have transformed the text from one genre to another. Although it remains a recognisable archetype, it has been significantly altered.



Figure 30: A close-up of *Moby-Dick; Or the Whale* typeset as a hybrid dictionary-concordance.

This process of graphically altering the text, or defamiliarizing the novel, draws attention to individual lexical units. For example, we become aware of how many times Melville uses the word 'whale' (1120 times), and that he uses the word 'giraffe' (unsurprisingly) only once. There are also words in this dictionary that at the time were neologisms created by the author (for example, a curio—an unusual or odd piece of art or bric-a-brac). Second, these chronological entries also provide the reader with a history of usage in *Moby-Dick*, showing how each word is employed and evolves over the course of the narrative. Perhaps one of the most generative aspects of visually representing every word and how it is used over the course of the novel is understanding each entry as a micro-narrative. In this mode, a single word steps you through a narrative, constructed one disconnected sentence at a time. The text is sequential but not strictly linear, and is re-authored by the principles of lexicography (**Figure 31**).

Arguably different in approach to our previous experiments, this is still an act of graphic deformation, as the qualities of a page are altered so as to change the text's interpretative framework—from novel to dictionary—therefore allowing us to encounter the text anew. Here the purpose of the work is not to ascribe new meaning to a text but

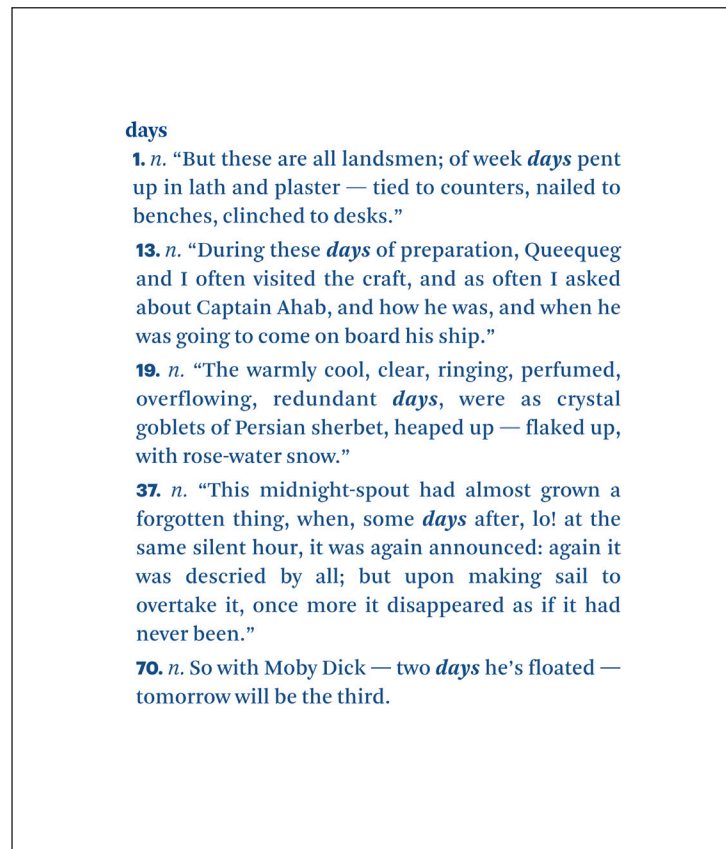


Figure 31: A close-up of the entry 'day' as seen in the Dictionary.

to 'reconstitute the work's aesthetic form, as if a disordering of one's senses of the work would make us dwellers in possibility' (McGann and Samuels, 1999: 2).

Conclusion

Through these experiments, we demonstrate how the structural and formal aspects of Melville's writing can be brought to the surface through the alteration of graphical elements of a page, thereby asserting the often-neglected role of graphic materiality as a form of critique. These methods of graphical deformance are not intended to be used in isolation or to replace existing tools of literary criticism, whether they are close reading or computational text analysis. Nor are they exhaustive—there are many other graphic and spatial qualities to explore. Rather, they are designed to show how a digitised text can be productively manipulated to create alternate ways

of critiquing a text graphically. In this project, which Klein (2018: 21) would refer to as 'boundary work', the question of domain expertise arises: does it lie with the literary scholar or the design researcher? The answer is not a simple privileging of one discipline over the other but rather a process of attunement to graphic materiality led by the designer. As Burdick et al. (2012: 13) state:

Not every digital humanist will become a designer, but every good digital humanist has to be able to "read" and appreciate that which design has to offer, to build the shared vocabulary and mutual respect that can lead to fruitful collaborations.

While we primarily position our experiments as graphic deformation, they can equally be understood as forms of information visualisation. Through methods of visual representation (shifting type size, tracking, and isolation) we reveal patterns within textual data. These newly created pages operate as both quantitative and qualitative forms of inquiry. However, in this paper, what we have begun to show is that the distinction between qualitative and quantitative methods is too simplistic, and that many of the problems with quantification in humanities research lie not in what aggregation can tell us, but rather in the visual languages used to present these understandings, which borrow heavily from scientific positivism, and thus embody values that are in opposition to core humanist values such as subjectivity, partiality, and uncertainty (Drucker 2014). Through this process of graphically deforming the text we present not the facts of the matter, but rather the manner in which Melville has gone about writing his novel. These experiments are therefore hybrid texts, part literary pages and part information visualisations, made possible by the techniques of digital materiality, which enable scholars to graphically explore the structural and lexical qualities of the written language and to in turn open up new lines of inquiry.

Drawing on the domain expertise of visual communication design, we are proposing an alternate way of critiquing a text, one that takes into account the importance of graphical materiality and therefore embraces the inherent epistemological value of the visual (Drucker, 2014). This focus is central to the

development of what we term 'graphical criticism', that is, criticism derived from the graphic manipulation of text.⁹ Although nascent, such an approach has the potential to expand the way in which we explore digital texts, as well as helping to acknowledge the contribution of visual knowing to the emerging field of digital scholarship.

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Competing Interests

The authors have no competing interests to declare.

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⁹ Inspired by Stefan Ramsay's (2011: 2) term 'Algorithmic criticism' – criticism derived from the algorithmic manipulation of text.

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