Abstract: The paper is located in the field of cognitive poetics and its general aim is to explore cognitive processes underlying the idiosyncrasy of a reader’s narrative engagement on the level of texture. By introducing the notion of texture, Peter Stockwell (2009) added the third level of a reading experience, situated above a text (level 1) and textuality (level 2). While textuality present in text’s stylistic patterns is the “outcome of the workings of shared cognitive mechanics, evident in texts and readings,” texture is defined as the “experienced quality of textuality” (Stockwell, Texture - A Cognitive Aesthetics of Reading 1). In other words, texture must involve a reader’s aesthetic positioning, but it also “requires aesthetics to be socially situated” (Stockwell 191; emphasis added).

The paper focuses on Hanya Yanagihara’s novel A Little Life (2015) which has been selected due to its added complexity stemming from the fact that the chapters have alternating narrators. In the book a computational analysis is applied to the narratives of the three focalizers to trace and compare the positive and negative emotional valence of the texts with the use of R-environment software. It is argued that where intradiegetic perspectivizing entities (focalizers/narrators) are multiple, indicating and creating a mental representation of the main protagonist involves a particularly complex process. The protagonist’s ontological existence inside the narrative situation blends with the reader’s mental capacity for synthesis along the edges of the multiple narrative perspectivization.

Keywords: cognitive poetics, texture, Current Discourse Space, edgework, multiperspectivity, affect, R environment, text mining, sentiment analysis

Readings consist of the interaction of texts and humans.

Peter Stockwell

Introduction

“Why do we care about literary characters?”, asks Blakey Vermeule in the title of his book about the ways the readers’ literary experiences are affected by the emotional attachments they developed towards fictional characters. Vermeule looks for a cognitive explanation for our “imagining-under-guidance” only to find that humans are predisposed to thinking of other humans (23). To give it a psychological grounding, he quotes Leslie Brothers, a cognitive psychologist, who defines a person as “a higher level perception of bodies” which endows them with mental life. Our brains perceive a person automatically, which is an “obligatory part of our experience of others – and ourselves” (qtd. in Vermeule 23). If the same may be said of our perception of literary characters, this theory still does not explain how our perception evolves with the progress of the narrative.

In this paper an attempt will be made to conceptualize the process of creating a mental construct of the main protagonist of a 2015 novel A Little Life
through the story of his life and disability recounted by multiple narrators. In Han-ya Yanagihara’s novel there are three narrators who present Jude St Francis from their own intimate and subjective perspective. The reader’s affective response to Jude’s disability is cognitively filtered through two distinctive levels of narrative modes and responses: (1) intratextual – that of several narrators/focalizers who impose their own distinctive affective responses within the level of text and textuality, and (2) extratextual – that of the reader’s cognitive blending of the textual input with its contextual and psychological modelling. The latter functions on the level of texture, as it depends on highly individualized scripts transforming affects into particular context-dependent emotional reactions. Stockwell defines texture in reference to the physical experience of touch on various surfaces:

Texture, in everyday understanding, is the quality of feeling that is associated with different objects in the world. It is primarily a physical sense, with its main usage associated with fingertip touch and then the haptic system in general; secondarily, the notion of texture is transferred to the visual field, and then to the sense of taste; and lastly it is used in an abstract, conceptual sense. In cognitive poetics, which explores the interaction between readers and literary works, the definition of texture and its actual set of usages in the world is the starting point for an exploration of the ways in which stylistic patterns and readerly experience inter-animate each other (“Texture” 459).

In the light of the proposed methodological framework based on Peter Stockwell’s model of texture as the experienced quality of texts and textuality, a computational study of the selected characters’ emotional schemas will be applied to support the assumption that the emotional construal encoded on the level of text and textuality finds its direct projection onto the reader’s narrative empathy on the level of texture. In the study it is assumed that the computational processing involves cognition in the sense implied in Stockwell’s definition of textuality [“outcome of the workings of shared cognitive mechanics, evident in texts and readings”]. It will be argued that the processing of the characters’ multiple viewpoints depends on the viewing position of the reader who moves across the edges of several text worlds, since “[t]he essence of texture is in the edges” (Stockwell, Texture - A Cognitive Aesthetics of Reading 107). The notion of edges is Stockwell’s key observation, in which the author posits that a friction of two or more contrastive surfaces is necessary to create a “force” generating our perception of a change in perspectives:

The literal end of the notion of texture should remind us that texture itself requires cognisance of two media or surfaces; . . . Friction between fingertip and object, or the deflection of one object upon contact with another, or damage to one object as a result of an encounter – all of these are examples of force produced by textural effects in the physical world. Furthermore, the interface between two textures (air and water, or air and land, for example) provides the opportunity for motion if both textures are engaged or crossed (by a sail and keel, for example, or by wheels and an engine). Texture, in other words, is fundamentally a contrastive phenomenon: we notice texture at all most often when we have crossed from a different texture, and it is the difference that forces us to notice the new textural quality (“Texture” 459).
The computational study of sentiments will be carried out on the extracted fragments of narratives of the three respective focalizers: Jude, Willem and Harold with the use of the *syuzhet* software package in R environment. The goal of the analysis is to assess the level of affective divergence between these characters. First, the differences in the emotionality of the respective focalizers’ narratives will be measured computationally (the level of *text* and *textuality*). Next, the preliminary text-based reader’s response analysis will be confronted with the aforementioned results of the computational study (the level of *texture*).

*A Little Life* as Metaffective Fiction: Multiperspectivity and Affect

Since the study aims to focus on the role of multiple narrators and their emotional profiling, a feasible question may be raised whether Yanagihara’s novel possesses metaffective qualities, which constitute a prerequisite for such a design of the study. To begin with, the natures of the properties which make a novel metaffective need to be established. The issue must be examined on two levels: first, on the level of metafiction, and, second, on the level of affect as groundwork for emotion. To start with the metafictional quality of Yanagihara’s novel, its own metafictional agency may not be attained directly, as, for instance, in Mark Z. Danielewski’s *The House of Leaves*, but rather implicitly, through a technique of multiple narrators-focalizers whose accounts partially overlap as they often portray the same events. Due to the novel’s narrative focus on multiperspective paradigm, combined with a third-person narration style, the reader oftentimes gets confused whose viewpoint is being presented at a given point in the narrative. Thus, through the interaction of the three narrative perspectives: that of the main character – Jude St Francis, his best friend and partner – Willem, and Jude’s adoptive father – Harold, a semantic friction occurs and the resulting tension draws the reader’s attention both to the presented object (Jude and his disability) and to the three varying viewpoints presenting this object. For narratologists, the friction and the tension on different epistemological levels constitute the condition and the essence of multiperspectivity (Hartner).

The notion of multiple perspectives presented in this article, however, relies on the theoretical framework of cognitive poetics. The concept finds its reflection in Peter Stockwell’s model of reader’s narrative engagement on the level of *texture* where the conceptual integration of the character construct takes place. Here it is argued that the main protagonist’s emotional construct formed on the level of the novel’s *text* and *textuality* as an amalgam of the three narrative perspectives is transposed to the higher level of *texture* where it evokes an empathetic response in the reader (see Sara Whiteley on ‘appraisal theory’ models of emotions which arise in the course of reading). Stockwell’s concept of the conceptual blend occurring beyond the level of novel’s *textuality* is traced back to Ronald W. Langacker’s cognitive model of the Current Discourse Space.

Moving on to the affective elements in Yanagihara’s novel, what needs to be addressed at the outset is the divergence in the literary critics’ attitudes to the affective turn in post-postmodern literature. The first group of literary critics, such
as Stephen Burn, Robert McLaughlin and Mary Holland hail the optimistic “return to the real” aesthetics represented by such authors as David Foster Wallace, who commit to the literature which “values human connection, empathy, emotion, belief, and other directedness as correctives to the perceived narcissism, cynicism, solipsism, media saturation, and debilitating forms of cultural irony of the postmodern world” (qtd. in Clare 263). On the other end of the spectrum of contemporary literary criticism there are authors such as Rachel Greenwald Smith who confront the affective hypothesis on the practical grounds, claiming that affect, as anything else in the neoliberal era, has been commodified to suit the needs of an “entrepreneurial subject that is always managing individual or ‘private emotions’ like commodities and reducing human connections to [simply] networking” (qtd. in Clare 264). A third way has been proposed by Ralph Clare who calls our attention to the distinction between affect and emotion (263). In his definition of affect as “intensity”, Clare refers to Brian Massumi’s 2002 book titled Parables for the Virtual: Movement, Affect, Sensation.

However, what all the three perspectives on affect in recently published scholarship have in common is the underestimation of Silvan S. Tomkins classic psychological theory of behavioral patterns based on affective responses, which he called scripts. The distinction between biological affect progressing through the stages of the awareness of affect (=feeling) and the psychological scripts based on past experiences (=emotion) had already been explored in the two volumes of Tomkins’ 1962 book called Affect, Imagery, Consciousness. In my view, the insufficient recognition of Tomkins’ groundbreaking study of affects as primordial systems stimulating human motivation ultimately reduces the contemporary studies of affects to the post-millenial socially enforced adherence to compassion in the era of “cruel optimism” (Berlant). Tomkins’s observation that when we are preoccupied, we ignore hunger, illustrates a subtle, yet fundamental distinction between affect system and drive system (13). Affect system acts as a primordial sensory feedback to the drive system operating on pleasure and pain signals, and, therefore, as a psychological mechanism, it is primary to biological drive. Tomkins observes that “[m]uch of the motivational power of the drive system is borrowed from the affect system, which is ordinarily activated concurrently as an amplifier for the drive signal” (13). Tomkins divided affects into positive and negative, and, accordingly, referred to them as “primarily aesthetic experiences” (12). To say that the “organism is so constructed that the pleasure of eating is more acceptable than the pain of hunger” is to indicate that our sensory feedback is not neutral and we can discern without prior learning what is “acceptable” and “unacceptable.” Still, this ability does not mark off any further learning process.

The clue to the system of our responses is the question of what induces our motivation to act, which is what we learn over the whole course of our lives. As Tomkins explains, what distinguishes the affect system from the drive system is the infinite number of instigators and reducers of the same affect, such as a child’s cry “in distress if it is hungry or cold or wet or in pain or because of a high temperature” or eventually a cry at some learnt stimuli for which there are “no inherited releasers” (13). However, in real life composed of the unlimited number
of “stimulus-affect-response” variations, the price for this flexibility is “ambiguity and error” in our choices:

The individual may or may not correctly identify the “cause” of his fear or joy and may or may not learn to reduce his fear or maintain or recapture his joy. . . . If the feedback of the affective response is motivating, then whatever instigates, maintains and reduces the affect also becomes equally motivating. . . . The face which frightens the child can become the fear-causing face and the eventually the to-be-avoided face. So long as the instigator of the affect is correctly identified, any inborn, invariant relationship between instigator and affect guarantees that the former becomes motivating (Tomkins 13).

This is yet another vital observation made by Tomkins on the nature of affect-generated motivation, which will constitute the framework for the presented study. The analysis intertwines the direct textual and computational analysis of the characters’ motivations (Jude’s obsessive self-destruction, Willem’s emotional instability, Harold’s parental selflessness) as well as the meta-level analysis of the reader’s idiosyncratic response to Jude’s traumatic life story (“quasi-mimetic evocation of real-life experience,” cf. Fludernik’s experientiality (12)). On the basis of Tomkins’ concept of affect, it may be argued that Jude’s basic units of childhood experience, which Tomkins called scenes, consisted of disproportionately high numbers of SARs (Stimulus-Affect-Responses) which projected violence and sexual abuse that he experienced on a daily basis until the age of 16. Therefore, the scripts, that is patterns which emerged as a result of the character’s constant exposure to violent and abusive treatment in childhood, later in his adult life triggered the variables of motivation responsible for the activation of punishing affects, leading to Jude’s self-harm rituals, and eventually to his suicide.

In sum, what emerges from Clare’s and Tomkins’ proposals is the encouragement to engage in affect-inspired studies, yet on condition that we approach affect holistically as psychological amplifiers of drive signals and situationally-embedded occurrences generating sensory feedback translated into specific motivations. If we do not understand the nature of affect and its role in triggering emotional responses, it is difficult, if not impossible, to carry out a comprehensive analysis of the intricacies of human reactions to various stimuli, both within the novel’s construction of characters and outside of its fictional world – in the texture of the reader’s affective response through the activation of certain scripts as memories of past experiences. Looking at the narrative from the perspective of its affective resonance, it may be concluded after Clare that the narrative not only exploits the reader’s pre-conceptions of the world, but also “at times asks its reader to ‘do work’ when encountering a text’s formal breaks, interruptions, recursions, or meta-moments” (268). This is what Clare defines as an affective labour of reading, another term for metaffective reading, for the “aesthetic techniques of metafiction help to create ruptures, reflexivity, and distance – the very ‘in-between’ spaces where affect thrives and pulses” (268). These are precisely those ‘in-between’ spaces that Stockwell defines as edges.
Transitioning across the Edges of Multiple Narrations in the Context of Ronald W. Langacker’s Current Discourse Space Model and Peter Stockwell’s Concept of Texture

The experience of reading a novel involves a complex mental operation of storing and reconfiguring the ruptured meanings due to viewpoint switches accumulated along the course of the plot’s progression. Looking at this process from a cognitive perspective, a conceptual parallel can be drawn between the two types of communicative exchanges: (a) between the speaker and the hearer (as in cognitive linguistics; cf. Fauconnier; Johnson; Lakoff; Lakoff and Johnson; Langacker, *Foundations of Cognitive Grammar* Vol. 1; Langacker, *Foundations of Cognitive Grammar* Vol. 2; Talmy) and (b) between the focalizer and the reader (as in cognitive poetics; cf. Boyd; Brône and Vandaele; Gavins and Steen; Stockwell, *Cognitive Poetics*; Tsur. The overlapping concept in both spoken and written communication is the idea of Current Discourse Space (CDS). The term was first used by Ronald W Langacker in his article “Discourse in Cognitive Grammar” (2001) and later developed in several books, including his 2013 book *Essentials of Cognitive Grammar*, where the CDS is defined as a “mental space comprising everything presumed to be shared by the speaker and hearer as the basis for discourse at a given moment” (*Essentials of Cognitive Grammar by Ronald W. Langacker* 59). The CDS develops gradually, mirroring the basic learning process, where the new knowledge is built upon the existing basis and “at each step the current expression is constructed and interpreted against the background of those that have gone before” (59). As the communication unfolds, with each single development, called by Langacker a usage event, the the CDS gets successively “updated” (59).

![Current Discourse Space model by Langacker (2001, 2013)](image-url)

**Figure 1:** Current Discourse Space model by Langacker (2001, 2013)
To transfer the concept of the Current Discourse Space into the reader’s engagement (or communication) with a novel, we need to broaden the scope of a usage event beyond a spoken interaction between a speaker and a hearer. Indeed, what is absent in the reading process is the aspect of attentional framing (Langacker “Discourse in Cognitive Grammar” 154) through the vocalization channels including intonation or gesture shared by the participants in concurrent physical time and space. The absence of the physical presence of the communication participants does not, however, disqualify the process of reading a novel from its capacity to be analyzed as a communicative usage event. Taking into consideration the parts that make up such an event outlined by Langacker, its mechanics can be adapted to the reading process with an accommodation regarding the participants using a different channel. Firstly, the participants who in Langacker’s model are called the speaker (S) and the hearer (H) shall be termed the focalizer (F) and the reader (R) respectively. The concept of the focalizer (Genette; Bal) is broad enough to include various perspectives through which the narrative is presented, depending on the focus of the analysis (who sees vs. who speaks). Secondly, despite the altered channel of communication (written instead of spoken word), the functions of the participants remain the same as in Langacker’s original model: the focalizer holds the initiative while the reader is responsive.

How can we account for such a heteronymous experience as literary reading with the use of Langacker’s concept of the Current Discourse Space? The framework for blending textual description with psychological modeling is materialized in the notion of texture proposed by Peter Stockwell. The reason for the choice of this particular model is Stockwell’s explicit reference to rhetoric, my life-long interest, which serves here as the bridge between the classical tradition, which would always elevate the role of the audience in the speech act, and the most recent developments in cognitive science, applied to the process of literary reading in the field of cognitive poetics.

In the opening chapter of Texture - A Cognitive Aesthetics of Reading, Stockwell makes a definitional distinction between text, textuality and texture:

Humans are comprised of minds, bodies and shared experiences. Texts are the objects produced by people drawing on these resources.

1 The scope of the present analysis does not include the notion of instant responsiveness inherent in oral communication.

2 This is one of the proposals for merging narrativity with experientiality across the fields of cognitive linguistics and cognitive poetics. Another example where Langacker’s Current Discourse Space model is juxtaposed with (Martínez)’ model of Storyworld Possible Self is proposed by Anna Kędra-Kardela and Henryk Kardela in their article “The Speaking Subject in Jerzy Bartmiński’s Linguistic Worldview Program: A Cognitive Grammar Perspective” (2019). For reasons of space and clarity their argument will not be developed here, but it must be emphasized that the authors present a comprehensive survey of literature on the author-reader relation, referring, among others, to Barthes’ “The Death of the Author,” (1986), Bakhtin (1986), Burzyńska (2006), Claassen (2012), Kalaga and Prower (1990). Moreover, Anna Kędra-Kardela (2010) and Andrzej Kowalczyk (2017) have applied another concept of Ronald W. Langacker’s Cognitive Grammar to their literary analyses, namely the Cognitive Narrative Frames (CNFs) which serve to close the “interpretational gaps” in the text.
Textuality is the outcome of the workings of shared cognitive mechanics, evident in texts and readings.

Texture is the experienced quality of textuality (1).

While it is not plausible to transpose Langacker’s Current Discourse Space model onto Stockwell’s concept of texture on a one-to-one basis, there is one particular characteristic which brings them close together. This is the notion of prototypicality, which is a key concept in cognitive linguistics (Lakoff; Evans and Green). While human categorization forms a backbone of our human activity, both Langacker and Stockwell agree that categorization is “very much more fluid, provisional, adaptable and contingent than this” (7). Indeed, the more distant from the prototypical laws and conventions is the narrative’s plot or characters, the greater the cognitive engagement on the part of the reader in order to maintain the connection with the story world and make sense of it within the reader’s accessible ontological domain. This fluidity of conceptual engagement with the novel reflects Fludernik’s definition of mimesis which “must not be identified as imitation but needs to be treated as the artificial and illusionary projection of a semiotic structure which the reader recuperates in terms of a fictional reality” (35). Moreover, what CDS and texture share in common is the avowal of the process of recuperation referred to by Fludernik. Recuperation, based on “cognitive parameters gleaned from real-world experience, inevitably results in an implicit though incomplete homologization of the fictional and the real worlds” (35). Before the homologization can occur, the reader must cross back and forth several world levels to assemble an ample sum of ideas to come to terms with ontological shifts involved in a “self-reflexive activity consisting of a real integrated personality mediating a partial avatar of themselves” (Stockwell 107). The most affectively demanding movement happens at the moments of crossing various ontological borders between the text worlds, which Stockwell refers to as transitional moments or edges.

The concept of edges is of great significance for this study, which is based on measuring the effects of edge processing while maneuvering between the three distinct accounts of one life story. Stockwell assigns to the edges a mathematical vector value, which is a sum of its magnitude (size or length) and its directionality or orientation. After Peterson and Enns, Stockwell refers to the set of qualities of edges (object-boundaries) as edge complex which usually requires a noticeable processing effort. Another consequence of imagining edges as vectors guiding a reading process is endowing the whole process with the quality of movement, and, consequently, of SPACE as a basic source domain of metaphors relating to the point of view. When, for instance, Palmer in Fictional Minds talks of intermentality of narratives, we imagine one mentality crossing over [=movement] towards another. As Stockwell explains: “[t]he crucial relationship between reader and fictional entities is at base a spatial one, which is then extrapolated and projected into higher-level and more complex social, emotional and ethical relationships” (Texture - A Cognitive Aesthetics of Reading 109). Altogether, Stockwell enumerates four dimensions of the spatial scheme to take into consideration when elaborating on the reader’s orientation to the characters’ worlds. They are: distance, direction, pace, and quality of movement. Stockwell schematizes the relationship of
the reader to the character in the following graphic model (Texture - A Cognitive Aesthetics of Reading 110):

![Diagram](image.png)

**Figure 2**: Viewpoint as vector by Stockwell (2009)

The transitioning occurs along a specific vector line, each “composed of [six] braids of deictic dimensions” (128):

- Perceptual deixis (pronouns, demonstratives, definite articles and definite reference, and verbs of mental states)
- Spatial deixis (locatives, spatial adverbs, distal demonstratives, verbs of motion)
- Temporal deixis (locatives, temporal adverbs, tense and aspect)
- Relational deixis (encoding of social position)
- Textual deixis (self-referential textuality, iconicity, sense of texture)
- Compositional deixis (interpersonal extratextual features).

The difference between the “braided” model and the traditional categories of deixis lies in moving away from the “viewpoint of the deictic centre being encoded in the text (the character terminal), rather than in combination with the interlocutor of the discourse” since “[d]eixis is always relative to an interlocutor’s location, and this in general is captured in the vector line” (128). The consequence of this claim is that the virtual movement between text worlds is viewed as dynamic and reader-
originated. What does it mean, for instance, to lose yourself in the story if we assume that you can actively shift in and out of it? Stockwell explains this sensation as a “focusing of attention on the shifted deictic centre so that the reader’s sense of their own deictic positioning suffers from decay” (129). In the case of multivocality of narrators in A Little Life, the multiple viewpoints may be explained as a “diverted angle of the vector” between the reader and the main character through the three intervening narratives. The reader’s processing of the edgework gets additionally complicated due to the fact that in the novel the three narratives are never explicitly attributed to a particular narrator, so it is often well into a few pages of the chapter that the focalizers’ respective identities may be identified through a complex process of associations on the reader’s level of texture. The reader is being taken to one of the character-narrator’s minds, vectored through a third-person narration and thus it takes a while before a perceptual or relational deictic shift enables crossing the text world borders to allow for a proper edgework to be done before moving on to the next discourse space.

Sentiment Analysis for Traversing Boundaries between Textuality and Texture

In order to examine the vector shifts among the three characters whose intermittent narrative sequences constitute the complementary structure of the main character’s text world within Yanagihara’s fiction, the study applies the computational method of text mining with the use of R environment software for programming the reproductive coding sequences of sentiment analysis for the three selected samples from A Little Life novel. The decision of applying a computational method for text analysis was inspired by Stockwell’s assertion that “[e]dgework is work at the edge, which can only be discussed by describing the actual nature of the edge-boundary in textural terms” (Texture - A Cognitive Aesthetics of Reading 131). This in turn entails that the “transitioning work that the reader engages in is worked upon actual textual material.” The process of the analysis will be divided into two stages. The first stage corresponds to the work on the level of text and textuality of the novel with the use of computational text mining methods for extracting affective and emotional construal of the three analyzed characters-focalizers: Jude as the main protagonist, Willem as his partner and Harold as his father. The second stage places the text-based results of the quantitative analysis of sentiments alongside the qualitative analysis of the reader’s perception of the three characters which had been conducted prior to the computational stage of the study. The aim of the study is to determine to what extent the levels of textuality and texture are compatible in the affective dimension of multiperspectivity.

This present study began with the qualitative analysis of intradiegetic space within the realm of text and textuality. Hanya Yanagihara’s novel A Little Life tells the story of four young men: Willem, Jude, JB and Malcolm, all graduates of the same prestigious New England university, who set about establishing adult lives in New York City. They represent an array of diverse characters, tightly bound to each other, but the present study will focus on two of them: Willem Ragnarsson,
the handsome son of a Wyoming ranch farmer of Scandinavian origin, who starts off as a waiter but aspires to be an actor and eventually becomes a world-known star and an Academy Award winner; and Jude St. Francis, a successful lawyer and mathematician, whose provenance and ethnic origins are unknown for the most part of the story, even by his trio of friends. Jude, we later learn, was a foundling, deposited in a bag by a dumpster and raised in a monastery where he was sexually abused. He was then kidnapped by Brother Luke, a pedophile who made money on Jude’s prostitution. As a teenager he was captured by a psychopath, doctor Traylor, who drove over him with his car, causing irreversible neurological damage to Jude’s spine and legs, which finally result in amputation when he is in his 50s. Another character who comes to the fore is Harold, a law professor who develops a strong paternal affection for Jude, an exceptionally talented student of his, and eventually, together with his wife Julia, becomes his adoptive parent. What Willem and Harold share in common is the fact that both experienced an emotionally devastating loss of a disabled member of their families: Willem’s older brother Hemming, who was born with cerebral palsy, died while Willem was in college, and Harold’s only biological son Jacob, who suffered a neurological disease, passed away at a young age, making Harold and his first wife Liesl split as they were unable to carry on their relationship marked with the trauma of losing a child. Yet the clearest sign that *A Little Life* will not be what we expect is the gradual focus of the text on Jude’s mysterious and traumatic past. As the pages turn, the company of friends recedes and Jude comes to the fore with his unsettling meditation on sexual abuse, suffering, and the difficulties of recovery.

What inspired and shaped the present study was a question I encountered in Matthew L. Jocker and Rosamond Thalken’s book on a literary text analysis in R environment (2020). One of the study questions following the analysis of a sentence polarity in *Moby Dick* asked: “Do you, as a human reader, identify these sentences as positive? How about the negative sentences?” (Jockers and Thalken 174). This question made me realize that there is an ongoing negotiation of meanings encoded in the text and extracted by a human reader, which goes beyond the level of the novel’s intradiegetic textuality, but is carried on to the higher level of texture, where human cognition is blended with thought and experience. Therefore, I designed the study with the aim to answer this seemingly simple but puzzling question if what I read into the text is actually there. Admittedly, some doubts may be raised whether the sentiments measured by sentiment analysis are “in” the text, given that the values attached to certain words were at some point in the programming process assigned by human readers. This methodological concern, however, refers more broadly to the tenets of the NRC Word-Emotion and Word-Sentiment Association Lexicon applied in syuzhet software package (http://saifmohammad.com/WebPages/NRC-Emotion-Lexicon.htm), but since the lexicon has been approved by the software creators, its application does not undermine the results and the discussion in this case study.

The first step along the way was to confront my impressions of the three characters with the actual textual key word frequencies to see if my intuitive reading corresponded to the respective character construction in the novel. To begin
with, the text of the novel was divided into three sections, each containing the narratives of Jude, Willem and Harold as focalizers. At this stage it was already visible that the narratives’ lengths represented an interesting ratio, with Harold’s shortest part constituting one third of Jude’s part and Willem’s part coming in as second with a two-third ratio. This came as no surprise because even though their accounts come in alternating order, yet the dominance of Jude’s voice can only be fully discerned by the end of the book.

In order to compare if my “human reader” intuition was in close correspondence to what was encoded in the text, upon the close reading of A Little Life novel, the text was first manually and thus intuitively annotated for key words/phrases/concepts which in my “human” opinion would best describe the three characters. Using a close reading technique, I searched the text for the words of higher relevance for each character and the choice was based solely on my personal judgment. My individual impressions inscribed in the hand-drawn mind maps were the following: while Jude was invariably negative and unsettling in his subjectivity as he was unable to get away from thinking of his “ill” body, Willem represented a middle way with his love, trust and devotion towards Jude, yet in their romantic relationship he would mostly expect reciprocity (what it gives ME [=Willem]) and he was the one of all the three of them who constantly evolved emotionally. Harold, on the other hand, invested his whole individuality into selfless love, care and protection for Jude (what it gives HIM [=Jude]) and so he passed on as a stable and fixed character on the outside, yet in his narratives he would constantly analyze if he was doing things right. This was understandable since Jude’s horrific past was only revealed to him after Jude’s suicide and their relationship was based on Harold’s selfless devotion as a parent who would never question his child, but rather himself.

Having analyzed the three characters’ narratives as a “human reader” using the close reading method, I then proceeded with the computational analysis of the same fragments, starting with the wordclouds (wordcloud package ver. 2.6 https://www.rdocumentation.org/packages/wordcloud versions/2.6/topics/wordcloud, stop words removed, words plotted in decreasing frequency, color coded). The three wordclouds which were subsequently generated on the basis of the word frequency in the three narratives were indeed in close correspondence to my individual assessment of characters based on close reading. The results they returned highlighted Harold’s internal insecurity of a parent (as Jude’s “father he will “never know”), Willem’s desire to have a meaningful relation with Jude (the “relationship” he “always wanted” and was “trying” to build) and Jude’s internalized “pain” reflected in his preoccupation with his “body” and “feeling harm” (“arm”, “legs”, “pain”, “cutting” in the “bathroom”, “wounds”). It is also visible that the density of the plotting increased proportionately to the length of the analyzed text.
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Figure 3: Wordcloud for Harold

Figure 4: Wordcloud for Willem
Next, the three narratives were analyzed with regard to emotionally charged language. The sentiment analysis was carried out using the syuzhet package which determines the positive or negative emotional valence of a sentence. The syuzhet package was designed by Matthew Jockers who took a cue from Kurt Vonnegut’s observation that “the highs and lows of the conflict and conflict resolution can be understood as deriving from the emotional highs and lows of the characters in the story” (Jockers and Thalken 159). As the author explains, “Instead of finding instances of a specific token, such as whale, sentiment analysis maps specific word tokens to specific sentiment values. These values, which are looked up in a sentiment dictionary (or ‘lexicon’) range from positive to negative according to the specific design of the dictionary” (159). In this study the NRC sentiment dictionary was used for calculating the presence of eight emotions and their corresponding valence (positive/negative) in the text file.

Syuzhet package is not perfect because unlike sentimentr package, it does not handle negation (as shown in sentence 3 in Fig. xx where “didn’t care” was

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3 Details regarding the syuzhet package can be found in Jockers and Thalken’s Text Analysis with R: For Students of Literature, Chapter 14.
A Cognitive Processing Path from Textuality to Texture in Hanya Yanagihara's *A Little Life*

assigned a +1.00 positive vector). However, according to Jockers and Thalken, “syuzhet’s style of sentiment analysis is suited for studying novels because it

<table>
<thead>
<tr>
<th>jude_sentences</th>
<th>sentiment_vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Jude knew French and German.</td>
<td>0.00</td>
</tr>
<tr>
<td>2 He knew the periodic table.</td>
<td>0.00</td>
</tr>
<tr>
<td>3 He knew—as much as he didn’t care to—large part...</td>
<td>1.00</td>
</tr>
<tr>
<td>4 He knew how to help birth a calf and rewire a lamp...</td>
<td>2.25</td>
</tr>
<tr>
<td>5 (And then he knew things he wished he didn’t, thing...</td>
<td>-1.25</td>
</tr>
<tr>
<td>6 The languages and the math, fine.</td>
<td>0.25</td>
</tr>
<tr>
<td>7 But daily he was reminded of how much he didn’t k...</td>
<td>0.00</td>
</tr>
<tr>
<td>8 He had never heard of the sitcoms whose episodes ...</td>
<td>0.00</td>
</tr>
<tr>
<td>9 He had never been to a movie.</td>
<td>0.00</td>
</tr>
<tr>
<td>10 He had never gone on vacation.</td>
<td>0.80</td>
</tr>
<tr>
<td>11 He had never been to summer camp.</td>
<td>0.00</td>
</tr>
<tr>
<td>12 He had never had pizza or popsicles or macaroni an...</td>
<td>-0.40</td>
</tr>
<tr>
<td>13 He had never owned a computer or a phone, he had...</td>
<td>0.00</td>
</tr>
<tr>
<td>14 He had never owned anything, he realized, not reall...</td>
<td>-0.50</td>
</tr>
<tr>
<td>15 The classroom was the safest place, and the only pl...</td>
<td>-0.65</td>
</tr>
</tbody>
</table>

Figure 6: Sentiment vectors for Jude

4 The *syuzhet* package has generally been criticized for the low level of precision of word-by-word lexicons it contains (“Bing,” “AFINN,” and “NRC”) and the inaccurate representations of the stories’ plot and emotional valence trajectories (https://annieswafford.wordpress.com/2015/03/02/syuzhet/). Matthew L. Jockers addressed these concerns at http://www.matthewjockers.net/2015/03/04/some-thoughts-on-annies-thoughts-about-syuzhet/. He commented on the complexity of handling negators and modifiers in a following way: “Take, for example, the sentence “I studied at Leland Stanford Junior University.” The state-of-the-art Stanford sentiment parser scores this sentence as “negative.” I think that is incorrect (you are welcome to disagree;-). The “bing” method, that I have implemented as the default in syuzhet, scores this sentence as neutral, as does the “afinn” method (also in the package). The NRC method scores it as slightly positive. So, which one is correct? We could go all Derrida on this sentence and deconstruct each word, unpack what “junior” really means. We could probably even “problematize” it!... But let’s not.” Therefore, in this study, the presence of negators and modifiers which shift the valence between positive and negative was not accounted for in the final results. Moreover, Tyler Rinker, the creator of a competitive sentimentr package, in his comparative analysis of the four most popular sentiment detection packages and algorithms: *syuzhet, sentimentr, meanr* and *Stanford* run on data sets of reviews from services such as amazon.com and imbd.com, concluded that “Jockers’ *syuzhet* was designed to be applied across book chunks and it is, to some extent, unfair to test it out of this context” (https://github.com/trinker/sentimentr#comparing-sentimentr-syuzhet-meanr-and-stanford).
helph us consider the progression of sentiment from the beginning to the end of a text. This means that the focus is turned away from the actual events in the novel, and more toward the author’s presentation or organization of the plot” (160, emphasis original). The barplots visualize first the polarity of a particular focalizer’s narrative (positive/negative sentiment) and then the distribution of the eight emotions encoded in NRC dictionary (anger, anticipation, disgust, fear, joy, sadness, surprise, trust).
Figure 7: Sentiment polarity for Harold, Willem and Jude
The interplay of positive and negative sentiments is what delineates the analyzed narratives. As the results of the analysis indicate, it is Harold who leads the rank in positivity and Jude whose negativity significantly surpasses the other two. As for the distribution of emotional charge, Harold’s reliance on trust and Jude’s propensity for fear mark the two opposing traits of their outlooks and personalities. Willem represents the middle ground with relatively equal yet dominant vector values for fear and trust, interestingly followed by sadness.

> harold_scores

<table>
<thead>
<tr>
<th></th>
<th>anger</th>
<th>anticipation</th>
<th>disgust</th>
<th>fear</th>
<th>joy</th>
<th>sadness</th>
<th>surprise</th>
<th>trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>scores</td>
<td>1</td>
<td>27</td>
<td>139</td>
<td>108</td>
<td>163</td>
<td>120</td>
<td>153</td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>negative</th>
<th>positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>scores</td>
<td>1</td>
<td>330</td>
</tr>
</tbody>
</table>
The computer model was concurrent in detecting the degree of general positive and negative sentiment in the three narratives in accordance with the conclusions drawn from close reading. Or, should I reverse the order and say instead that my close reading was careful enough to detect the sentiments encoded in the texts. Either way, the emotions encoded on the intradiegetic levels of text and textuality traverse the edges of the three distinct narratives to eventually meet on the higher level of texture and project a common vector towards the main character, Jude St. Francis. This observation may be criticized for hinging upon tautology, but here it must be emphasized that it is not the end result which matters, but the process going on in human mind to direct the vectors of the meaning construction pointedly at the character while doing the edgework across the competing textualities of concurrent narratives. The determination of human mind to stay on track despite the shifts of focus generated on the level of text and textuality was demonstrated by Jockers in his 2015 study of moving averages of sentiments in several novels in which sentiments were both human and machine coded (Fig. 9). Jockers himself admitted that “The similarity of the shapes derived from the human and machine data is quite striking.”
Yet the function which in my view offers the greatest potential for further analysis in the computational study of sentiments is the function of marking the outliers, which indicate the most positive and the most negative sentence in the analyzed text. As the three boxplots indicate, the highest proportion of the box above the median of 0.00 belongs to Harold, which again proves Harold’s comparatively positive attitude in contrast to Jude’s most prominent negativity. This negative polarization of Jude’s narrative is demonstrated in his boxplot. The proportion of Jude’s box below the 0.00 median is visibly larger compared to the boxes of the other two characters. On the basis of these results we might further wonder what the character terminal of the vector for Jude would be like on the texture level if it was not for Harold’s and Willem’s positive tones interceding Jude’s highly pessimistic narrative.

Figure 9: Human and machine coded sentiments combined (Jockers 2015)

Now, the focus shifts to the dots at the highest and lowest end of the boxplot. These are the outliers and their content analysis through the close reading perspective of traditional literary studies would generate a truly insightful perspective on the three characters. The machine analysis renders the following results, first locating

Figure 10: Boxplots of sentiment distribution (min/max) for Harold, Willem and Jude
the position of the most positive and the most negative sentence in the text, and then extracting its content:

> most.positive
  harold_sentences
379 I admired how she knew, well before I did, that the point of a child is not what you hope he will accomplish in your name but the pleasure that he will bring you, whatever form it comes in, even if it is a form that is barely recognizable as pleasure at all—and, more important, the pleasure you will be privileged to bring him.
  sentiment_vector
379       5.95

> most.negative
  harold_sentences
1140 I’m so stupid, I’m so clumsy,” and although we told him it wasn’t a problem, that it was fine, he only grew more and more upset, so upset that his hands started to shake, that his nose started to bleed.
  sentiment_vector
1140       -3.5

> most.positive
  willem_sentences
1605 “Ragnarsson is on vacation and was unavailable for comment, but his representative confirmed the actor’s relationship with Jude St. Francis, a highly regarded and prominent litigator with the powerhouse firm of Rosen Pritchard and Klein and a close friend since they were roommates their freshman year of college,” he read, and “Ragnarsson is the highest-profile actor by far to ever willingly declare himself in a gay relationship,” followed, obituary-like, with a recapping of his films and various quotes from various agents and publicists congratulating him on his bravery while simultaneously predicting the almost-certain diminishment of his career, and nice quotes from actors and directors he knew promising his revelation wouldn’t change a thing, and a concluding quote from an unnamed studio executive who said that his strength had never been as a romantic lead anyway, and so he’d probably be fine.
  sentiment_vector
1605       7.9

> most.negative
  willem_sentences
2537 Two years ago, he had spent this very weekend—Labor Day weekend—in a hospital on the Upper East Side, staring out the window with a hatred so intense it nauseated him at the orderlies and nurses and doctors in their jade-green pajamas congregating outside the building, eating and smoking and talking on their phones as if nothing were wrong, as if above them weren’t people in various stages of
dying, including his own person, who was at that moment in a medically induced coma, his skin prickling with fever, who had last opened his eyes four days ago, the day after he had gotten out of surgery.

sentiment_vector
2537       -5

> most.positive
jude_sentences
1138 He did, however, invite Andy in one of their midnight conversations, which he grew to enjoy: in those talks, they discussed everyday things, calming things, normal things—the new Supreme Court justice nominee; the most recent health-care bill (he approved of it; Andy didn’t); a biography of Rosalind Franklin they’d both read (he liked it; Andy didn’t); the apartment that Andy and Jane were renovating.

sentiment_vector
1138       5.3

> most.negative
jude_sentences
3244 The clients called him names: he was a slut, a whore, filthy, disgusting, a nympho (he had to look that one up), a slave, garbage, trash, dirty, worthless, a nothing.

sentiment_vector
3244       -7

The analysis of these results would be long enough to occupy the space of the full-length academic article. Suffice to say that the outliers serve as lenses towards the highest emotional valence of a given focalizer and as such define the unsettling extremes of their individual subjectivity. It is through this type of insight that we would be able to make a conjunction with Tomkins’ typology of affects and develop an argument that a truly revealing study of Jude’s character would entail transitioning along the affect vectors of fear–shame–self-contempt complex. 5

Vectors of the Reader’s Processing Path: from Textuality to Texture

Reading *A Little Life* was like Harold’s reading the letter Jude had written to him and Julia, his adoptive parents, before he committed suicide: “It took us several days to read, because although it was brief, it was also endless, and we had to keep putting the pages down and walking away from them . . . – Ready? – and sitting down and reading some more” (Yanagihara, *A Little Life* 813). The pauses while

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5 As Tomkins observes: “While terror and distress hurt, they are wounds inflicted from outside which penetrate the smooth surface of the ego; but shame is felt as an inner torment, a sickness of the soul. It does not matter whether the humiliated one has been shamed by derisive laughter or whether he mocks himself. In either event he feels himself naked, defeated, alienated, lacking in dignity or worth” (351).
reading were frequent, for Jude’s life was anything but little and so much more than tragic. It resembled this letter – brief yet endless – and in the end the only way it could be internalized was through the metaphor/oxymoron of a soundless cry. Despite his unique talent for mathematics and his exceptional mastering of legal argumentation, it was his skill of crying without producing any sound that Jude was really proud of. What is particularly striking about this and other similar examples of Jude’s belittling confessions is that the reader gradually internalizes the conviction that “[i]t isn’t only that [Jude] died, or how he died; it is what he died believing” (814).

Unfortunately, as the story progresses and the three threads of alternating narratives enter a higher level of semantic relationship beyond the discrepant figural standpoints, there is no escape from the feeling that Jude’s suicide was his soundless attempt to provide a non-existent proof for the mathematical axiom of equality. No matter how straightforward was the message of love and acceptance conveyed by Willem and Harold, Jude’s destructive and self-loathing belief in his inherent worthlessness, inscribed in his mind the irreversible conviction that “x will always equal x” (386). On the outside he may be a different man, practically the opposite of his previous life of a sexually-abused orphan: “The context may have changed: he may be in this apartment, and he may have a job that he enjoys and that pays him well, and he may have parents and friends he loves. He may be respected: in court, he may even be feared. But fundamentally, he is the same person, a person who inspires disgust, a person meant to be hated” (386). At this point a “diverted angle of the vector” between the reader and the main character that Stockwell has in mind when talking about the reader’s investment in the edgework across the intertwining narratives, persistently pushes towards Jude as a deictic center. The growing sense of inevitability of Jude’s suicide prompts the reader to subconsciously push the narratives of Willem and Harold off the processing path to straighten the vector and make it follow a straight line (reader → character [Jude]) without sidetracking (reader → Willem’s perspective → Harold’s perspective → character [Jude]) to minimize the edgework while navigating the story worlds. Jude’s vulnerability causes that a mere microsecond of doubt in his worthiness is enough to drag him down from the “ecstasy of being aloft” to the “anticipation of his landing, which he knows will be terrible” (386).

The growing awareness of a repeated pattern of Jude’s failures, including those which felt purposefully incited (as in the case of his relationship with the abusive and violent lover, Caleb), marks the transition point from the intradiegetic level of textuality towards the higher level of texture. The sense making process initiated across the three varying points of view eventually navigates the reader towards the most emotionally-charged, or most affect-generating character and his narration, which in Stockwell’s terms means that “the reader is profiling the character terminal of the vector while experiencing the construal effect of being lost in the fiction” (129). The reader gradually comes to the realization that years of Willem’s and Harold’s genuine and hard labour of love will nevertheless transpire in this very microsecond when the “hyenas” (436) of unspeakable terrors seize Jude’s mind and activate the recurrent script of his stimulus-affect-response scenario:
... he knows that $x$ will always equal $x$, no matter what he does, or how many years he moves away from the monastery, from Brother Luke, no matter how much he earns or how hard he tries to forget. It is the last thing he thinks as his shoulder cracks down upon the concrete, and the world, for an instant, jerks blessedly away from beneath him: $x = x$, he thinks. $x = x$, $x = x$ (386).

**Conclusion**

Close reading of *A Little Life* novel, in conjunction with a computational analysis of sentiments, provided evidence that behind a philosophical determinism of Jude’s “axiom of equality” rule, there lies a physiological conditioning of pain reactions (e.g. self-harm), and a psychological framing of the internalization of a long-term trauma. Even though at some point we may treat Willem’s and Harold’s voices as disturbances, diverting our vector away from Jude’s primary narrative frame, in the end we realize that they cannot be totally eradicated. Thanks to Willem’s and Harold’s idiosyncratic styles of empathy and attachment towards Jude, the reader gets to realize that alternative scenarios for Jude might have been possible, yet the intensity of scenes and scripts from his traumatic childhood transcribed a certain irreversible and domineering pattern of a repeated activation of punishing affects, manifested in his urge for cutting his flesh. Moreover, thanks to a broader perspective on the Jude’s support networks, the reader’s awareness that his friends’ efforts are in most cases doomed to fail, conclusively contributes to a more stable and definite configuration of Jude’s depressive inclination on the level of *texture*. For instance, seeing Jude happy is most likely to evoke an ambivalent feeling that the protagonist is ‘out of character’. In sum, the combination of three intradiegetic narrative levels, despite heightening the complexity of the reader’s *edgework* across the story worlds, eventually contributed to creating a sense of cognitive consistency in the character construal. This conclusion supports Stockwell’s observation that “(t)he key to the literary experience of texture ... lies in the moments of transition or shift across different cognitive stylistic patterns. The cognitive poetic account of texture relies on capturing and describing as precisely as possible these transitional moments (“Texture” 459–60). Willem’s and Harold’s narrative voices helped to fill out what Roman Ingarden called “undefined places” in a literary work. These characters, endowed with a carefully constructed emotional profiles, complemented Jude’s deficit of self-esteem and definitely had an impact on the reader’s intermental relationship with the main character and his eventual impersonation.

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