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Master Thesis

Psychosocial Landscapes in August Strindberg's Dramas

A Comparative Text Analysis of Naturalistic and
Expressionist Plays



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Abstract

August Strindberg, the renowned Swedish playwright, novelist, and painter, left an indelible mark on the literary landscape of the late 19th and early 20th centuries. This thesis delves into the intricate interplay between Strindberg's psychological depths and the sociocultural milieus that shaped his dramatic works, focusing on the evolution of his artistic expression from naturalism to expressionism. Employing an interdisciplinary digital humanities approach, the study integrates psychoanalytic criticism and constructivist perspectives to illuminate the complex tapestry of themes, characters, and emotional landscapes in Strindberg's plays. Through a suite of text analysis methods, including topic modeling, named entity recognition, sentiment analysis, and comparative analysis, the research uncovers the dominant motifs, character relationships, and affective dimensions that characterize Strindberg's naturalistic and expressionist phases. The findings reveal significant shifts in Strindberg's thematic concerns, from the social realism and psychological intricacies of human relationships in his naturalistic works to the existential questions, symbolism, and exploration of the subconscious in his expressionist plays. These changes mirror Strindberg's own psychological journey and his engagement with the intellectual and artistic currents of his time.

Keywords: August Strindberg; modern theatre; naturalism; expressionism; psychoanalytic criticism; constructivism; digital humanities; text analysis



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1. Introduction

“We are the children of our landscape; it dictates behavior and even thought in the measure to which we are responsive to it.”

— Lawrence Durrell, *Justine*

August Strindberg (1849–1912), the eminent Swedish playwright, novelist, and painter, stands as a towering figure in the annals of literature, leaving an indelible mark on the literary landscape of the late 19th and early 20th centuries. His works, renowned for their psychological depth, social relevance, and unflinching exploration of the human condition, have captivated the minds of critics and scholars for generations. Strindberg's narratives fearlessly challenge conventional notions of morality and social order, serving as a microcosm of the complexities and conflicts that define the human experience. His literary journey, marked by a diverse tapestry of styles and themes, reflects the tumultuous shifts in European thought and the profound personal and societal struggles that characterized his era (Robinson, 2009; Stockenström, 1988).

While Strindberg's artistic brilliance is widely acknowledged, the intricate interconnections between his evolving dramatic styles, thematic concerns, and the sociocultural landscapes he traversed remain a fertile ground for further exploration. Previous research has delved into various facets of Strindberg's life and works, illuminating his literary techniques, symbolic representations, and philosophical underpinnings. However, a comprehensive understanding of how his psychological and sociocultural experiences manifested within the narratives, characters, and dramatic forms he employed has yet to be fully realized.

This thesis aims to bridge that gap on Strindberg's dramatic oeuvre by conducting a comparative analysis of his naturalistic and expressionist plays through the lens of psychoanalytic criticism and constructivism. By harnessing the potential of digital humanities tools and digital text analysis methods, such as topic modeling, named entity recognition, and sentiment analysis, this study seeks to uncover the recurring themes, motifs, and psychosocial influences that permeate Strindberg's works. The comparison of these two distinct phases in Strindberg's literary career serves as a means to explore the evolution of the psychological landscapes portrayed in his plays and the sociocultural influences that shaped his artistic vision.

The subsequent chapters of this thesis will delve deeper into the theoretical framework and methodological approaches that underpin this study. Chapter 2 will establish the theoretical foundation by exploring key concepts and definitions essential to understanding Strindberg's dramatic works and intellectual landscapes that influenced his works. Chapter 3 establishes the theoretical framework, introducing psychoanalytic criticism and constructivism as the lenses through which Strindberg's plays will be analysed. Chapter 4 presents a comprehensive literature review, discussing previous research on the psychological and sociocultural aspects of Strindberg's works and identifying gaps that this study aims to address. Chapter 5 outlines the methodology, detailing the digital text analysis techniques employed



and their application within the psychoanalytic and constructivist frameworks. Chapters 6 and 7 present the results and analysis, respectively, exploring the findings of the digital analysis and interpreting them through the dual theoretical framework. Finally, Chapter 8 discusses the implications of the study, its contributions to Strindberg scholarship, and potential avenues for future research. Chapter 9 concludes the thesis by summarizing the main arguments and key findings, highlighting the significance of the psychoanalytic and constructivist approaches for analysing Strindberg's plays, and reflecting on the broader implications of the study for understanding the intersection of psychology, society, and literature.

Through this innovative and interdisciplinary approach, this thesis aspires to contribute to a deeper understanding of the psychological landscapes and sociocultural underpinnings in August Strindberg's naturalistic and expressionistic plays. By harnessing the power of digital humanities tools and methodologies, the aim is to shed new light on Strindberg's enduring significance in the realm of modern literature and the broader landscape of digital humanities scholarship.

2. Background

This chapter provides a comprehensive framework for exploring August Strindberg's literary contributions in relation to the diverse influences that shaped his creative output. It situates Strindberg within the rich contexts of his personal experiences, the cultural and intellectual movements of his era, and the psychosocial landscapes he navigated.

The chapter begins with an overview of Strindberg's literary legacy, highlighting the depth and complexity of themes, psychological explorations, and engagement with intellectual currents that have been the focus of existing scholarship. This overview provides a baseline for understanding how these elements resonate with the broader cultural and philosophical trends of the late 19th and early 20th centuries.

Next, the focus shifts to Strindberg's biographical journey, examining how his geographic movements, travels, and personal experiences provided him with unique insights into human nature and society. The chapter then delves into the cultural and intellectual landscapes that characterized Strindberg's era, particularly the influences of literary movements such as Naturalism, Symbolism, and Expressionism, aiming to contextualize his literary techniques and aesthetic sensibilities within these broader artistic currents.

Finally, the chapter outlines the methodological approaches that will be employed in the thesis, focusing on how digital humanities tools and techniques can uncover new layers of meaning in Strindberg's works.



2.1. Strindberg and Literary Analysis: A Legacy of Depth

Strindberg's literary prowess is profoundly connected to his complex personal experiences and philosophical explorations. Scholars have identified several key influences shaping his work: first, a significant mother-complex that influenced his relationships; second, a paternal figure who shaped his life philosophy; and third, a persistent paternal presence that influenced his religious views and his conception of the "Powers" (Falgas-Ravry, 2011; Uppvall, 1949). His own struggles with mental health, coupled with his tumultuous relationships and existential ponderings, seep into the fabric of his works, infusing them with raw emotion and psychological depth. Strindberg's ability to portray his intense personal experiences and psychological intricacies through his characters' inner conflicts and the existential themes that pervade his narratives has cemented his legacy as a pioneering figure in modern drama.

In his early works, Strindberg's personal experiences and fervent interest in the psychological advances of his era profoundly influenced his artistic expression. He exhibited a palpable inclination towards themes that were reflected in the modern language he employed and his departure from conventional theatrical norms (Robinson, 2013). Strindberg's perpetual themes, such as the battle of the sexes, power struggles and dominance, and the influence of guilt inherent in social hierarchies, emerge nowhere more prominently than in his plays "The Father" and "Miss Julie" (Anderson, 1971). In a footnote of "Psychopathology of Everyday Life," Freud highlighted that: 'Of all the writers who have from time to time passed comment on our minor symptomatic acts and parapraxes, or who have made use of them, none has understood their secret nature so clearly or exhibited them in so uncannily lifelike a manner as Strindberg' (1901, p.137)

After his Inferno period of 1894-1896, a period of intense psychotic episodes marked by personal turmoil and mental anguish, Strindberg's creativity reached new heights. Strindberg managed to master his psychosis, and represent his psychotic processes in his writings, emerging with a body of work that epitomized dramatic expressionism and sparked a renaissance in his artistic expression.

His work during this period, particularly from 1898 to 1902 and in the Chamber Plays of 1907, infused his creations with an unprecedented theatricality, expressionist richness, and symbolism. This new approach mirrored the expressive power seen in such visual artworks as Van Gogh's "The Starry Night" and Munch's "The Scream." (Mandelbaum, 2017; Stockenström, 1992). His renowned plays such as "The Dance of Death," "A Dream Play," and "The Ghost Sonata" exemplify this stylistic evolution, cementing his status as a pioneer of the modern European stage.

In his later historical plays of the period of 1908, Strindberg seamlessly merged personal vision with philosophical reflections, reinterpreting historical events to validate his worldview. Through the dramatic lens, history became a stage for embodying the mythic elements of his own experiences (Stockenström, 1992).



While Shakespeare's influence on the development of theatrical modernism is widely acknowledged, Strindberg's contributions to the rise of European modernism are equally significant (I.-S. Ewbank, 1998). At the heart of Strindberg's legacy lies his unparalleled ability to infuse playwriting with a new level of psychological complexity. By delving into the depths of the human psyche, Strindberg brought playwriting further into the realm of realism (Brett, 1921; Petrovska–Kuzmanova, 2014). His innovative approach to scenic presentation, acting theories, and playwriting revolutionized the theater landscape, exerting a strong and pervasive influence on the course of developments in twentieth-century dramaturgy (Stockenström, 1988). Strindberg's works laid the foundations for later avant-garde artistic movements, leaving an indelible mark on mainstream English, American, and European theater for much of the twentieth century (Innes, 2012). Even today, Strindberg remains among the most modern of moderns, a visionary whose groundbreaking ideas and techniques continue to resonate with contemporary audiences and artists alike.

2.2. Life in Motion: Encounters, Experiences, and Inspirations

Strindberg acknowledged the significance of both internal conflicts and external factors in shaping an individual's personality. In the Preface to *Miss Julie*, Strindberg portrays the individual as a 'split and vacillating', 'conglomerations of past and present stages of civilization' patchwork made up of scraps from books and newspapers, bits and pieces of different people, shreds from fine clothes, patched together as is the human soul.' (Meyer, 2006, p. xxiii).

Strindberg's relationship with place was intricate and multidimensional, playing a crucial role in shaping his worldview and creative output. Born in Stockholm, his early works often reflected the urban environment of his hometown, exploring themes of social realism, psychological drama, and the impact of the natural environment on people, as portrayed in his novels set in the Stockholm archipelago, such as *The People of Hemsö* (Lamm, 1971). As his artistic journey progressed, Strindberg's geographic horizons expanded, leading him to explore various European countries and cities. The geographic settings in Strindberg's plays often transcended mere backdrops, becoming integral to the thematic fabric of his works (Innes, 2012). The claustrophobic confines of a Parisian apartment or the expansive vistas of the Swedish countryside shaped the characters, conflicts, and existential dilemmas that unfolded on stage (Lamm, 1971).

However, Strindberg's creative output was perhaps most profoundly influenced by the people he encountered. Engaging with artistic circles across Europe, he absorbed the intellectual currents of the era, drawing inspiration from luminaries such as Emil Zola, Edgar Allan Poe, Claude Monet, and Edvard Munch (Stockenström, 1988)

Two individuals who had a particularly significant impact on Strindberg's philosophical and spiritual beliefs were Friedrich Nietzsche and Emanuel



Swedenborg, Nietzsche's concepts of the *superman*, the *will to power*, and existentialism, along with Swedenborg's mysticism and spirituality greatly influenced Strindberg's literary works. The influence of both thinkers can be seen throughout Strindberg's oeuvre, from his early naturalistic works that critique societal norms and power structures to his later expressionistic plays that delve into metaphysical and spiritual themes. By engaging with their ideas, Strindberg explored complex philosophical and spiritual questions in his writing, cementing his reputation as a pioneering figure in modern literature (Robinson, 2009).

As a *homo universalis*, Strindberg traversed continents and immersed himself in diverse cultures, facilitating a constant exchange of ideas and perspectives that enriched his artistic repertoire with a global outlook. As evidenced by his statement: 'But there has to be movement, uprooting, shaking, renewal, turning inside out. I who have never done anything but move on and travel regained a sense of life' (Robinson, 1992, p.124). His geographic journey mirrored his artistic evolution, with each new locale offering fresh inspiration and insights into the human condition (Robinson, 2009). This diverse cultural exposure provides a deeper appreciation for the interconnectedness of environment, creativity, and Strindberg's enduring legacy in modern drama.

2.3. Cultural and Intellectual Landscapes

August Strindberg lived and worked during a period of significant transformation in Sweden and Europe as a whole. His life and works reflect the profound changes that occurred in the latter half of the nineteenth century and the early twentieth century (Brett, 1921).

During this period, a powerful wave of extreme rationalism swept over Europe with profound and extensive consequences. The years between the Franco-German War and World War I, when Strindberg was active, marked the climax of the industrial revolution and the rise of the bourgeoisie, setting the stage for modernity in Sweden and beyond (Andersson, 1985).

This era was characterized by groundbreaking ideas and discoveries that challenged traditional beliefs and values. Charles Darwin's theory of evolution radically altered man's position in the great chain of being, while Karl Marx inverted the relationship between man's ways of producing and thinking. Sigmund Freud began mapping the human psyche, undermining the bastion of reason itself, the human mind, and completing the work started by Jean-Jacques Rousseau. Scientists were astonished to find that some of the basic and indivisible particles of matter were disintegrating and emitting waves of energy (Andersson, 1985). Religion's diminishing significance led to a destabilization of traditional European society, prompting a reassessment of values and a gradual societal dehumanization (Nedjbi, 2017).

August Strindberg came of age in a Sweden that was undergoing significant changes, uprooting its past and becoming increasingly modernized. As society



evolved, Strindberg immersed himself in the various debates and movements of his time. He actively participated in discussions on gender equality and was a vocal critic of the Lutheran state church's control over people's spiritual lives, even facing a trial for blasphemy. Strindberg contributed to one of the major new newspapers, *Dagens Nyheter* (the Daily News), and considered himself a socialist (Innes, 2012). As the labor movement grew, he aligned himself with their cause and wrote political pamphlets. However, towards the end of his life, when he was celebrated as an icon of the labor movement, Strindberg had already moved on, distancing himself from the political left wing and turning his attention to occultism, mysticism, and religion (Steene, 1990).

Against this framework, Strindberg's life unfolded against a backdrop of significant social and political upheaval. Growing class divisions fueled the rise of labor movements and socialist parties, culminating in major strikes and the reformation of Sweden's political system (Lamm, 1971). Strindberg's works and historical critiques often reflect and engage with these societal changes, positioning him as both a product and a commentator of his times (Stockenström, 1988).

The captivating settings of his plays and novels is particularly significant because they capture the tremors of a civilization on the brink of collapse. His mental crisis in the 1890s mirrors the great crisis of his modern age (Stockenström, 1988). Evert Sprinchorn had said: 'Strindberg embodies the assault of chaos and madness on all that is most valuable in Western civilization (Sprinchorn, 1978, p.377).

2.4. Digital Humanities in Literary Analysis

The field of digital humanities has been rapidly expanding, offering new tools and methodologies for the study of theatre studies and literature. By leveraging computational methods and digital technologies, researchers can uncover hidden patterns, themes, and relationships within texts, providing fresh perspectives on an author's works and their broader cultural context (Nikitas, 2021). As Debra Caplan notes: "the implementation of digital humanities in theatre studies and literary analysis has the potential to address field-specific issues and revolutionize the field's scholarship (Caplan, 2015).

In the specific case of August Strindberg's works, Digital Humanities methods, such as topic modeling, NER, and sentiment analysis, can offer valuable insights into the psychological and sociocultural dimensions that shaped his creative output. By applying text analysis techniques to Strindberg's plays, this study aims to uncover underlying motifs, narrative structures, and character dynamics within his Naturalistic and Expressionist plays, reflecting the psychological factors and the cultural context of his time.

Topic Modelling

One of the key techniques employed in this study is topic modelling, a method that uses unsupervised machine learning algorithms to discover latent themes and



semantic structures within a large corpus of text (Blei, 2012). It works by discovering the underlying structure of topics present in a collection of documents, which can reveal significant themes and trends in the literature (Grisales et al., n.d.; Kherwa & Bansal, 2020). Topic modeling has been successfully applied to literary analysis, helping researchers identify and trace the evolution of themes, motifs, and ideas across an author's body of work (Jockers & Mimno, 2013). By applying topic modeling to Strindberg's plays, we can identify dominant themes in his naturalistic and expressionist works and explore how these themes correlate with the psychological and sociocultural contexts of his writing.

Named Entity Recognition (NER)

Named entity recognition, another critical digital humanities technique, is a natural language processing technique that involves the automatic identification and classification of named entities, such as characters, places, and organizations, within a text (Koudoro-Parfait et al., 2021; Nadeau & Sekine, 2007a). NER has been used in literary studies to examine character networks, explore the significance of specific locations, and analyze the relationships between entities in literary works (Velonis, 2021). This method can highlight key characters, locations, and other significant entities within Strindberg's plays, allowing for an analysis of their importance and role within the narrative, gaining insights into the social and psychological dimensions present in his works.

Sentiment Analysis

Sentiment analysis is a computational approach used to determine the emotional tone conveyed in a piece of text (Kim & Klinger, 2018; Rebora, 2023). By analyzing the sentiment expressed in dialogues and narrative descriptions, researchers can assess the emotional landscape of the literature (Nalisnick & Baird, 2013). Applying sentiment analysis to Strindberg's plays can help identify variations in emotional tone across his naturalistic and expressionistic works, gaining insights into the emotional arcs of narratives, the psychological states of characters, and the overall affective impact of a text.

However, it is important to recognize that DH methods are not without their limitations and challenges. The effectiveness of these approaches depends on the quality and representativeness of the textual data being analyzed, as well as the appropriateness of the specific tools and techniques being used. The overinterpretation the results of this DH analysis, can only provide partial and provisional insights into the complexity of literary works.



3. Previous Research

3.1. Psychological Themes and Frameworks in Strindberg Scholarship

Strindberg's works have been extensively analyzed through the lens of various psychological theories, shedding light on the existential angst, identity crises, and emotional turmoil experienced by his characters (Klaf S., 1963; Uppvall, 1970; Zinn, 2018).

One of the most prominent psychological themes in Strindberg's plays is the examination of power dynamics and gender relations. Scholars like Jain (2015) and Xu (2019) have analyzed works like "Miss Julie" through the lens of Freudian psychoanalysis, interpreting the characters' actions and motivations as manifestations of repressed desires, unconscious drives, and societal constraints. The intense psychological battle between the aristocratic Miss Julie and her father's valet, Jean, has been interpreted as a symbolic representation of the struggle between the conscious and unconscious realms, as well as the tensions between societal expectations and individual agency (Stockenström, 2004).

Strindberg's exploration of the human psyche extends beyond interpersonal relationships, delving into the realms of existential anxiety and the search for meaning. In plays like "The Ghost Sonata," he employs surrealistic and dreamlike elements to depict the psychological turmoil of characters grappling with the futility of existence and the illusory nature of reality. Pettey (1991) has drawn parallels between Strindberg's existential themes and the philosophical currents of his time, including the influence of thinkers like Kierkegaard and Nietzsche.

Moreover, Strindberg's personal experiences and tumultuous relationships have been widely recognized as contributing to the psychological depth of his works. His turbulent marriages, particularly to Siri von Essen and Frida Uhl, have been linked to the intense emotional landscapes and complex character portrayals found in plays like "The Dance of Death" and "The Father" (Holtan, 1967; Imtiaz, n.d.; Robinson, 1985). Scholars such as Brett (1921) and Robinson (2013) have analyzed how Strindberg's own struggles with mental health, feelings of paranoia, and battles with societal norms manifested in his literary creations, giving voice to the inner conflicts and psychological complexities of his characters.

Various psychoanalytic and psychological frameworks have been applied to interpret Strindberg's works, illuminating the underlying motivations, conflicts, and psychological dynamics at play in his narratives. Psychoanalytic approaches have been particularly influential in uncovering the subconscious desires and repressed traumas that shape his characters' behaviors and interactions.

Despite the richness of interpretations offered by scholars, debates and controversies persist within the scholarly discourse surrounding Strindberg's psychological themes. Some scholars argue for a more nuanced understanding of character motivations, focusing on dissecting the internal psychological motivations of Strindberg's characters (Ewbank, 1997; Stockenström, 1981) while others emphasize the role of societal context in shaping psychological dynamics, exploring



how societal norms, power structures, and cultural expectations influence the characters' thoughts, feelings, and behaviors (Steene, 1990; Stockenström, 1992; Wilkinson, 1993). These differing perspectives contribute to a multifaceted exploration of Strindberg's psychological complexity and underscore the ongoing relevance of his works in contemporary literary scholarship.

By delving into the psychological themes present in Strindberg's works, scholars have gained invaluable insights into the human condition, the dynamics of power and gender, and the existential questions that have haunted individuals throughout history. Strindberg's ability to probe the depths of the psyche and express the ineffable aspects of human experience continues to captivate readers and scholars alike.

3.2. Examining Literature through Digital Humanities Approaches

The field of digital humanities has been rapidly expanding, offering new tools and methodologies for the study of literature. As Matthew Kirschenbaum notes, "the digital humanities today is about a scholarship (and a pedagogy) that is publicly visible in ways to which we are generally unaccustomed" (Kirschenbaum, 2010, p. 60). This visibility is due in part to the ability of digital tools to process and analyze large volumes of text, enabling researchers to identify patterns and trends that might be difficult to discern through traditional close reading alone.

One notable example of the application of digital humanities methods to literary studies is Jockers' *Macroanalysis: Digital Methods and Literary History* (2013). In this book, Jockers demonstrates how computational analysis can be used to explore broad patterns in literary history, such as the evolution of genres and the influence of social and cultural factors on literary production. By applying techniques like topic modeling and sentiment analysis to a large corpus of 19th-century novels, Jockers is able to uncover "the literary genome" that underlies the works of this period.

Other researchers have applied digital humanities methods to the study of specific authors and texts. For example, in their article "Quantitative Formalism: An Experiment" Sarah Allison et al. (2011) they investigate whether computer-generated algorithms could accurately classify literary texts into genres without human input, essentially exploring the potential for computational methods to "recognize" literary genres. The study sought to validate the reliability of these computational methods by comparing their genre classifications with traditional literary scholarship.

In the context of August Strindberg's works, digital humanities methods have been used to explore a range of research questions. For instance, Adam Ek and Sofia Knuutinen (2017) have applied text normalization techniques based on Levenshtein distance and statistical machine translation to modernize the archaic spellings in Strindberg's texts, making them more accessible to contemporary readers.



The "Digital Litteratur" program, a collaboration between the Royal Institute of Technology in Stockholm and Uppsala University, focuses on developing methods and tools for encoding, managing, and distributing digital information. It adheres to international standards like SGML, HyTime, and DSSSL, with a particular emphasis on applications in the humanities using TEI guidelines. Key projects include creating digital editions of August Strindberg's works, digitizing medieval and 16th-century land records, and 17th-century court records, making these historical and literary texts more accessible for research and analysis (TEI Consortium, n.d.).

Despite the promise of digital humanities methods, it is important to acknowledge their limitations and potential drawbacks. As Ted Underwood has noted, there is a risk of "decontextualizing" literary texts by treating them solely as data points, divorced from their historical and cultural contexts (Underwood, 2017). Moreover, the results of computational analysis can sometimes be difficult to interpret, requiring careful consideration of the underlying algorithms and assumptions.

Nonetheless, the integration of digital humanities methods with traditional literary analysis offers a powerful means of exploring the complexities of Strindberg's works and their place within the broader landscape of European literature. By enabling researchers to identify patterns and connections across large corpora of texts, these methods can help to generate new insights and perspectives on the psychological, social, and cultural dimensions of Strindberg's writing.

3.3. Research Gap and Contribution

Despite the significant scholarship on Strindberg, a comprehensive examination of how his psychological landscapes intertwine with the sociocultural contexts of his time in his plays remains unexplored. This study aims to bridge this gap by leveraging digital humanities tools and interdisciplinary approaches to provide fresh insights into Strindberg's artistic journey. By integrating psychoanalytic and constructivist frameworks, the research seeks to offer a holistic understanding of the psychological and sociocultural dimensions that shaped Strindberg's creative expression. Utilizing digital text analysis methods—specifically topic modeling, named entity recognition, and sentiment analysis—enables a systematic exploration of the thematic, characterological, and emotional patterns within Strindberg's plays, uncovering new layers of meaning and deepening our appreciation of his literary genius. Moreover, this study addresses several specific gaps in existing Strindberg scholarship:

1. **Lack of Integration:** Previous research has often focused on psychoanalytic or other theoretical perspectives in isolation, rarely combining these approaches to gain a more comprehensive understanding of Strindberg's works (Brett, 1921; M. Robinson, 2013). By integrating these frameworks, this study offers a multidimensional analysis that captures the complex interplay between Strindberg's inner world and the external influences that shaped his artistic vision.



2. **Underutilization of Digital Methods:** While digital humanities approaches have been increasingly applied to literary studies in recent years (Eisner et al., n.d.; Jockers, 2013; Nalisnick & Baird, 2013), their use in analyzing Strindberg's works has been limited. The few studies that have employed digital tools have primarily focused on text normalization and stylometric analysis (TEI Consortium, n.d.; Underwood, 2017) rather than exploring the thematic evolution, the character and place analysis and the emotional trajectories of his plays. This study leverages digital text analysis techniques to uncover new patterns and insights that traditional close reading methods might overlook.
3. **Psychosocial Focus:** Existing research has often treated Strindberg's psychological struggles and the sociocultural contexts of his time as separate areas of inquiry (Anderson, 1971; Steene, 1990). While some scholars have acknowledged the influence of Strindberg's personal experiences on his works (Falgas-Ravry, 2011; Innes, 2012), a systematic investigation of the interplay between his psychological landscapes and the broader social, cultural, and historical forces that shaped the worldview expressed on his dramatic oeuvre has been lacking. This study aims to fill this gap by adopting a psychosocial perspective that recognizes the inherent interconnectedness of individual psychology and sociocultural contexts as portrayed in Strindberg's dramatic works.

This study aims to bridge gaps in Strindberg scholarship by integrating psychoanalytic and constructivist frameworks with digital humanities methods. By employing the specific computational techniques the research explores the psychological and sociocultural dimensions of Strindberg's plays, offering fresh insights into his creative vision. The findings have implications not only for understanding Strindberg's literary legacy but also for advancing interdisciplinary approaches in literary studies and digital humanities. This research demonstrates the value of combining traditional and digital methods to uncover new layers of meaning in literary texts, enriching our appreciation of the complex relationship between authors, their works, and their historical contexts.

4. Theoretical basis

This study adopts an integrative theoretical framework that synthesizes psychoanalytic and constructivist perspectives to delve into the rich complexity of August Strindberg's dramatic works. By intertwining these two lenses, the research aims to illuminate the intricate interplay between the external sociocultural context and the internal psychological landscapes of Strindberg's characters.

Through the psychoanalytic lens, it uncovers the unconscious dimensions of Strindberg's characters, revealing their psychological intricacies and symbolic representations. Simultaneously, the constructivist perspective contextualizes his works within the sociocultural landscape of his era, exploring how societal norms and historical circumstances influenced his characters' experiences and narrative



choices. Together, these approaches offer a nuanced understanding of the psychological and sociocultural dimensions in Strindberg's literary creations.

4.1. Psychoanalytic Criticism

Psychoanalytic criticism, a form of applied psychoanalysis, offers a valuable lens for exploring the intricate interplay between conscious and unconscious processes within August Strindberg's literary creations. Grounded in the pioneering work of Sigmund Freud, this analytical approach sheds light on the deeper layers of meaning inherent in Strindberg's narratives by delving into the workings of the human psyche (Berger, 1991; Eagleton, 1996).

Central to Freud's psychoanalytic theory is the concept of the unconscious – the reservoir of repressed thoughts, desires, and memories that exert a profound influence on individual behavior and creative output. Strindberg's works, akin to dreams, provide a fertile ground for psychoanalytic exploration, offering glimpses into the hidden depths of the human psyche and its complexities (Barry, 2002; Berger, 1991). The internal conflicts experienced by Strindberg's characters serve as conduits for exploring unconscious motivations and psychological complexities, reflecting the tensions between these structural elements of the psyche (Berger, 1991; Klaf, 1963; Whitenight, 1996).

Moreover, Freud's notion of repression elucidates how unconscious desires and impulses manifest in Strindberg's works through symbolic representations, dreamlike imagery, and narrative ambiguities. Strindberg's exploration of taboo subjects mirrors societal repression and unconscious drives, with psychoanalytic criticism offering insights into the symbolic significance of these themes within his narratives (Barry, 2002; Jauregui, 2003; Mitchell, 1957)

Interestingly, psychoanalysis itself can be viewed as a kind of theater, and conversely, theater can be seen as a form of psychoanalysis. The dramatic frame in theater, much like the psychoanalytic frame establishes boundaries and distances requiring the play to be an aesthetic object independent of the playwright and the audience. For Strindberg, the distances and boundaries among the various elements of the dramatic frame create a space within which he can create, just as an analyst can create and heal within the distances established by the psychoanalytic frame (Mandelbaum, 2017).

Psychoanalytic criticism provides a rich interpretive framework for analyzing the psychological dimensions of Strindberg's literary works, offering valuable insights into the unconscious motivations, symbolic representations, and internal landscapes that characterize his characters and narratives. By employing this analytical approach, one can delve into the depths of the characters' psyches, enhancing the understanding of Strindberg's artistic vision and the intricate interplay between societal forces and psychological dynamics within his plays.



4.2. Constructivism

Social constructivism posits that knowledge and understanding are shaped through social interactions and shared experiences rather than being inherent or objective truths. Key proponents, such as Peter L. Berger and Thomas Luckmann, argue that reality is socially constructed and that the sociology of knowledge must analyze the processes through which this occurs (1991). They define "reality" as phenomena that exist independently of our volition, and "knowledge" as the certainty that these phenomena are real and possess specific characteristics.

Constructivism underscores the influence of language, culture, and societal norms on individuals' perceptions of reality, while also acknowledging the impact of historical context on knowledge and meaning. Interpretivism, a central concept within constructivist theory, asserts that knowledge is subjective and constructed, highlighting the significance of context in shaping individuals' interpretations of their surroundings and experiences (Schwandt, 1998). This philosophical stance aligns with the constructivist approach, emphasizing the subjective nature of meaning-making and the role of social and historical contexts in interpretation (Schwandt, 1998).

A constructivist perspective is essential for contextualizing the characters, themes, and narratives in August Strindberg's literary works within the socio-cultural milieu that informed his artistic expression. By examining the historical context of late 19th-century Europe, including societal changes and events that influenced Strindberg's artistic choices and thematic concerns, the interplay between his creative works and broader sociohistorical forces can be discerned. Furthermore, by scrutinizing the social and cultural environments depicted in Strindberg's plays, including the intellectual circles and societal norms that his characters navigate, the thesis can elucidate how these contexts shaped the perspectives, motivations, and actions of the characters.

4.3. Integrating Psychoanalytic and Constructivist Approaches

The integration of psychoanalytic and constructivist perspectives offers a comprehensive and multidimensional framework for analysing August Strindberg's dramatic oeuvre. This interdisciplinary synthesis allows for a holistic exploration of the interplay between the characters' internal psychological landscapes and the external sociocultural forces that shape the narratives and themes in Strindberg's plays.

- **Psychoanalytic Approach:** By employing the psychoanalytic approach this thesis delves into the unconscious dimensions of Strindberg's narratives, uncovering the symbolic representations, psychological complexities, and unconscious motivations that permeate his characters and thematic explorations. (eg. In his post-Inferno works, like "A Dream Play" and "The



"Ghost Sonata," Strindberg's use of dreamlike imagery and symbolic elements can be interpreted through a psychoanalytic lens to reveal the characters' repressed desires and existential struggles.

- **Constructivist Lens:** At the same time, via the constructivist lens, Strindberg's works can be situated within their specific historical and cultural contexts, illuminating how societal norms, intellectual discourses, and historical events informed his artistic vision and thematic preoccupations. (eg. Strindberg's naturalistic plays, such as "Miss Julie" and "The Father," reflect the societal tensions and gender dynamics of late 19th-century Europe.)

The harmonious integration of this dual theoretical framework perspective fosters an interdisciplinary dialogue and several key benefits for analyzing Strindberg's works. While integrating these perspectives may present challenges, such as potential tensions between psychoanalytic and constructivist views, acknowledging these limitations and developing strategies to reconcile contradictions is crucial. By synthesizing these approaches, the study aims to unravel the complex psychological and sociocultural influences that shape Strindberg's dramatic works, offering a comprehensive understanding of the factors driving his creative expression.

5. Methodology

In Chapter 5 the research approach and analytical methods employed to investigate the psychosocial environment depicted in August Strindberg's plays are comprehensively detailed. The methodology chapter outlines the overarching purpose and aims of the study, the specific methods employed, including sample selection, data collection techniques, and the text analysis approaches. Additionally, it addresses delimitations and ethical considerations when working with translated literary works.

5.1. Purpose and aims

The primary purpose of this study is to conduct a comparative analysis of August Strindberg's naturalistic and expressionist plays using digital text analysis methods, specifically topic modeling, named entity recognition, and sentiment analysis. By applying these methods within a theoretical framework that integrates psychoanalytic criticism and constructivist perspectives, this research aims to uncover the distinctive thematic patterns, character relationships, and emotional tones that characterize these two phases of Strindberg's dramatic writing, and to interpret these findings in light of the psychological and sociocultural dimensions they reflect.

To achieve this purpose, the following research questions will guide the study:

1. What are the most prominent themes and motifs identified in Strindberg's naturalistic and expressionist plays through topic modeling?



2. Which characters and relationships are most frequently identified in Strindberg's naturalistic and expressionist plays using named entity recognition?
3. What are the predominant emotional tones and sentiment patterns in Strindberg's naturalistic and expressionist plays as revealed by sentiment analysis?

5.2. Sample (Empirical Material)

The empirical material for this study consists of 29 translated plays written by August Strindberg, obtained from a total of six translators. The distribution of these translations among the translators is shown in the following table:

Play Title	Year of Publication	Style	Period	Translated by	Year of Translation
Motherly Love	1892	Naturalism	Pre-Inferno Crisis	Ziegler, F. Joseph	1910
The Dance of Death (Part I & II)	1900	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1912
The Dream Play	1902	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1912
The Link	1893	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1912
Advent	1899	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1913
Burned Site	1907	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1913
Debit and Credit	1892	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1913
Simoom	1889	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1913
Swanwhite	1902	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1913
The Thunder Storm	1907	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1913
Miss Julie	1888	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1913
Pariah	1889	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1913
The Creditors	1889	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1913
The Stronger	1889	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1913



There are Crimes and Crimes	1899	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1913
Master Olof	1872	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1915
Gustavus Vasa	1899	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1916
The Bridal Crown	1902	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1916
The First Warning	1893	Naturalism	Pre-Inferno Crisis	Björkman, Edwin	1916
The Ghost Sonata	1907	Expressionism	Post-Inferno Crisis	Björkman, Edwin	1916
Easter	1900	Expressionism	Post-Inferno Crisis	Oland, Edith & Warner	1914
Facing Death	1892	Naturalism	Pre-Inferno Crisis	Oland, Edith & Warner	1914
The Comrades	1886	Naturalism	Pre-Inferno Crisis	Oland, Edith & Warner	1914
The Father	1887	Naturalism	Pre-Inferno Crisis	Oland, Edith & Warner	1914
The Outlaw	1871	Naturalism	Pre-Inferno Crisis	Oland, Edith & Warner	1914
To Damascus (Part I)	1898	Expressionism	Post-Inferno Crisis	Johanson, Esther	1960
To Damascus (Part II)	1898	Expressionism	Post-Inferno Crisis	Johanson, Esther	1960
To Damascus (Part III)	1904	Expressionism	Post-Inferno Crisis	Johanson, Esther	1960
Gustav Adolf	1899	Expressionism	Post-Inferno Crisis	Weckwerth, Wendy	2017

Figure 1. Translated August Strindberg Plays Used in the Study

These translated dramas were primarily sourced from the online library 'Project Gutenberg' and other digital archives, which provide access to a wide range of literary translations. The selection of these translations was based on their availability and the diverse approaches employed by the translators in interpreting Strindberg's works.

The translations span different historical periods, ranging from the early 20th century to more recent years, with the earliest translation dating back to 1912 and



the latest to 2017. The selection criteria for the translations were guided by the translator's historical period and reputation, ensuring a representative cross-section of interpretations. However, the distribution of translations among the translators is uneven, with some translators having translated a significant portion of Strindberg's plays, while others have focused on a smaller selection. For instance, Edwin Björkman has translated 19 of the 29 plays included in this study.

Despite the uneven distribution, this selection of translated plays allows for a comprehensive analysis of the thematic and stylistic differences in Strindberg's works as influenced by the translators' individual choices and approaches. Each translator brings a unique perspective and set of preferences to the translation process, resulting in variations in vocabulary choice, sentence structure, tone, and overall linguistic approach requiring careful consideration and mitigation in the study's approach. By including a diverse range of translations, this study aims to account for the potential impact of translation choices on the interpretation and analysis of Strindberg's plays.

It is important to acknowledge that translating Strindberg's works is challenging due to several pitfalls, such as failures of comprehension, understanding culturally-bound practices, class assumptions, and capturing tone (Jacobs, 1998). These variations can result in different portrayals of themes and characters, potentially leading to inconsistencies in the interpretation of Strindberg's intent. Additionally, the reliance on translations may obscure nuances present in the original Swedish texts, affecting the depth and accuracy of the analysis.

Moreover, it should be noted that this study focuses specifically on Strindberg's plays and employs text analysis methods within the framework of digital humanities. While Strindberg's literary corpus extends beyond his dramatic works, encompassing novels, poems, essays, and historical articles, the scope of this research is limited to his plays. The aim is to showcase the potential of digital tools in literary analysis, rather than to provide a comprehensive psychological or psychiatric assessment of Strindberg's mental world, which has been the subject of numerous specialized studies by professional psychiatrists and psychologists.

5.3. Stylistic Categorization of Plays

Around the mid-1890s, August Strindberg experienced severe neurotic episodes, paranoia, and depression, a period known as his Inferno crisis. This time was marked by intense psychological turmoil, mystical experiences, and a profound re-evaluation of his beliefs and artistic methods (M. Robinson, 2009, 2013). As a result, significant changes occurred in both his personal life and artistic vision. His writing style shifted dramatically from naturalism, which emphasized realism, everyday life, and social issues, to expressionism, which focused on a more subjective, symbolic, and emotionally intense style (Nedjbi, 2017).

After the crisis, Strindberg's work embraced expressionism, characterized by its emphasis on emotional and psychological experiences over realistic representation. Key elements of expressionism include subjectivity, symbolism, fragmented narrative, and distorted reality (Innes, 2012; Stockenström, 1981). Strindberg's



transition from naturalism to expressionism after his Inferno crisis was a profound transformation driven by personal and psychological upheaval, marking a significant evolution in his artistic journey.

Following this pattern and in order to conduct a comprehensive text analysis of August Strindberg's dramatic oeuvre, the corpus of 29 plays has been strategically separated into two distinct sub-corpora: one comprising works of naturalistic style and the other featuring plays of expressionist style. The separation into naturalistic and expressionist sub-corpora is a crucial step in the text analysis process, as it allows for a targeted exploration of the distinct psychosocial nuances and thematic patterns that characterize each style. By differentiating between these two literary movements, the specific stylistic elements, psychological motifs, and sociocultural themes that Strindberg employed in his works can be uncovered, shedding light on his artistic evolution and the ways in which he channelled his personal experiences and the zeitgeist of his era into his dramatic expressions.

The naturalistic sub-corpus, comprising works such as "Miss Julie" and "The Father," is expected to reveal a focus on realistic depictions of everyday life, social commentary, and the psychological complexities of human relationships. In this way the text analysis procedure, is anticipated to uncover words and themes that reflect the societal norms, gender dynamics, and class hierarchies of Strindberg's time (Lamm, 1971). The language employed in these works is likely to be more colloquial and grounded in the everyday, mirroring the realistic portrayal of characters and their social milieu (Klaf S., 1963)

Moreover, the naturalistic plays are expected to exhibit a slower, more gradual development of characters and their interactions, reflecting the fully developed secondary processes as described by Freud¹ (Mandelbaum, 2017). This pacing allows for a deep exploration of the characters' inner worlds and the social environments they inhabit (Lamm, 1971). By analyzing the frequency and context of words related to psychological states, interpersonal dynamics, and societal pressures, The psychosocial dimensions that Strindberg sought to illuminate through his naturalistic works can be understood.

The expressionist sub-corpus, featuring notable works like "A Dream Play" and "The Ghost Sonata," is poised to unveil a profound emotional resonance, employing symbolic imagery to blur the lines between internal and external realms. Through text analysis, lexicons and motifs indicative of the subconscious, irrationality, and dreamlike essence is expected to be uncovered, pervasive elements in Strindberg's post-Inferno repertoire. Expecting a departure from realism, the language in expressionist plays tends towards abstraction and symbolism, resonating with the characters' inner tumult and distorted realities. By scrutinizing the prevalence and context of words pertaining to psychological complexities, existential ponderings,

¹ Primary and Secondary Processes: According to Freud's psychoanalytic theory, primary processes refer to the primitive, unconscious mental processes involved in fulfilling basic desires and drives, such as pleasure-seeking and avoidance of pain. These processes are characterized by immediacy, lack of logic, and a focus on fulfilling immediate needs. Secondary processes, on the other hand, involve higher-order cognitive functions, such as reasoning, planning, and problem-solving. They operate at a conscious level and are influenced by social and cultural factors.



and spiritual quests, the aspiration is to unearth the rich psychosocial tapestry interwoven within Strindberg's expressionist masterpieces (Klaf S., 1963).

Furthermore, the expressionist plays are expected to exhibit an accelerated dramatic speed and instantaneous character transformations, reflecting Strindberg's incorporation of primary process thinking (Mandelbaum, 2017). By analyzing the linguistic markers and narrative structures that convey this heightened pace and psychological intensity, we can gain insights into the ways in which Strindberg expressed his own psychological experiences and the broader cultural and intellectual currents of his time into his dramatic expressions.

Comparing the text analysis of Strindberg's naturalistic and expressionist sub-corpora unveils his artistic evolution and exploration of the human experience. This comparison reveals shifts in themes, language, and psychological motifs, shedding light on Strindberg's journey and his engagement with his era's cultural currents. The separation of his works offers a lens to explore psychosocial nuances. Through text analysis, linguistic markers and themes are uncovered, offering insight into his evolution and contribution to modern drama.

5.4. Data Text Analysis Techniques

This study employs a combination of digital text analysis techniques within the psychoanalytic and constructivist frameworks to explore the thematic, psychological, and sociocultural dimensions of Strindberg's plays. The selected methods—topic modeling, named entity recognition and relationship analysis, and sentiment analysis—are used to systematically extract and analyze patterns, themes, and emotional tones from the texts, aligning with the research objectives of this study.

5.4.1. Topic Modeling

Topic modeling, an unsupervised machine learning technique, was used to uncover hidden thematic structures within Strindberg's plays. By applying Latent Dirichlet Allocation (LDA) via the Gensim library in Python, the goal was to discover latent themes or clusters of words that frequently co-occur across the corpus, providing insights into the underlying structures and themes in Strindberg's work. LDA treats each document as a mixture of topics and each topic as a probability distribution over words (Blei et al., 2003; Underwood, 2017). The topic modeling process involved several steps:

1. **Preprocessing:** The topic modeling process began by preprocessing the text data, which involved tokenization, removal of stopwords, and lemmatization. This crucial step ensured that the focus remained on the most meaningful and relevant words that contribute to the thematic essence of Strindberg's works. The preprocessed documents were then transformed into a bag-of-words representation using the Gensim Dictionary class, enabling the efficient analysis of word co-occurrences and topic distributions (Kennedy et al., 2022; Meeks & Weingart, 2012).



2. **Determining Optimal Topic Number:** Various topic numbers were iterated through, and their coherence scores were evaluated using the CoherenceModel from Gensim. This score indicates the semantic similarity of the top words within each topic, helping gauge interpretability.
3. **Training the LDA Model:** Once I identified the most suitable number of topics, I trained the LDA model on the corpus using the Gensim LdaModel class (Meeks & Weingart, 2012). The LDA algorithm uncovered latent themes by identifying clusters of words that frequently appeared together across Strindberg's plays. Each topic was represented as a probability distribution over words, offering insights into the prevalent concepts and ideas present in Strindberg's works.
4. **Visualization:** The combined use of the pyLDAvis library and matplotlib facilitated the visualization of the discovered topics and their associated words. With pyLDAvis, interactive visualizations were created, enhancing the intuitive understanding of thematic structures and topic relationships within Strindberg's literary works. These visualizations aided in interpreting the underlying themes (Kennedy et al., 2022; Meeks & Weingart, 2012). Additionally, matplotlib produced informative bar plots for each topic, displaying the top words and their probabilities. This approach offered a clear and concise representation of the dominant concepts and themes identified through the topic modelling analysis, enhancing accessibility and interpretability of the findings.

5.4.2. Named Entity Recognition and Relationship Analysis

Named Entity Recognition (NER) is a natural language processing technique that identifies and classifies named entities, such as person names, organizations, and locations, in unstructured text (Nadeau & Sekine, 2007). In this study, spaCy's pre-trained English language model was used to extract named entities from Strindberg's naturalistic and expressionist plays. This process allowed the identification and categorization of entities such as geographical locations (GPE), organizations (ORG), and persons (PERSON). Despite potential variations in language and terminology across different translations and time periods, NER remains a valuable tool for uncovering relevant entities within the texts.

The NER process involved several steps:

1. **Preprocessing:** Tokenization, sentence boundary detection, and part-of-speech tagging were performed on the text data to identify key characters and locations in Strindberg's narratives. This preprocessing ensured accurate identification and categorization of entities within the plays.
2. **Entity Extraction:** Using spaCy's pre-trained language model, named entities such as characters, locations, and organizations were extracted from the texts. This information was then used to map the character networks and analyze the relationships between entities within the plays.



3. **Mapping Character Networks:** The extracted entities were visualized using network graphs, where nodes represented characters and edges indicated co-occurrences or interactions between them. This approach provided insights into the centrality of certain characters, the complexity of character relationships, and the overall social dynamics portrayed in Strindberg's dramatic works.
4. **Analyzing Relationships:** The character networks and relationships between entities were analyzed to gain insights into the psychological dynamics and social interactions depicted in the texts. This analysis highlighted the centrality of certain characters and the complexity of their relationships, revealing underlying power structures, emotional attachments, or unresolved conflicts.
5. **Visualization:** Network graphs were used to visualize the extracted entities and their relationships. This method facilitated an intuitive understanding of the social dynamics and character interactions within Strindberg's plays, aiding in the interpretation of the underlying themes and relationships.

5.4.3. Sentiment Analysis

Sentiment analysis, also known as opinion mining, is a computational method that determines the emotional tone or attitude expressed in a piece of text (Liu, 2012). In this study, two popular sentiment analysis tools, VADER (Valence Aware Dictionary and Sentiment Reasoner) and TextBlob, were employed to assess the emotional landscape of Strindberg's plays. The sentiment analysis process involved several steps:

1. **Preprocessing:** Sentiment analysis required additional preprocessing steps, such as converting text to lowercase, handling negations, removing intensifiers, and addressing punctuation marks, to accurately capture the intricate emotional expressions in Strindberg's plays (Maguire & Delahunt, 2017).
2. **VADER Sentiment Analysis:** VADER is a rule-based sentiment analysis model that is particularly well-suited for social media texts, but it has also been successfully applied to literary works (Hutto & Gilbert, 2014). VADER calculates sentiment scores based on a predefined dictionary of words and their associated sentiment intensities. This tool was used to assign sentiment scores to each sentence or paragraph in Strindberg's plays, categorizing them as positive, negative, or neutral.
3. **TextBlob Sentiment Analysis:** TextBlob, on the other hand, is a Python library that provides a simple API for performing various natural language processing tasks, including sentiment analysis (Loria, 2018). TextBlob's sentiment analyzer is built on top of the Natural Language Toolkit (NLTK) and uses a supervised machine learning approach. Like VADER, TextBlob was used to assign sentiment scores to each sentence or paragraph in the plays. By determining the overall emotional tone of each play and



examining sentiment patterns, this method provides insights into the characters' psychological states and the affective dimensions of the narratives.

4. **Thematic Sentiment Analysis:** Given the inherent limitations of automated sentiment analysis methods in capturing the nuanced and context-dependent nature of literary emotions, a thematic analysis of sentiment scores within Strindberg's plays was additionally conducted. This involved manually examining the sentiment results in relation to the specific themes, characters, and narrative contexts of the plays, providing a more fine-grained and contextualized interpretation of the emotional tones.
5. **Temporal Sentiment Analysis:** To gain a more comprehensive understanding of the emotional landscape in Strindberg's works, a temporal sentiment analysis of the sentiment scores was conducted. This involved tracking changes in sentiment over the course of each play, thereby revealing shifts in emotional tone and their relation to plot developments and character arcs.

These methods were selected for their ability to systematically extract and analyze thematic, narrative, emotional, and spatial elements from textual data, thus aligning with the research objectives to delve into the psychological, sociocultural, and spatial layers of Strindberg's dramas. By uncovering hidden thematic patterns, mapping character networks, and assessing emotional tones, these methods provide valuable insights into the psychological, sociocultural, and affective dimensions of Strindberg's plays. The results obtained from these analyses will be interpreted through the lens of psychoanalytic and constructivist theories, offering a rich and nuanced understanding of Strindberg's literary oeuvre.

6. Analyzing Strindberg's Plays: A Distant Reading Approach

The complexity and richness of Strindberg's dramatic works demanded a multifaceted analytical approach to uncover the intricate interplay between his psychological depths and the sociocultural milieus that shaped his artistic expressions. To achieve this, a comprehensive suite of 3 text analysis techniques is employed, each offering a distinct lens through which to explore the nuances and layers embedded within the 29 translated plays that form the empirical material of this study. This chapter delves into the findings of topic modeling, named entity recognition (NER), and sentiment analysis. These combined methods provide a robust foundation for further exploration of thematic concerns, character development, and the emotional landscape within Strindberg's dramatic works.

(Appendix 1. https://github.com/OthonViannis/StrindbergsPlays_TextAnalysis)



6.1. Topic Modeling Results

In order to uncover the latent semantic structures and prevalent themes within Strindberg's translated works, I employed topic modeling using the (Meeks & Weingart, 2012). For the Topic Modeling, the Latent Dirichlet Allocation (LDA) algorithm, implemented via the Gensim library in Python, facilitated the systematic exploration of conceptual patterns and thematic landscapes across the corpus.

To determine the optimal number of topics, the coherence scores were evaluated using the CoherenceModel from Gensim. After iterating through various topic numbers, a total of 5 topics were selected for the LDA model. The LDA model was trained on the corpus using the Gensim LdaModel class, with the following parameters:

- Number of topics: 5
- Number of passes: 10
- ID2word: dictionary (mapping between word IDs and their corresponding words)
- no_below: 5
- no_above: 0.5
- Number of Terms (keep_n): 100000

The trained LDA model revealed the following topics and their associated top words for Naturalistic plays:

```
Topic 0: 0.031*"king" + 0.027*"church" + 0.016*"master" + 0.012*"court" +  
0.011*"servant" + 0.009*"law" + 0.009*"brother" + 0.009*"work" +  
0.009*"witness" + 0.008*"holy"  
Topic 1: 0.030*"mrs" + 0.018*"dress" + 0.017*"jealous" + 0.014*"mouth" +  
0.013*"flower" + 0.012*"ridiculous" + 0.011*"embarrassed" +  
0.011*"tomorrow" + 0.010*"teeth" + 0.009*"art"  
Topic 2: 0.120*"doctor" + 0.014*"suspicion" + 0.010*"family" + 0.010*"ah"  
+ 0.009*"sofa" + 0.009*"opinion" + 0.009*"sometimes" + 0.008*"act" +  
0.008*"instance" + 0.008*"evening"  
Topic 3: 0.013*"kitchen" + 0.013*"brother" + 0.012*"christian" +  
0.011*"glass" + 0.010*"bottle" + 0.010*"—" + 0.009*"wind" + 0.008*"tree"  
+ 0.008*"bench" + 0.007*"age"  
Topic 4: 0.043*"mrs" + 0.015*"mistress" + 0.012*"refused" +  
0.011*"doctor" + 0.010*"tomorrow" + 0.009*"—" + 0.008*"work" +  
0.008*"law" + 0.007*"act" + 0.007*"stupid"
```

Subsequently, the LDA model revealed the following topics and associated words for Expressionist plays:

```
Topic 0: 0.153*"prince" + 0.065*"stepmother" + 0.024*"soldier" +
```



```
0.017*"grandfather" + 0.016*"relative" + 0.014*"melody" +  
0.010*"fireplace" + 0.010*"lake" + 0.008*"mill" + 0.008*"wheel"  
Topic 1: 0.010*"island" + 0.010*"handkerchief" + 0.009*"telephone" +  
0.008*"hallway" + 0.007*"piano" + 0.006*"perfectly" + 0.006*"supper" +  
0.006*"entrance" + 0.006*"ridiculous" + 0.006*"relative"  
Topic 2: 0.051*"prince" + 0.038*"neighbour" + 0.025*"queen" +  
0.014*"witch" + 0.009*"christian" + 0.007*"property" + 0.007*"friendship"  
+ 0.006*"guard" + 0.006*"—but" + 0.006*"throne"  
Topic 3: 0.035*"officer" + 0.034*"lawyer" + 0.007*"someone" +  
0.005*"mankind" + 0.005*"shadow" + 0.005*"castle" + 0.005*"mountain" +  
0.005*"philosophy" + 0.005*"telephone" + 0.004*"de"  
Topic 4: 0.233*"—" + 0.041*"horn" + 0.031*"queen" + 0.017*"war" +  
0.017*"catholic" + 0.009*"soldier" + 0.008*"ah" + 0.008*"german" +  
0.007*"general" + 0.007*"guard"
```

To visualize the discovered topics, the pyLDAvis library was used. The interactive visualization provided by pyLDAvis allows for an intuitive understanding of the topic distributions and the relationships between topics and words. Additionally, bar plots were created using the matplotlib library to display the top words and their probabilities for each topic ([full images in the Appendix 1&2](#)).

The topic modeling analysis revealed the presence of distinct themes in Strindberg's naturalistic and expressionist plays. In the naturalistic plays, prominent words within the discovered topics included "brother," "marriage," "family," "master," "mistress," "doctor," "king," "glass," "wine," "bottle," and "tree."

In contrast, the expressionist plays exhibited topics associated with words such as "prince," "queen," "soldier," "witch," "melody," "jealous," "ridiculous," and "beggar."

The topic modeling results provide a comprehensive overview of the main themes present in Strindberg's naturalistic and expressionist plays, laying the groundwork for further analysis and interpretation of their significance in relation to Strindberg's literary development and the broader cultural context of his time.

6.2. Named Entity Recognition and Relationship Analysis Results

Named Entity Recognition (NER) and relationship analysis were applied to identify and examine the entities mentioned in his plays, such as geographical locations, organizations, and individuals, providing a deeper understanding of the influences, themes, and relationships that shaped Strindberg's literary landscape.

Upon comparing the unique entities found in naturalistic and expressionist plays, several interesting patterns emerged. To control for the size discrepancy between the



two sub-corpora, the entity counts were normalized by dividing the raw counts by the total number of words in each sub-corpus and multiplying by 1,000. This normalization allows for a more accurate comparison of the relative frequencies of entities between the two genres.

Selective list of Naturalistic plays entities:

- **GPE (0.56):** 'paris', 'vienna', 'berlin', 'switzerland', 'malmberg', 'germany', 'london'
- **ORG (6.12):** 'willmer house', 'messenger government bureau', 'road', 'ocean', 'house', 'supreme court', 'city chapter'
- **PERSON (26.90):** 'alberg', 'bertha maid', 'hôtel garni', 'abel', 'julia', 'jean', 'sister', 'adolph', 'fiancé', 'husband', 'olga', 'daughter'

Selective list of Expressionist plays entities:

- **GPE (10.14):** 'jerusalem', 'damascus', 'israel', 'france', 'brussels', 'stockholm'
- **ORG (8.67):** 'church committee', 'sin house', 'foe beloved house', 'pilgrim', 'chapter house', 'catholic fund', 'catholic church'
- **PERSON (31.23):** 'prophet', 'angel', 'god', 'saviour doctor 's', 'mother', 'stranger', 'beggar', 'saviour', 'knight', 'prince', 'jesus'

After normalization, the results show that expressionist plays still exhibit a higher relative frequency of geographical locations (GPE) compared to naturalistic plays, suggesting a broader narrative scope and a greater emphasis on exploring various settings. The relative frequencies of organizations (ORG) and person entities (PERSON) are also higher in expressionist plays, indicating a larger cast of characters.

To gain further insights into the relationships and associations between entities, a co-occurrence analysis was performed ([full images in the Appendix 3&4](#)). The co-occurrence data was used to construct network graphs using the matplotlib library, where entities were represented as nodes, and their co-occurrences were represented as weighted edges (Kennedy et al., 2022). Each node represents an entity, such as a person, location, or organization, and edges between nodes indicate that the entities frequently appear together in the texts. The centrality of a node and the density of connections around it highlight key entities and their importance within the narrative.

6.3. Sentiment Analysis Results

Sentiment analysis techniques, including VADER and TextBlob, were applied to Strindberg's plays to discern their emotional tone. These tools provided a general overview of the prevailing sentiments within the text, classifying them as positive, negative, or neutral. By employing the VADER and TextBlob libraries for the sentiment analysis, I attempted to assess the sentiment polarity and emotional vigor of the texts, shedding light on the predominant sentiments within each genre and the evolution of Strindberg's emotional expression over time (Saraff et al., 2020).

The VADER library provided a breakdown of sentiment scores into three categories: positive (pos), negative (neg), and neutral (neu) (Saraff et al., 2020). The



sentiment analysis via VADER revealed the same distinct sentiment patterns across Strindberg's individual plays. The sentiment scores for each play are as follows:

Naturalistic plays as a total have a slightly positive sentiment with a score of 0.0730, suggesting a balanced emotional tone. In contrast, Expressionist plays score as a total a bit lower at 0.0592, indicating a blend of positive and negative sentiments that slightly leans towards neutrality. The sentiment analysis scores per play are as follows:

Sentiment Scores for Naturalistic plays:

The Outlaw: {'neg': 0.116, 'neu': 0.669, 'pos': 0.215, 'compound': 1.0}
Master Olof: {'neg': 0.14, 'neu': 0.64, 'pos': 0.22, 'compound': 1.0}
Comrades: {'neg': 0.121, 'neu': 0.694, 'pos': 0.185, 'compound': 0.9999}
The Father: {'neg': 0.129, 'neu': 0.666, 'pos': 0.206, 'compound': 1.0}
Miss Julie: {'neg': 0.183, 'neu': 0.653, 'pos': 0.164, 'compound': -0.9182}
The Creditors: {'neg': 0.159, 'neu': 0.675, 'pos': 0.166, 'compound': -0.8168}
The Stronger: {'neg': 0.135, 'neu': 0.711, 'pos': 0.154, 'compound': 0.8457}
Pariah: {'neg': 0.095, 'neu': 0.736, 'pos': 0.169, 'compound': 0.9997}
Simoom: {'neg': 0.147, 'neu': 0.677, 'pos': 0.175, 'compound': 0.9965}
Debit&Credit: {'neg': 0.144, 'neu': 0.661, 'pos': 0.195, 'compound': 0.9989}
Facing Death: {'neg': 0.155, 'neu': 0.677, 'pos': 0.168, 'compound': 0.9924}
Motherly Love: {'neg': 0.156, 'neu': 0.615, 'pos': 0.229, 'compound': 0.9997}
The Link: {'neg': 0.142, 'neu': 0.664, 'pos': 0.194, 'compound': 0.9997}
The First Warning: {'neg': 0.139, 'neu': 0.684, 'pos': 0.177, 'compound': 1.0}

Sentiment Scores for Expressionist plays:

RoadToDamascusPart1: {'neg': 0.163, 'neu': 0.684, 'pos': 0.153, 'compound': -0.9995}
RoadToDamascusPart2: {'neg': 0.156, 'neu': 0.67, 'pos': 0.174, 'compound': 0.9993}
RoadToDamascus.Part3: {'neg': 0.15, 'neu': 0.644, 'pos': 0.205, 'compound': 1.0}
Advent: {'neg': 0.146, 'neu': 0.683, 'pos': 0.171, 'compound': 0.9997}
There are crimes and crimes: {'neg': 0.16, 'neu': 0.633, 'pos': 0.208, 'compound': 0.9999}
Gustav Vasa: {'neg': 0.114, 'neu': 0.692, 'pos': 0.194, 'compound': 1.0}
Gustav Adolf: {'neg': 0.128, 'neu': 0.7, 'pos': 0.172, 'compound': 1.0}
The Dance of Death: {'neg': 0.107, 'neu': 0.728, 'pos': 0.165, 'compound': 1.0}
Easter: {'neg': 0.132, 'neu': 0.688, 'pos': 0.18, 'compound': 0.9999}
The Bridal Crown: {'neg': 0.106, 'neu': 0.751, 'pos': 0.143, 'compound': 0.9999}
Swanwhite: {'neg': 0.087, 'neu': 0.723, 'pos': 0.189, 'compound': 1.0}
Dream Play: {'neg': 0.142, 'neu': 0.7, 'pos': 0.158, 'compound': 0.9994}
Thunderstorm: {'neg': 0.115, 'neu': 0.73, 'pos': 0.155, 'compound': 0.9998}
Burned Site : {'neg': 0.102, 'neu': 0.797, 'pos': 0.1, 'compound': -0.9676}
The Ghost Sonata: {'neg': 0.101, 'neu': 0.755, 'pos': 0.144, 'compound': 0.9999}



To further explore the evolution of the emotional dimensions in Strindberg's plays over time and gain a more comprehensive understanding, the sentiment analysis was complemented by a temporal analysis of sentiment scores. ([full image in the Appendix 5](#)). This temporal analysis aimed to contextualize and visualize the sentiment results within the specific themes, characters, and narrative contexts of the plays. The temporal analysis of sentiment in Strindberg's plays revealed patterns of emotional expression across his career by correlating sentiment scores with the years the plays were written.

By focusing on the sentiment scores of individual plays and projecting them onto the timeline of Strindberg's life events, a more meaningful understanding of the emotional dynamics in his works can be achieved and their relation to his personal journey as an artist. The distinction between Naturalistic and Expressionist plays, while still relevant for understanding Strindberg's artistic development, becomes less central in this context, as the emphasis shifts towards the emotional trajectory of his entire literary career.

However, it is important to acknowledge the limitations of these sentiment analysis methods. VADER and TextBlob may not fully capture the nuanced, complex, and context-dependent nature of emotions in literary texts. These tools operate at a relatively coarse level, focusing on sentiment polarities rather than distinguishing between specific emotions or accounting for the subtleties of emotional expression. The emotional complexity of literary texts often extends beyond what automated sentiment analysis tools can capture. By integrating the sentiment analysis findings with historical, biographical, and contextual data, the analysis provides a nuanced understanding of the emotional dynamics in Strindberg's plays and offers insights into how his personal and social circumstances influenced his work.

7. Analysis and Interpretation of Results

The application of text analysis methods within the framework of digital humanities provides a profound way to explore August Strindberg's dramatic works, revealing the psychosocial influences that shaped his artistic expression. By employing distant reading techniques, Strindberg's texts can be examined to uncover patterns, themes, and motifs that highlight the interaction between language, psychology, and the sociocultural context of his time.

The distant reading approach, incorporating these analytical methods, facilitates a comprehensive exploration of Strindberg's naturalistic and expressionist plays, enabling comparisons and contrasts between the two styles. Through topic modeling, dominant themes and motifs are revealed, while NER and relationship analysis identify significant characters, locations, and organizations, uncovering psychoanalytic implications and situating his plays within their sociopolitical context. Sentiment analysis complements these analyses by revealing emotional tones and patterns, providing insights into characters' internal emotional journeys and the impact of broader societal changes on Strindberg's creative output.



By examining similarities and differences in themes, entities, and sentiment patterns, Strindberg's artistic evolution can be traced, uncovering how his psychological and sociocultural perspectives shifted over time. This approach enriches the understanding of the complex interplay between Strindberg's inner world and external influences. In the following sections, specific findings and interpretations derived from each method will be explored in greater detail, demonstrating how this approach illuminates the psychosocial landscapes of Strindberg's plays.

7.1. Interpretation of Topic Modeling Results

The topic modeling analysis conducted on Strindberg's naturalistic and expressionist plays revealed a rich tapestry of themes, encompassing a wide range of subjects, dominant concepts, and recurring motifs. By examining the prominent words and their associated probabilities within each topic, valuable insights were gained into the ways Strindberg grappled with the complexities of the human psyche and the pressing issues of his era.

In Strindberg's naturalistic plays, the analysis uncovered overarching themes such as legal and social issues, family dynamics, individual struggle, and social identity. Words like "servant," "marriage," "family," "master," "officer," "doctor," and "king" highlight the importance of interpersonal relationships, power dynamics, and societal roles in shaping the characters' experiences. These themes offer a window into the complexities of human existence and the influence of societal structures on individual lives. Strindberg's nuanced storytelling invites reflection on the human condition and the interplay between personal struggles and broader societal forces. From a constructivist perspective, these themes reflect the sociocultural context of late 19th-century Europe, characterized by shifting social norms, class tensions, and the questioning of traditional authority.

As Strindberg's style evolved into expressionism, the change is reflected in the vocabulary he employed. His post-Inferno plays deal with topics related to expressionist drama, characterized by the use of archetypal and mythological figures, delving into the complexities of human emotions and societal norms. Words like "prince", "soldier", "witch", "melody" and "shadow" evoke themes of authority, societal roles, and the exploration of the mystical and irrational aspects of human experience. This symbolic language challenges conventional perceptions of reality and truth, serving to question established norms and express emotional truths beyond literal interpretations. Through a psychoanalytic lens, these themes can be interpreted as manifestations of the characters' unconscious desires, conflicts, and repressed emotions, reflecting Strindberg's own psychological state and his engagement with the intellectual currents of his time.

Moreover, themes of alienation and disillusionment pervade Strindberg's expressionist works, as reflected in keywords like "jealous," "ridiculous," and "beggar." These words signify emotional states and societal interactions characterized by isolation and existential dread, mirroring the broader sociocultural concerns of the early 20th century, such as the fragmentation of traditional values and the increasing sense of individual alienation in the face of rapid societal



changes. Strindberg's use of expressionist elements disrupts conventional storytelling, immersing audiences in fragmented narratives rich with emotion and atmosphere, reflecting his own psychological turmoil and the broader zeitgeist of his era.

The topic modeling approach provides valuable insights into Strindberg's evolving artistic concerns and his engagement with the psychological, philosophical, and societal questions that defined his literary landscape. By uncovering the latent thematic structures within his works, we gain a deeper understanding of the recurring motifs and underlying tensions that shape his narratives. From a psychoanalytic perspective, these themes illuminate the complexities of human experience, the intricacies of interpersonal relationships, and the characters' inner struggles as depicted in Strindberg's plays. Simultaneously, the constructivist framework allows us to situate these themes within the broader sociocultural context of Strindberg's time, revealing how his works reflect and engage with the dominant intellectual and artistic currents of his era.

The topic modeling analysis of Strindberg's naturalistic and expressionist plays offered a rich and nuanced understanding of the psychosocial landscapes he explored throughout his literary career. By interpreting these findings through the lenses of psychoanalytic criticism and constructivism, it can be unveiled how Strindberg's themes not only reflect his own psychological state but also serve as a mirror for the broader sociocultural concerns and transformations of his time.

7.2. Interpretation of NER Results

The Named Entity Recognition (NER) and relationship analysis conducted on Strindberg's plays identified entities mentioned in his works, such as geographical locations, organizations, and individuals. This analysis permitted a deeper understanding of the influences, themes, and relationships that characterize Strindberg's dramatic oeuvre. The comparative analysis of unique entities found in Strindberg's naturalistic and expressionist plays revealed several interesting patterns. Expressionist plays exhibit a higher diversity of geographical locations (GPE) compared to naturalistic plays, suggesting a broader narrative scope and a greater emphasis on exploring various settings. This expansion of geographical references aligns with the expressionist movement's aim to transcend the limitations of realistic representation and delve into the realms of the subjective and the symbolic. The increased presence of unique organizations (ORG) in expressionist plays further reflects the prominence of societal structures and institutions within the genre, as Strindberg sought to critique and subvert the established norms and power dynamics of his time.

Moreover, the higher count of unique person entities (PERSON) in expressionist plays indicates a larger cast of characters and a deeper exploration of individual psyches and subjective experiences. This finding aligns with the characteristics of expressionist drama, which prioritizes the portrayal of inner states, emotions, and the fragmentation of the self. The relative frequencies of organizations (ORG) and person entities (PERSON) in expressionist plays further underscore Strindberg's



focus on the individual's struggle against societal constraints and the quest for personal liberation and self-expression.

The network graphs generated from the co-occurrence analysis provide additional insights into the prevalent themes and motifs in Strindberg's works. In naturalistic plays, the analysis reveals a focus on domesticity, relationships, everyday life, social constructs, gender roles, and emotional states. Words such as "fiancé", "husband," "marriage", "sister", "room", "maid" and "daughter" highlight the exploration of interpersonal dynamics, realism, and the complexities of human existence within the naturalistic genre. These themes reflect Strindberg's engagement with the social and psychological realities of his time, as he sought to expose the underlying tensions and power structures that shape human relationships.

In contrast, the network graphs for expressionist plays unveil themes of existential angst, alienation, temporal dislocation, social critique, emotional turbulence, symbolism, and surrealism. Words such as "stranger", "beggar", "sin house", "pilgrim", "church" and "prophet" indicate a preoccupation with existential themes, inner turmoil, the passage of time, societal institutions, and the yearning for connection amidst upheaval. These themes reflect the characteristics of expressionist drama, as Strindberg explored the fragmentation of the self, the subjectivity of experience, and the individual's struggle against the dehumanizing forces of modern society.

From a psychoanalytic perspective, the centrality of certain characters and the complexity of their relationships in Strindberg's plays reveal underlying power structures, emotional attachments, and unresolved conflicts. The recurrent entities and their symbolic meanings can be interpreted as manifestations of the characters' unconscious desires, repressed emotions, and psychological struggles. For instance, the presence of archetypal figures such as the "stranger," the "beggar," and the "pilgrim" in expressionist plays can be seen as embodiments of the characters' existential yearnings, their search for meaning and identity in a fragmented world.

Constructivist interpretations of the character networks and relationships shed light on how Strindberg's plays reflect or challenge the sociocultural norms and expectations of his historical context. The shifting dynamics between characters, the subversion of traditional gender roles, and the critique of societal institutions in his works can be understood as a response to the changing social, political, and cultural landscape of late 19th and early 20th century Europe. Strindberg's plays, through their exploration of power structures, gender relations, and individual struggles, provide a critical commentary on the sociopolitical realities of his time.

By analyzing the entities and their connections in Strindberg's plays, insights are revealed into the social and psychological environments he portrays. This analysis, combined with psychoanalytic and constructivist viewpoints, reveals how Strindberg's works reflect both his personal struggles and the social context of his time.



7.3. Interpretation of Sentiment Analysis Results

Sentiment analysis offers a valuable tool for understanding the emotional tones and patterns conveyed in Strindberg's plays. The analysis reveals that Strindberg's naturalistic and expressionist plays exhibit comparable variability in sentiment scores, with expressionist plays showing a slightly wider range and higher standard deviation, indicating marginally greater emotional variability. This finding suggests that Strindberg's emotional expression is diverse within each literary style. While expressionist works are often associated with more intense and polarized emotions, the analysis demonstrates that naturalistic plays also display a significant range of emotional expression. The presence of outliers with significantly lower sentiment scores in both categories underscores Strindberg's ability to explore darker and more complex themes, reflecting his deep exploration of the human psyche and aligning with his reputation for delving into the complexities of the human condition.

Interpreting the variations in emotional tone through a psychoanalytic lens allows for a deeper understanding of the characters' internal emotional journeys and psychological complexities. Shifts in sentiment may indicate characters' unconscious desires, repressed emotions, or psychological transformations. For instance, the low sentiment scores observed in plays like "The Stronger" and "Pariah," published in 1889, coincide with a significant turning point in Strindberg's personal life—his painful divorce from his first wife. The emotional turmoil and darker themes explored in these plays likely reflect Strindberg's own psychological struggles and the way he channeled his personal experiences into his creative works.

Similarly, the sentiment analysis of "Road to Damascus," published in 1898, captures the emotional catharsis and existential questioning that emerged from Strindberg's transformative "Inferno period" from 1894 to 1896. The play's sentiment scores reflect the intense psychological upheaval and spiritual purification that Strindberg sought through his writing. In his later works, such as "Ghost Sonata" from the "Chamber Plays" series, the sentiment analysis captures the emotional intensity and psychological complexity that Strindberg infused into his characters as he confronted the ghosts of his past and the existential questions that preoccupied him in his final years.

From a constructivist perspective, shifts in sentiment throughout Strindberg's plays can be interpreted as reflections of broader societal changes and historical events that impacted his life and work. The emotional tones of his plays can be seen as critiques or commentaries on the prevailing social and cultural attitudes of his time. For instance, the shifts in sentiment between his naturalistic and expressionist works may mirror the broader transition from the realism and social critique of the late 19th century to the subjectivity, fragmentation, and existential concerns of the early 20th century.

The temporal analysis of sentiment of Strindberg's plays, which correlates sentiment scores with the years the plays were written, vividly illustrates the connection between his personal experiences, psychological state, and the emotional tone of his works. When visualized on a graph, this connection becomes immediately apparent,



as it provides a clear visual representation of how significant life events and artistic shifts influenced the emotional landscape of his plays.

In conclusion, the sentiment analysis of Strindberg's plays offers valuable insights into the emotional dynamics and psychological complexities that characterize his work. By interpreting the variations in emotional tone through a psychoanalytic lens and considering the broader societal and historical context, we gain a deeper appreciation of how Strindberg's personal experiences and the cultural milieu of his time influenced his artistic expression. The sentiment analysis, aligned with the key biographical and historical moments, offers a more nuanced understanding of how Strindberg's personal circumstances and the broader sociocultural context shaped his creative output.

7.4. Comparative Analysis

A comparative analysis of the findings across Strindberg's naturalistic and expressionist plays revealed significant shifts in themes, entities, and sentiment patterns, reflecting the playwright's evolving psychological and sociocultural perspectives throughout his career.

In terms of thematic concerns, Strindberg's naturalistic plays predominantly explore social issues, family dynamics, individual struggles, and the influence of societal structures on personal lives. The themes of interpersonal relationships and the complexities of human existence are prevalent in works such as "Miss Julie" and "The Father." These plays often reflect the sociocultural context of late 19th-century Europe, characterized by shifting social norms, class tensions, and the questioning of traditional authority. Strindberg's naturalistic works aim to capture the ways in which individuals navigate the constraints of their social environments.

In contrast, Strindberg's expressionist plays delve into the realms of the subjective, the symbolism, and psychology. Themes of existential angst and alienation dominate works such as "A Dream Play" and "The Ghost Sonata." These plays often employ archetypal figures, symbolic language, and fragmented narratives to convey the inner turmoil and psychological complexities of the characters. The expressionist works reflect Strindberg's own psychological struggles and his engagement with the intellectual and artistic currents of the early 20th century, and the critique of the dehumanizing effects of modernity.

The comparative analysis of entities and character networks further highlights the shift in his focus and artistic vision. Naturalistic plays tend to feature a smaller cast of characters and a greater emphasis on interpersonal dynamics and social roles, as evidenced by the prominence of entities such as "fiancé," "husband," "wife," and "daughter". In contrast, expressionist plays exhibit a larger and more diverse cast of characters, with a higher frequency of archetypal and symbolic entities such as "stranger", "beggar" and "pilgrim." These entities reflect Strindberg's exploration of



existential themes, inner turmoil, and the search for meaning and identity in a fragmented world.

The sentiment analysis of Strindberg's plays reveals a similar pattern of evolution between his naturalistic and expressionist works. Naturalistic plays generally exhibit a more balanced emotional tone, with a mix of positive and negative sentiments reflecting the characters' struggles and the realities of human experience. In contrast, expressionist plays tend to display more intense and polarized emotions, with a greater emphasis on negative sentiments and the exploration of darker themes. This shift in sentiment patterns aligns with Strindberg's own psychological journey and his attempt to capture the inner workings of the human mind in his later works.

The comparative analysis of Strindberg's naturalistic and expressionist plays reveals a significant shift in his artistic vision and a deepening engagement with the psychological and sociocultural concerns of his time. The transition from naturalism to expressionism reflects Strindberg's own personal and artistic evolution, as he moved from a focus on social realism and the critique of societal norms to a more introspective and symbolic exploration of the human psyche. This shift can be understood as a response to the changing intellectual and artistic landscape of the late 19th and early 20th centuries, as well as a reflection of Strindberg's own psychological struggles and his quest for self-understanding and artistic innovation.

In conclusion, the comparative analysis of themes, entities, and sentiment patterns in Strindberg's naturalistic and expressionist plays offered a rich understanding of how his works reflect the evolving psychological and sociocultural perspectives of his time. By tracing the continuities and transformations in his dramatic oeuvre, Strindberg's enduring significance as a pioneering figure in modern drama and his ability to capture the complexities of the human experience across different artistic styles and historical contexts are revealed through this analysis.

8. Discussion and Conclusion

8.1. Integrating Findings and Hypotheses

The analysis of Strindberg's plays using digital humanities methods, specifically topic modeling, named entity recognition, and sentiment analysis, has yielded significant insights into the psychosocial landscapes and thematic evolution of his works. The topic modeling analysis revealed distinct thematic patterns in Strindberg's naturalistic and expressionist plays, with the former focusing on social issues, family dynamics, and individual struggles, while the latter explored existential questions, symbolism, and the subconscious. These findings align with the initial hypothesis that Strindberg's thematic concerns shifted as he transitioned from naturalism to expressionism, reflecting his own psychological and artistic development.



The named entity recognition and relationship analysis uncovered fascinating patterns in the characters, locations, and social dynamics portrayed in Strindberg's plays. Expressionist works exhibited a higher diversity of geographical locations and a larger cast of characters, suggesting a broader narrative scope and a deeper exploration of individual psyches compared to naturalistic plays. These results support the hypothesis that Strindberg's expressionist works delved more extensively into the subjective experiences and inner lives of his characters, in contrast to the social realism of his naturalistic period.

The sentiment analysis revealed intriguing variations in the emotional tones of Strindberg's plays, with notable shifts in sentiment coinciding with significant events in his personal life and artistic career. Surprisingly, while expressionist plays were expected to exhibit more intense and polarized emotions, the analysis showed that naturalistic works also displayed a wide range of emotional expression. This finding challenges the initial hypothesis and highlights the emotional complexity present throughout Strindberg's oeuvre.

The psychoanalytic and constructivist frameworks employed in this study provided valuable lenses for interpreting these findings and situating them within the broader context of Strindberg's life and times. The psychoanalytic perspective illuminated the unconscious desires, repressed emotions, and psychological conflicts that shaped Strindberg's characters and narratives, offering a deeper understanding of the inner workings of his plays. The constructivist approach, on the other hand, shed light on how Strindberg's works reflected and engaged with the sociocultural norms, intellectual currents, and historical events of his era, demonstrating the close interplay between his artistic vision and the world around him.

These insights build upon and extend previous scholarship on Strindberg, which has often focused on his biographical influences, literary techniques, and philosophical underpinnings (Lamm, 1971; M. Robinson, 2009; Steene, 1990; Stockenström, 2004). By applying digital humanities methods and interdisciplinary frameworks, this study offers a fresh perspective on Strindberg's works, revealing new patterns and connections that contribute to a more nuanced understanding of his artistic development and the psychosocial dimensions of his plays.

The research underscores the value of combining traditional literary analysis with digital humanities to uncover hidden layers of meaning in Strindberg's works. It highlights the importance of considering psychological, social, and cultural contexts in shaping thematic concerns, character dynamics, and emotional landscapes. Additionally, the study demonstrates the potential of interdisciplinary frameworks, like psychoanalytic criticism and constructivism, to enrich literary understanding by bridging gaps between psychology, sociology, and literary studies, thereby contributing to a more comprehensive approach to literary scholarship.

In conclusion, the synthesis of findings from the digital humanities analysis of Strindberg's plays, interpreted through the psychoanalytic and constructivist frameworks, offers valuable insights into the psychosocial landscapes and thematic evolution of his works. While some hypotheses were supported, others were



challenged, revealing the complexity and nuance of Strindberg's artistic vision. These outcomes have significant implications for Strindberg scholarship and demonstrate the potential of interdisciplinary approaches and digital humanities methods to transform literary studies and deepen our understanding of the human experience as portrayed in literature.

8.2. Contributions and Implications

The findings of this study significantly contribute to Strindberg scholarship by offering novel insights and perspectives on his dramatic works. Through the application of digital humanities methods and interdisciplinary frameworks, new patterns, themes, and connections within Strindberg's plays are uncovered, which have previously been unexplored or underemphasized.

Topic modeling analysis provides a comprehensive overview of the dominant themes and motifs in Strindberg's naturalistic and expressionist works, illuminating shifts in his thematic concerns as he transitioned between these artistic styles. This analysis extends our understanding of Strindberg's artistic evolution, highlighting how his personal experiences and sociocultural context influenced his literary output.

Named entity recognition and relationship analysis offer fresh perspectives on the characters, social dynamics, and locations portrayed in Strindberg's plays. By revealing differences in the scope and complexity of his naturalistic and expressionist works, this study contributes to a more nuanced understanding of Strindberg's dramatic techniques and his exploration of the human psyche.

The sentiment analysis, coupled with psychoanalytic interpretation, provides valuable insights into the emotional landscapes of Strindberg's plays and their connection to his personal life and psychological development. This approach illuminates the depth and complexity of Strindberg's characters and reflects his own emotional experiences in his dramatic works.

These findings have significant implications for understanding Strindberg's artistic vision and his place in literary history. By demonstrating the psychological depth, thematic richness, and stylistic innovation of his plays, this study reinforces Strindberg's position as a pivotal figure in the development of modern drama. The analysis highlights his ability to capture the complexities of the human experience, his engagement with pressing social and cultural issues, and his influence on subsequent generations of playwrights and literary movements.

Beyond contributions to Strindberg scholarship, this research underscores the importance of considering psychological, social, and cultural contexts in literary studies. By applying psychoanalytic and constructivist frameworks to the analysis of Strindberg's plays, the study showcases the potential of interdisciplinary approaches to deepen our understanding of literature and the human condition.



The successful application of digital humanities methods highlights their significance for transforming literary scholarship. By leveraging computational tools and quantitative analysis, researchers can uncover hidden patterns, trends, and connections within large bodies of text that might be difficult to discern through traditional close reading alone. This study demonstrates how digital humanities techniques can complement and enrich qualitative literary analysis, offering new avenues for exploration and interpretation. In conclusion, the research lays the foundation for future studies to build upon these findings and continue exploring the rich and complex world of Strindberg's dramatic works

8.3. Limitations and Future Directions

While this study has provided valuable insights into the psychosocial landscapes of August Strindberg's plays, it is essential to acknowledge the limitations of the research and discuss their potential impact on the interpretation and generalizability of the findings.

One significant limitation is the reliance on translated texts for the analysis. The translations were chosen based on their availability and the diverse approaches employed by the translators in interpreting Strindberg's works. Each translator brings their unique perspective and preferences to the translation process, resulting in variations in vocabulary choice, sentence structure, tone, and overall approach, across different historical periods. This selection, while comprehensive, introduces an intermediary layer between the original text and the analysis, potentially obscuring some nuances and cultural specificities present in Strindberg's original Swedish language. Despite the selection of high-quality translations, the full depth and complexity of Strindberg's literary style and the finer shades of meaning in his works may not have been entirely captured.

Additionally, this study focuses specifically on Strindberg's plays and does not encompass his entire literary oeuvre, which includes novels, essays, and autobiographical works. While the findings from the analysis of his dramatic works provide valuable insights, a more comprehensive understanding of Strindberg's psychological landscape and broader life experiences could be gained by expanding the scope of the research to include his other literary genres.

Another limitation of the study arises from the inherent biases and constraints of the analytical tools and methodologies employed. The digital humanities tools used for topic modeling, named entity recognition, and sentiment analysis are influenced by contemporary language data and specific parameter settings, which may affect the accuracy and interpretation of the findings. The interdisciplinary nature of the study, combining literary analysis with psychoanalytic and constructivist frameworks, also posed



challenges in integrating diverse methodological approaches and ensuring a coherent synthesis of the results.

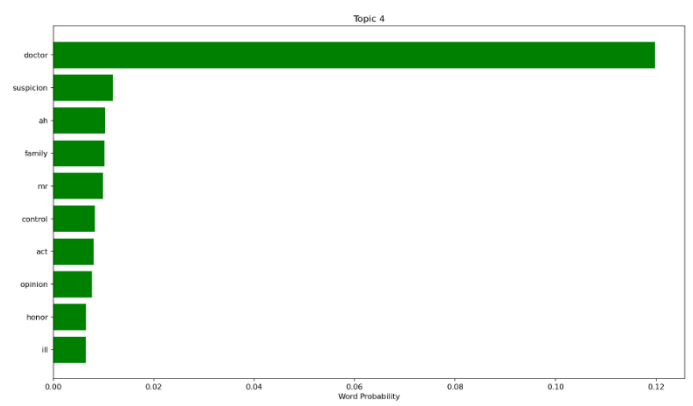
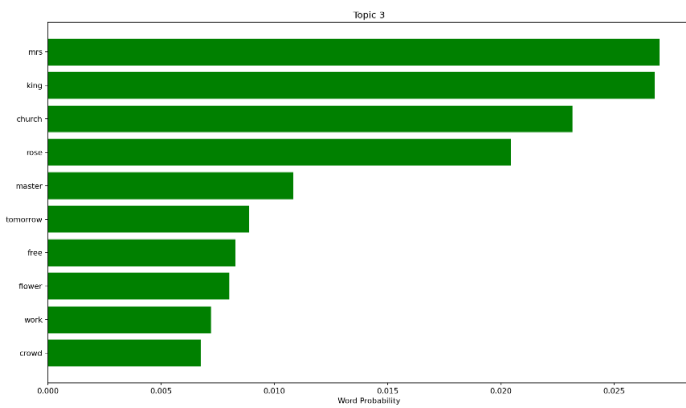
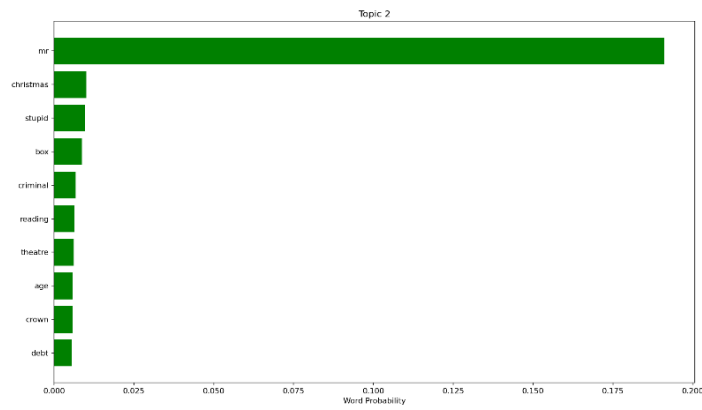
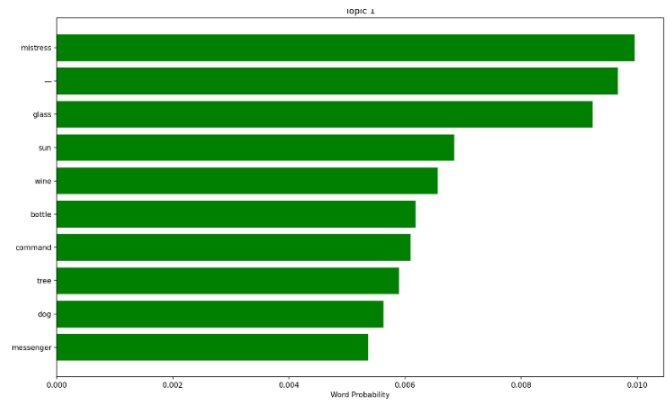
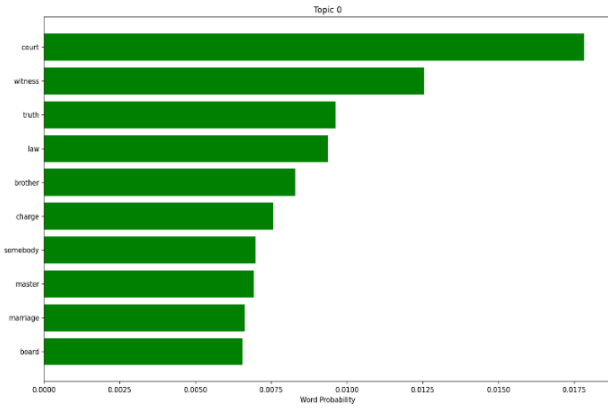
Future research could address some of these limitations and expand upon the findings of this study. Conducting comparative analyses of Strindberg's original Swedish texts alongside their translations could provide a more nuanced understanding of the linguistic and cultural dimensions of his works. Extending the scope of the research to include Strindberg's non-dramatic literary works, such as his novels and autobiographical writings, could offer a more comprehensive picture of his psychological development and the recurrent themes and motifs across his entire oeuvre. Additionally, employing more advanced and fine-tuned digital humanities tools and methodologies, such as machine learning algorithms and natural language processing techniques, could help uncover more subtle patterns, relationships, and semantic nuances within his works.

In conclusion, while acknowledging the limitations of the current study, this research has laid the groundwork for future investigations into the psychosocial dimensions of Strindberg's works. By identifying areas for further research and emphasizing the importance of continued interdisciplinary exploration, this study contributes to the ongoing dialogue and scholarly endeavors aimed at illuminating the richness, complexity, and enduring significance of August Strindberg's literary legacy.



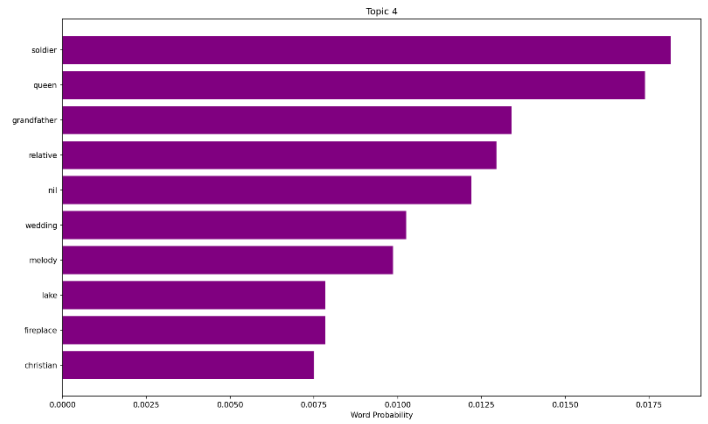
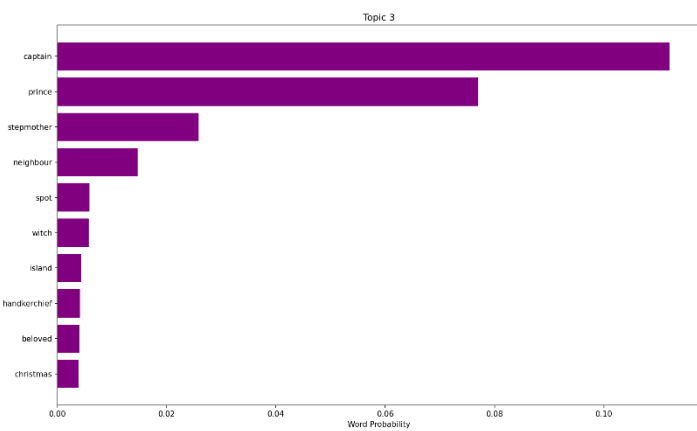
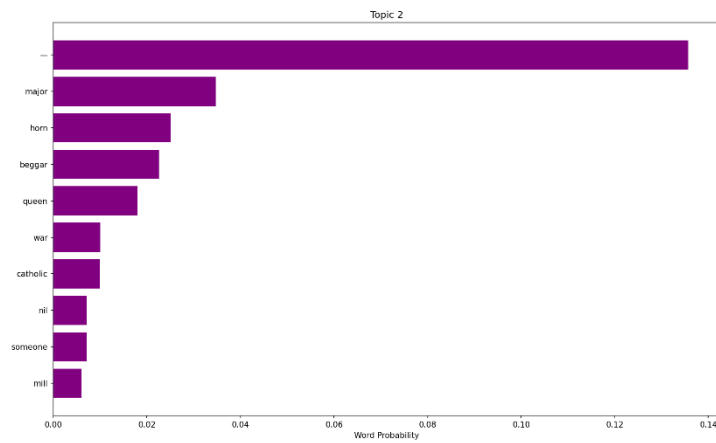
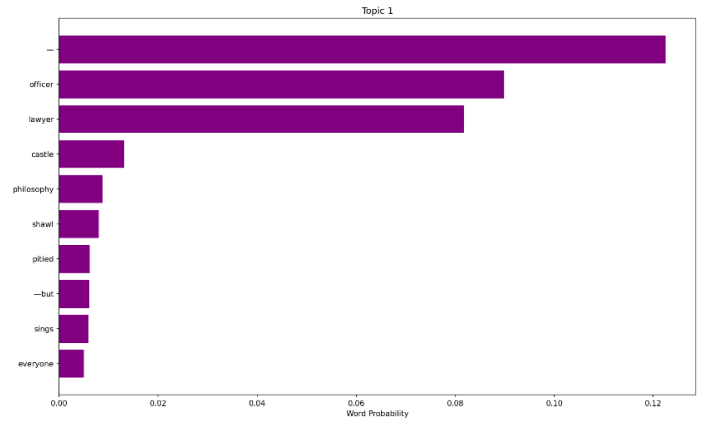
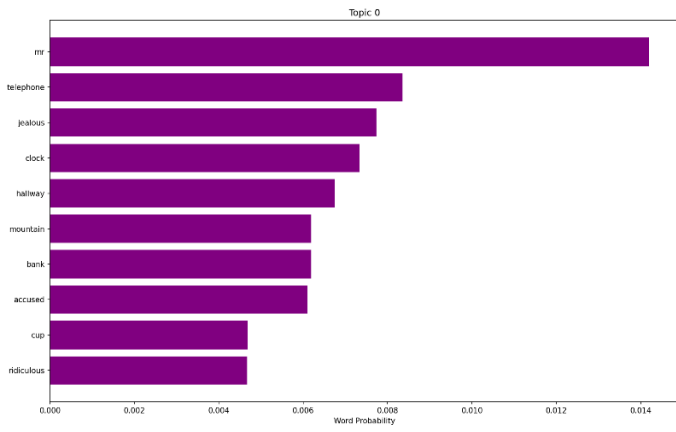
9. Appendices

Appendix 1. Bar graphs of dominant topics and words in naturalistic plays





Appendix 2. Bar graphs of dominant topics and words in expressionist plays





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