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Reading Silence with Machines: AI, Digital Humanities, and Global South Knowledge in Arundhati Roy's *The God of Small Things*

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Abstract

*This paper studies Digital Humanities and Artificial Intelligence (AI) in relation to Global South knowledge systems through Arundhati Roy's novel *The God of Small Things*. The Global South includes societies where knowledge is shaped by daily life, memory, caste, language, and silence. Such knowledge is often difficult for AI systems to understand because AI mainly works with clear data and repeated words.*

The study uses an interdisciplinary approach by combining literature, social science, and digital technology. Simple Digital Humanities tools such as word counts, theme grouping, and basic emotion analysis are used to study the novel. The digital results are then compared with close reading to understand what the AI tools notice and what they miss.

The results show that AI tools mainly highlight themes like love, family, and childhood because these appear clearly in the text. However, important ideas such as caste discrimination, social rules, trauma, and silence receive less attention in digital analysis. These ideas are central to the novel and represent important forms of knowledge in Global South societies. The study also finds that AI tools struggle to understand the novel's non-linear storytelling and culturally meaningful silences.

The discussion explains that these limits are not mistakes but reveal how AI systems are shaped by Western ways of understanding knowledge. Digital Humanities helps us see these limits clearly and question how knowledge is organized and interpreted by technology. The paper concludes that Global South literary texts need culturally sensitive digital methods. It also stresses the importance of interdisciplinary dialogue to develop fair and inclusive AI systems that can better engage with diverse knowledge traditions.

Keywords: Digital Humanities, Artificial Intelligence, Global South Literature, Knowledge Systems, Interdisciplinary Interfaces.

Introduction

In today's world, rapid growth in digital technology and Artificial Intelligence (AI) has changed how knowledge is created, stored, and understood. These technologies are no longer limited to science and

engineering; they are now used in literature, history, and cultural studies. One important field is Digital Humanities, which combines traditional humanities research with digital tools. It helps researchers study large texts, find patterns, and analyze themes in new ways. However, these tools also raise questions about whether technology can truly understand cultural meaning.

Most AI systems are developed within Western academic frameworks. They usually work best with clear language, repeated words, and structured data. This becomes a challenge when studying literature from the Global South—regions like India, Africa, and Latin America—where writing is deeply shaped by lived experience, oral traditions, social inequality, and colonial history. In such texts, meaning is often indirect, emotional, and culturally specific rather than clearly stated.

Literature from the Global South often reflects caste discrimination, class divisions, gender inequality, and historical trauma. These themes may appear through silence, fragmented narration, and emotional tension rather than direct statements. Because AI tools mainly depend on visible patterns and word frequency, they may fail to capture these deeper meanings. This raises an important question: can AI truly understand Global South knowledge systems?

The *God of Small Things* by Arundhati Roy provides a strong example to explore this issue. Set in Kerala, India, the novel deals with caste oppression, forbidden love, family rules, trauma, and memory. Its non-linear structure and emotional silences make it powerful for human readers but difficult for AI systems to interpret accurately.

Although the novel has been widely studied from postcolonial and feminist perspectives, very few studies examine it using Digital Humanities or AI tools. This research aims to analyze how AI-based methods interpret the novel and where they fall short. By comparing digital analysis with close reading, the study highlights the limits of AI in understanding silence, caste, trauma, and social exclusion.

This study is important because it shows that AI is not neutral; it reflects the cultural frameworks in which it is created. It also argues that technology alone cannot fully understand literature shaped by complex histories and lived experiences. Therefore, Digital Humanities must not only use technology but also critically question its limitations, especially when studying Global South texts.

Literature Review

The intersection of Digital Humanities, Artificial Intelligence (AI), and Global South literary studies is an emerging and developing field. While there is extensive research on postcolonial literature and growing scholarship on Digital Humanities, there remains a noticeable gap in studies that combine these areas. This review examines important scholarly works related to Digital Humanities, AI in literary studies, Global South knowledge systems, and critical readings of *The God of Small Things*, in order to situate the present study within existing research.

Digital Humanities as a field gained prominence in the early twenty-first century with scholars such as Franco Moretti, who introduced the concept of “distant reading.” In *Distant Reading*, Moretti argues that computational tools allow researchers to analyze large literary patterns beyond traditional close reading methods (Moretti). This idea expanded the possibilities of literary studies by encouraging quantitative and data-driven approaches. Similarly, Matthew K.

Gold, in *Debates in the Digital Humanities*, emphasizes that Digital Humanities creates new interdisciplinary spaces where technology and humanistic inquiry interact (Gold). However, much of the early Digital Humanities scholarship focused primarily on Western texts and archives.

The question of bias in AI and digital systems has been critically examined by scholars such as Safiya Umoja Noble. In *Algorithms of Oppression*, Noble argues that search engines and algorithmic systems reproduce social inequalities and racial biases because they are shaped by dominant cultural frameworks (Noble). Her work is important for this study because it shows that

digital systems are not neutral; they reflect the power structures within which they are created. Similarly, Ruha Benjamin, in *Race After Technology*, explains how technological systems often reinforce existing hierarchies instead of eliminating them (Benjamin). These arguments suggest that AI tools may struggle to interpret cultural texts from marginalized communities, including those from the Global South.

Within postcolonial studies, scholars such as Gayatri Chakravorty Spivak and Homi K. Bhabha have emphasized the importance of subaltern voices, cultural difference, and epistemological plurality. Spivak's essay "Can the Subaltern Speak?" questions whether marginalized groups can truly be represented within dominant knowledge systems (Spivak). Although her work predates AI scholarship, her argument remains relevant in digital contexts. If dominant systems historically silence subaltern voices, digital systems built on similar knowledge frameworks may continue this exclusion. This theoretical foundation strengthens the present study's focus on Global South knowledge systems.

When examining Arundhati Roy's *The God of Small Things*, most existing scholarship has centered on caste, gender, memory, and postcolonial identity. Critics such as Brinda Bose have analyzed the novel's complex narrative structure and its representation of social transgression (Bose). Other scholars have focused on caste oppression and political resistance within the novel. These studies provide valuable literary insights; however, they rely mainly on traditional close reading methods. There is limited research that applies computational or AI-based approaches to Roy's text.

Recent scholarship has begun to explore the relationship between postcolonial studies and Digital Humanities, but the field is still developing. Roopika Risam, in *New Digital Worlds*, argues that Digital Humanities must engage with Global South perspectives and address colonial histories embedded in digital archives (Risam). Risam emphasizes the need for inclusive digital practices that recognize marginalized knowledge traditions. Her work directly supports the argument of this study, which seeks to analyze how AI tools engage with Global South literary texts and where they fail.

Chronologically, early postcolonial theory in the 1980s and 1990s focused on voice, identity, and power. In the 2000s, Digital Humanities expanded computational literary analysis. More recently, scholars have begun to question algorithmic bias and digital inequality. However, there remains a lack of research that directly connects AI-based literary analysis with specific Global South novels such as *The God of Small Things*. This chronological gap highlights the originality and relevance of the present study.

Therefore, while previous research provides strong foundations in Digital Humanities, algorithmic bias, and postcolonial theory, there is still a significant gap in applying AI tools to Global South literary texts in a critical and comparative manner. This study addresses that gap by combining digital analysis with close reading to examine how AI systems interpret—or fail to interpret—caste, silence, trauma, and non-linear storytelling in Roy's novel. In doing so, it contributes to interdisciplinary dialogue and expands the scope of both Digital Humanities and Global South literary studies.

Methodology

This study uses a qualitative and interpretive approach combined with basic Digital Humanities methods to examine how AI tools interpret *The God of Small Things* by Arundhati Roy. The aim is not only to use digital tools but also to critically evaluate their strengths and limits when applied to a Global South literary text. The research combines computational analysis with traditional close reading.

The primary text is the English version of the novel, prepared in digital form for analysis. Instead of large-scale data mining, the study focuses on this single text as a case study to better understand how AI responds to culturally complex narratives.

The first stage involves word frequency analysis using tools such as Voyant Tools. Common function words are removed to focus on meaningful words. This helps identify dominant patterns when the novel is reduced to numerical data.

The second stage is thematic clustering (topic grouping). AI-based software groups words that frequently appear together, helping to identify patterns such as family, love, or childhood. This shows how algorithms organize themes within the narrative.

The third stage uses basic sentiment analysis to detect emotional tones—positive, negative, or neutral—based on vocabulary. However, this method is used carefully because emotional meaning in Global South literature often depends on cultural context, not just explicit words.

After these digital analyses, the results are compared with close reading. Selected passages are examined to understand deeper meanings related to caste, silence, trauma, and social exclusion. Special attention is given to the novel's non-linear structure to see whether digital tools recognize its shifting timeline and fragmented memory.

This methodology does not reject AI tools but evaluates them critically. It treats computational results as representations, not complete interpretations. By combining digital analysis with human interpretation, the study creates a balanced and interdisciplinary approach to understanding how AI engages with culturally complex literature.

Results and Analysis

The digital analysis of *The God of Small Things* produced important findings about how AI tools interpret the novel and where their limits become clear. The results are discussed based on three methods: word frequency analysis, thematic clustering, and sentiment analysis. Each method reveals visible patterns but also shows gaps when compared with close reading.

In the first stage, word frequency analysis identified commonly used content words. Words related to family and childhood, such as “mother,” “children,” and the names Estha and Rahel, appeared frequently. Words connected to memory and daily life were also common. At a surface level, the digital results suggest that the novel mainly focuses on family bonds and emotional experiences. However, words directly linked to caste discrimination and social oppression appeared less often.

This is significant because caste is central to the novel's meaning. The tragic events are deeply shaped by caste rules and social restrictions. Yet AI tools highlight what is repeated and measurable, not necessarily what is socially important. This shows that numerical frequency does not always represent thematic depth.

The second stage, thematic clustering, grouped words that appeared together in similar contexts. The software formed clusters around childhood, family, emotions, and physical settings in Kerala. However, caste-related ideas did not appear as a strong central cluster. Instead, they were scattered across different groups. Through close reading, it becomes clear that caste operates through silence, fear, and behavior—not just explicit words. Since AI groups words based on statistical patterns, it struggles to capture these indirect meanings. As a result, the novel's complex social structure becomes simplified in digital summaries.

The third stage, sentiment analysis, measured emotional tone. The results showed shifts between positive and negative emotions, especially in scenes about childhood memories. However, deeply traumatic moments were sometimes categorized as neutral or only slightly negative. This happened because the novel often expresses trauma indirectly, without dramatic emotional vocabulary.

Human readers understand the emotional intensity through context, but AI mainly focuses on specific words. Therefore, the depth of trauma and caste oppression becomes less visible in digital results.

Another important finding relates to narrative structure. The novel follows a non-linear timeline, moving between past and present. Digital tools process text in a linear way and do not automatically recognize these shifts. Fragmented memories are treated as continuous data, which limits the algorithm's ability to understand how meaning develops across time.

When comparing digital results with close reading, a clear difference appears. AI tools successfully identify recurring words and general themes, but they struggle with implicit meanings, cultural codes, and social hierarchies. Caste, which drives the central conflict, appears less important in computational summaries because it is often communicated indirectly.

These findings do not mean that Digital Humanities tools are useless. Instead, they show that computational methods have limits when analyzing culturally complex texts. AI provides helpful quantitative insights, but it cannot replace contextual human interpretation. Overall, the results highlight the gap between machine reading and human understanding, supporting the study's aim to examine both the possibilities and the limitations of AI in reading Global South literature.

Discussion

The findings of this study show a clear tension between AI-based reading tools and Global South literary knowledge systems. While Digital Humanities methods provide measurable patterns, they also reveal the limits of computational interpretation when applied to culturally complex texts like *The God of Small Things*. This discussion explains what these limits mean for literary studies and knowledge production.

One key insight is that AI tools focus on frequency, repetition, and clear vocabulary. Words that appear often become central in digital results. However, Global South narratives often express meaning indirectly. In the novel, caste discrimination and social exclusion are shown through silence, fear, and social behavior rather than repeated direct statements. Because AI depends on visible textual markers, it underrepresents these hidden or implied elements.

This problem connects to a larger issue of knowledge systems. Many AI models are built on dominant Western linguistic patterns. They are designed to process structured data and direct emotional language. When such systems analyze narratives shaped by colonial history, caste hierarchy, and cultural memory, their framework becomes limited. This is not just a technical issue but an epistemological one—it concerns how knowledge is organized and understood.

The study also shows that non-linear storytelling creates challenges for AI. The novel shifts between past and present, building meaning through fragmented memory. Digital tools process text in a linear way and do not automatically recognize these shifts. As a result, the emotional and structural complexity of the story is simplified into thematic clusters. AI is effective at finding patterns but less capable of understanding narrative depth.

However, these limits do not mean Digital Humanities should be rejected. Instead, they highlight the need for critical use of technology. Digital tools can reveal useful surface patterns, while close reading helps uncover deeper cultural meanings. Combining both methods creates a more balanced approach.

The study also encourages interdisciplinary dialogue between literature, social science, and technology. AI is not neutral; it reflects social and historical power structures. Therefore, discussions about AI must include humanistic perspectives. Without this, digital systems may continue to reproduce inequalities.

Finally, the findings suggest the need for more inclusive AI systems trained on diverse cultural data. Ethical digital scholarship must consider whose knowledge is represented and whose is ignored. Overall, this discussion supports the main argument that Digital Humanities should not only use technology but also question its limits in understanding diverse knowledge traditions.

Conclusion

This study explored how Digital Humanities and AI tools interpret *The God of Small Things* by Arundhati Roy, focusing on Global South knowledge systems. By combining computational analysis with close reading, the research examined both the strengths and the limits of AI when applied to culturally complex literature.

The findings show that AI tools are effective at identifying visible patterns such as frequent words, repeated themes, and general emotional tones. They highlight elements like family, childhood, and everyday emotions because these appear clearly and repeatedly in the text. However, AI struggles to recognize deeper meanings related to caste discrimination, silence, trauma, and social exclusion. These themes are central to the novel but are often expressed indirectly rather than through direct vocabulary.

This limitation is not only technical but also cultural. AI systems are shaped by the knowledge frameworks in which they are developed. When applied to Global South narratives that rely on memory, fragmented storytelling, and cultural context, their interpretive ability becomes limited. Therefore, digital tools cannot replace human interpretation, especially in texts shaped by historical inequality and social hierarchy.

At the same time, the study does not reject Digital Humanities. Instead, it supports a balanced and critical approach. Digital tools can assist literary analysis, but they must be used with awareness of their boundaries. By showing what AI overlooks, this research calls for more inclusive and culturally sensitive digital practices.

In conclusion, the study highlights the need for interdisciplinary dialogue between literature, social science, and technology. Understanding Global South texts requires not only technical tools but also ethical reflection and cultural awareness. Future research should focus on improving AI systems so they can engage more responsibly with diverse literary traditions and knowledge forms.

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