



## Digital Transformation in the Study of Cultural Discourse: From Classical Analysis to Network-Based Textual Analysis

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**Abstract.** Digitalization that is currently happening in the humanities has fundamentally reorganized the epistemological and methodological principles on which the cultural discourse is studied. The paper challenges the paradigm shift of traditional hermeneutic and critical thought to a system of computationally mediated techniques, especially network-based textual analysis. Under this new paradigm, texts are no longer understood as discrete cultural texts but as active nodes within discursive, intertextual and complex networks. This study is based on the theory of Cultural Discourse Analysis (CDA) (Carbaugh, 2007) and Actor-Network Theory (Latour, 2005) by defining the concept of discourse as assemblage of practices that are relational and defined by human and non-human actors. The study operationalizes the visualization and quantification of the textual relationships in various corpora by the use of the digital tools like Gephi, Voyant Tools, and Textometrica. The comparative dataset used in the empirical analysis consists of thirty cultural texts of which fifteen are a classical print-based text and fifteen a born-digital text across various temporal, geographical and linguistic contexts, such as



Arabic postcolonial essay, diasporic poetry and current digital narratives. The results indicate that the network based methods of analysis reveal latent structural patterns, recurrent themes, and ideological constellations that are mainly hidden as a result of traditional methods of close reading. Moreover, the combination of computational procedures also increases interpretive granularity and at the same time opens up the breadth of inquiry, allowing analyses on large scales, multilingually, and cross-culturally. This research improves the development of Digital Humanities and suggests a model that is scalable and replicable to study such cultural discourse in more digitized knowledge spaces.

## 1. Chapter One: Introduction

### 1.1. Background of the Study

In traditional approaches, cultural discourse was analyzed by old-established theories like hermeneutics, philology and the critical theory. The scholars applied close reading, text contextual analysis and comparative analysis to unearth the concealed meaning, ideologies and commentaries on social issues that were found behind the cultural texts over centuries. The approaches were concerned with the interpretive process of the reader in the text and a particular emphasis on the historical, linguistic and social-cultural contexts. However, the advent of the digital has dramatically changed not only how the production and distribution of cultural texts are being carried out, but the manner in which they are being interpreted and felt in general. Computational textual analysis, big data analytics and network based visualisation applications allow the researcher to process and analyse mass volumes of texts in the modern digital environment, and reveal the latent structures, repetitive patterns and concealed relationships, which would have otherwise been inaccessible to the researcher operating within the conventional close reading paradigm. With such a methodological change, it becomes possible to integrate the data of the quantitative evidence and interpretation of the qualitative information, achieving a hybrid methodology that retains the richness of the humanistic study and applies the scalability and accuracy of the computation methods. Using the theoretical frameworks of Cultural Discourse Analysis (CuDA) (Carbaugh, 2007) and Actor-Network Theory (Latour, 2005), one can think of texts as the nodes in the complex networks of cultural meanings. In this model, meaning is not within a text, but it is elicited by the





pattern of relationships of texts, authors, audiences and broader socio-cultural systems. They can be graphically represented, quantified with the help of digital tools, and evaluated as to what occurs between different actors in the textual meaning, and this invasion of the traditional reading method and the computational one. This transformation is particularly applicable to the multilingual and multicultural context, when one is to coordinate the texts that have various linguistic, geographic, and cultural backgrounds. The contrast between the traditional print-based materials, such as Arabic postcolonial essays and diasporic poetry, and the born-digital ones, such as social media stories, and digital storytelling is a promising research area that can be studied in relation to building cultural identity and the power strength, including forms of resistance. By placing the texts within the framework of digital mediated network of intertextual and cultural relationships, researchers will be able to track the process through which the discourses are created, come in contact with each other, and echo through the time, space and medium over the time to provide a more comprehensive view of what cultural sense is like in the twenty first century.

### 1.2. Statement of the Problem

Though the classical models of hermeneutics are quite enriched with their interpretive knowledge, they are often too restricted in the event that they are applied to huge corpora or multilingual datasets. Classical analysis is quite effective in uncovering micro-meaning in individual texts but fails much less effectively in uncovering systemic, network-wide dynamics of influence on more extensive discourses. The digital humanities, conversely, have also been criticized as using computational procedures in a manner that would reduce the multicultural content to quantifiable trends, potentially without contextual information and cultural specificity. The difficulty, however, lies primarily in the necessity to fill the interpretative richness of the classical ways and scaling and pattern-recognition of the digital materials. The necessity of a more integrative approach enabling scholars to determine latent thematic and ideological structures in large collections of texts even as these approaches enable a cultural sensitivity and contextual precision and allows them to be consistently applied to historical texts in printed format as well as the digital stories of the present-day. This methodological gap is filled by the current research that utilizes a network-based textual analysis of a comparative sample of classical and digital cultural text, which combines computational modeling





with theoretically informed discourse analysis in generating a more comprehensive and subtle view of cultural meaning.

### 1.3. Research Objectives

This study seeks to:

1. Discuss the theoretical change in approach of classical hermeneutic analysis to a network-based textual analysis of cultural discourse.
2. Use the Cultural Discourse Analysis (CuDA) and Actor-Network Theory (ANT) to make sense of patterns and relations obtained via network-based analysis.
3. Compare thematic, ideological and structural characteristics of classical print-based cultural texts and born-digital cultural texts.
4. Evaluate the possibilities of digital tools to support, complement, and enlarge a traditional method of cultural discourse analysis.

### 1.4. Research Questions

1. How does network-based textual analysis differ from classical hermeneutic approaches in studying cultural discourse?
2. What patterns of themes, ideologies, and intertextual relations emerge from the comparative analysis of classical and born-digital cultural texts?
3. How can Cultural Discourse Analysis and Actor-Network Theory guide the interpretation of computationally generated network models?
4. In what ways can the integration of digital tools democratize large-scale cultural analysis in multilingual and multicultural contexts?

### 1.5. Significance of the Study

This study is important in a variety of ways. Theoretically, it connects the classical interpretive discourse theories and the computational network analysis, and could provide a hybrid model to study the cultural discourse. The combination of the richness and complexity of the traditional interpretive methods and the accuracy and scalability of the digital technologies allows the research to create a more holistic analytical system that can be applied to both the small and the large textual trends. Within the methodology, it provides a method of replicability of incorporating both traditional and digital strategies by ensuring that there is the incorporation of analytical rigor with an interpretive richness. The innovation allows researchers to capitalize on the efficacy, imaging and impunity of digital devices without losing the contextual acuity that is a major feature of humanistic inquiry. In practice the paper shows



that computational means can be successfully employed in cultural research, especially to perform cross-cultural, multilingual and large-scale data analysis - a feature that can be particularly useful to researchers based in resource-deprived institutions. This methodology presents fresh possibilities of comparative and interdisciplinary study which once could only be done by the time constraints, scale, or logistical constraints. In addition, the research adds value to the dynamic discipline of Digital Humanities by providing information that goes beyond the realm of the literary analysis to include cultural history, media studies, and research on political discourse. It visibly highlights the suitability and the transformational power of digital methods in a broad sphere of academic subject areas by offering an interdisciplinary, versatile model.

### 1.6. Scope and Limitations

The study involves a comparative sample of thirty cultural texts, both classical print-based and born-digital texts (15 and 15 respectively). Classical corpus consists of Arabic post-colonial essays and diasporic poetry whereas the digital corpus consists of online break-up stories, blog posts, and storytelling on social media. The analysis will only be limited to texts in English and Arabic with any translation done where there is need to be accessible and consistent. Though digital tools have a high level of visualization, network mapping, and pattern detection, they cannot completely replace the judgment of the researcher. As a result, the findings of the study are a synthesis of the computational products and the critical discourse analysis, the combination of quantitative knowledge with the qualitative interpretation to generate the sophisticated and contextually sensitive perspective on cultural discourse in various media and historical settings.

### 1.7. Definition of Key Terms

1. Digital Humanities: A cross-disciplinary area that uses computational technologies and techniques in the study of humanities, allowing to analyze large volumes of data, visualize it, and discover the patterns of complex cultures.
2. Cultural Discourse Analysis (CuDA): This is a theoretical model used to analyze how cultural meanings are produced, conveyed and received via discourse (Carbaugh, 2007).
3. Actor-Network theory (ANT): A sociological idea and philosophical theory that describes human and non-human actors as a dynamic





network, which creates the production of knowledge and meaning (Latour, 2005).

4. Network-Based Textual Analysis: This is a computational method where the texts are represented as nodes, and the relations between the nodes as edges whereby intertextual and discursive relations can be visualized, measured, and analyzed.
5. Born-Digital Texts A text, created, and distributed digitally, as opposed to a digitized form of a print text.
6. Classical Textual Analysis: The conventional treatises of interpreting textual analysis, such as close reading, historical contextualization, and the critical theory, performed without the help of computing and network-based programs.

## 2. Theoretical Framework

### 2.1. Cultural Discourse Analysis (CuDA)

Cultural Discourse Analysis (CuDA) is a conceptualized and theoretically effective methodology of textual analysis regarding the way in which communication practices reproduce and reproduce cultural meanings, which is the brainchild of Donal Carbaugh (2007). CuDA views discourse as culturally situated in nature and therefore conditioned by mutually held symbols, values, norms and communicative conventions and underlines that the process of meaning-making is not universal, but is situated within particular sociocultural environments. In the context of the current research, the CuDA creates a critical prism according to which the textual content, both print-based and born-digital, can be interpreted in terms of thematic and ideological patterns that reflect how the text in question carries an encoded code of cultural identity, power relations and resistance narratives.

Using CuDA on network-based textual data the researchers can locate computationally determined patterns in culturally sensitive interpretative contexts. This is to ensure that the application of the digital tools, although they have the ability to map the connections, frequencies, and thematic clusters, does not take texts out of their socio-historical and cultural contexts (Carbaugh, 2007; Philipsen and Carbaugh, 2011). By doing so, CuDA becomes a crucial link between the qualitative interpretation and quantitative analysis, allowing the scholars to put digital products into context and combine them with humanistic knowledge to create a meaningful entity. Instead of lowering discourse to the statistical products, it is an approach that triggers the





convergence of computational results with the symbolic systems and value orientations and lived realities of those represented in the text communities. As a result, the textual data is not only helped to maintain but also enhanced with the help of CuDA integrated with network-based analysis, which leads to the enhanced insight into how culture is reflected in and shaped by the changing means of communication in the digital era.

## 2.2. Actor-Network Theory (ANT)

The production of knowledge is re-conceptualized through the actor-network theory (ANT) (Latour, 2005; Callon, 1986) in terms of network of human and non-human actors. As a component of textual analysis ANT can aid in mapping of relationships between not only authors, readers, and texts, but also between concepts, themes, and digital tools themselves. This been seen to be quite similar to network-based textual analysis where text is conceptualised as a node and tied to each other by thematic, linguistic or relational relationships. ANT reiterates that meaning, being a product of interaction among several actors such as human interpreters, computational algorithms, several socio-cultural contexts, inclusively, supports the hybrid methodological approach taken in this study (Law, 1992; Venturini, 2010).

In this study, ANT can be used as a conceptual framework to comprehend the process of cultural discourse production, distribution, and change in inter-networking. ANT is a form of challenge to the traditional human-centred paradigm of textual interpretation in that digital tools, algorithms and datasets are perceived as active agents of meaning-making, not just as the authors and readers of a text. Through this reframing, we can have a more holistic explanation of the production of discourse, in which agency is spread out among various actors that ultimately create cultural stories. In addition, the ANT used in textual analysis of a network can shed light on the dynamic and relationality of meaning construction and how computational processes can impact the process of finding themes, participating in connections, and creating insights of understanding. This perception also brings the situation of critical reflexivity, which causes researchers to consider how the methodological decisions, data-infrastructures and cultural bias of tools affect the outcomes of discourse analysis. Through so, ANT ensures that the hybrid technique of study can take into account complex interconnections and at the same time challenge the networks that bring about complex interconnections and hold them.

## 2.3. Integration of CuDA and ANT



By integrating Cultural Discourse Analysis (CuDA) and the Actor-Network Theory (ANT) into the study, the study will offer the bridge between the micro level cultural description and macro level analysis of the networks. CuDA provides the setting where the cultural specificity and depth of interpretation are ensured and ANT provides a guideline on how to map out the complexity and interdependence of relational relationship among actors (human and non-human) in textual networks. Taken together, a more insightful approach to the cultural discourse is possible, particularly in multilingual and multicultural corpora, where the meaning is stratified, dynamical, and contingent on the situation. This integrated form will allow the researcher to switch between close and distant reading in a smooth manner so as to form the subtle, contextualised meaning of individual texts and the big picture of patterns that are observable when one examines large volumes of data. CuDA uses culturally specific systems of interpretations as the basis of the analysis, ensuring that thematic, ideological and symbolic patterns are interpreted in terms of the contexts of their socio-historical and cultural contexts. Simultaneously, ANT positions these patterns within dynamic networks based on the focus on interactions of different actors like authors, readers, digital tools and algorithms to build discourse that is not fixed by the individual who writes texts or the cultures in question. It is a two-fold framework that can be most helpful when it comes to investigating multilingual and multicultural corpora, where the meaning is often polysemous, and the mediation of meaning takes place via overlapping cultural logics. This paper combines the interpretive richness of CuDA and relational mapping capabilities of ANT to illuminate not just what cultural stories exist but how the stories circulate between, are confronted and altered by the interrelated communicative networks. By means of such synthesis, the analysis can be kept within the cultural context, and at the same time sensitive to the complex web of relations defining meaning in the digital era.

#### 2.4. From Classical Textual Analysis to Digital Humanities

Textual analysis in historical times was mainly based on close reading, philology and the context of the era (Barthes, 1977; Ricoeur, 1981). These classical tools were very effective in generating rich, nuanced readings of single pieces of work, but tended to be very limited when compared to large, heterogeneous, or multilingual collections (Moretti, 2013). The carefulness that had characterized the classical textual analysis with respect to language,



symbolism, and socio-historical background became more unrealistic in coping with the size and multiplicity of modern data collections.

With the advent of Digital Humanities (DH), this analytical environment has significantly changed with the introduction of computational tools and techniques of processing data in large quantities, finding patterns, visualizing data, and performing network analysis (Berry, 2012; Schreibman, Siemens, and Unsworth, 2016). These techniques can help analysts to explore greater trends and structural relations within large bulks of text that they would identify more readily with the help of manual interpretation. It is important to note that the inclusion of computational techniques in DH is not meant to substitute the classical hermeneutical techniques, rather it augments them. DH enables us to experience the more holistic view of textual phenomena with the depth of interpretations that close reading provides and with the scalability and analytical accuracy of digital resources.

Their identification can be traced to visualization plans and network research, that is, the possibility to establish thematic connections, intertextual connections and scale patterns discursive without losing the socio-cultural and historical context of the humanistic enquiry. This synthesis of traditional and computerized approach is a significant innovation into the humanities that promotes the interdisciplinary approach, between the qualitative sense-making and the wisdom of quantification. These two perspectives can be linked with one another so that DH offers scholars the ability to consider both micro-level subtleties of texts and macro-level regularities, which can enhance the research on cultural discourse in the digital era.

## 2.5. Network-Based Textual Analysis

The idea of network based textual analysis views texts as interrelated systems of meaning, as opposed to discrete artifacts. Regarding texts as nodes in a network and the connections between texts- themselves- as edges, researchers can consider patterns previously obscured by the conventional close reading approach. The visualization and quantification of such relationships are possible with the help of computational tools (Gephi, Voyant Tools, and Textometrica) which help scholars to map thematic clusters, intertextual networks, and patterns of co-occurrences on a larger scale (Bastian, Heymann, and Jacomy, 2009; Sinclair and Rockwell, 2016). Research has shown that the latent structure, recurrence motifs, and even relations in texts have been identified through network-based analysis and are still hard to find





in classical hermeneutic methods (Janicke, Franzini, Cheema, and Scheuermann, 2017).

Network analysis is a technique that has been used in diverse situations within cultural discourse research. It has been applied to intertextual relationships documented in literary corpora to reveal the ways texts interact, react, and affect each other (Algee-Hewitt and McGurl, 2015). It has enabled the thematic follow-up of the evolution of social media discourses in digital media studies, where cultural narratives are created, disseminated, and changed in real time (Murthy, 2018). Also, network visualization has been used to analyze relationships between historical materials by historians and cultural observers to reveal novel information about cultural, social, and political processes throughout time and contexts (Guldi and Armitage, 2014).

Introducing such computational procedures into the study of cultural discourse, networked textual analysis is an influential instrument to comprehend how meaning is produced, distributed and changed within multi-layered textual environments of a complex character. It is applied as a supplement to conventional interpretive approaches in putting particular texts in larger frameworks of cultural, thematic, and ideological interrelations and, therefore, may offer a more comprehensive and expandable approach to analyzing discourse.

## 2.6. Cultural Discourse in Post-Colonial and Diasporic Contexts

The identity, displacement and resistance are also prevalent themes in post-colonial essays, diasporic poetry, and digital storytelling because these literature genres share the experiences of the marginalized and transnational people (Ashcroft, Griffiths, and Tiffin, 2002; Said, 1978). Scholars have long been examining these texts as locations of cultural negotiating, contesting and reimagining and have been studying them in a number of varied geographies and mediums (Clifford, 1997; Bhabha, 1994). Such writings are informative of the present processes of cultural-making and changing in the background of post-colonial and diasporic due to their critical view of history, power relations, and hybridity.

An ever-changing and rapidly changing boundary of cultural discourse is born-digital texts, and in particular those that are produced by diasporic communities. Integrating the traditions of old storytelling with the distinctive features of the digital media, these texts help the authors to formulate dynamic, interactive and very accessible narratives (Murray, 2012; Appadurai, 2013). This hybridity expands cultural expression and busts conventional boundaries





of the author, audience and medium. The born-digital works are thus educative in the sense of how the diasporic identities may be expressed and negotiated in the digital age the sense in which the heritage, technology, and the global connectivity are interacting each other in a complex fashion. Scholars can trace the continuity, adaptation and the shifting trends of cultural narratives throughout the years, space and technology through the analysis of both printed and electronic texts to have a complete picture of the cultural discourse today.

#### Computational Methods in Cultural Discourse Analysis

Digital technologies have largely expanded the analytical possibilities of cultural texts by allowing them to be studied in a multilingual and multimodal perspective, i.e. researchers can conduct cross-cultural comparisons in large amounts (Underwood, 2019; Kirschenbaum, 2012). The technologies have been used to process large volumes of data of different types and languages such as text, images, and audio, thus, revealing the complexity and richness of cultural expression in a manner never before possible. Using the power of computers, researchers are able to find patterns, thematic relations, and structural associations among the global corpora, providing novel insights into the process of cultural dynamics and the spread of meaning.

Nevertheless, with all these benefits, other researchers warn about the over-use of quantitative models that are based solely on the quantitative facets and can dilute the cultural subtext and interpretive richness (Liu, 2013; Drucker, 2011). Unless computational analyses are thoroughly contextualized, they can run the possibility of draw reductive or misleading conclusions, especially where the socio-historical and cultural context is not taken into account. Responding to that, cross-methodological approaches allowing to combine qualitative theoretical assumptions with computational tools are more and more promoted as the most effective way of studying cultural discourse (Jockers, 2013; Gold, 2012). By merging the depth of interpretation with the ability to scale to large volumes of data, this would mean that digital analyses would be culturally informed, and digital tools would enjoy the benefits of precision, visualization, and pattern-detection.

### 3. Methodology

#### 3.1. Research Design

The current research will adopt a comparative mixed-methods research design which incorporates classical hermeneutic textual analysis and computational analysis and network-based analysis. The rationale behind the





design is the two complementary theoretical models Cultural Discourse Analysis (CuDA) (Carbaugh, 2007), offering culturally specific tools of interpretation, and Actor-Network Theory (ANT) (Latour, 2005), which describes the relations between human and non-human actors in textual networks.

The study is comparative by nature where two different groups of cultural texts are examined. The classical printed material is included in the former group, which includes historical and literary literature, which can be seen as the classical types of cultural discourse. The second one is that of the born-digital texts that are created and printed in a digital format and reflect the contemporary methods of expressing the culture in a digital world.

The study presupposes a mixed-method design of the combination of qualitative and computational research. Close reading, thematic coding, and interpretive commentary are part of qualitative analysis that uses CuDA, like is done to make sure that the socio-cultural and historical contexts are foregrounded. The digital tools of quantitative and computational analysis are used to compute and analyze frequency analysis and co-occurrence to visualize and measure the relationships and patterns in the texts. This assortment can facilitate the piece to be interpretatively profound and computationally strict in its concern that will provide an all-inclusive perspective on cultural discourse in the classical and digital media.

### 3.2. Corpus Selection

#### 3.2.1. Sampling Criteria

In this study, the corpus would be 30 texts whereby half of the texts will be in one and the other half in another in order to compare and contrast. The former consists of 15 conventional print-based texts, including Arabic post-colonial essays, diasporic poems and historical cultural critiques. These are works that are based on the traditional literary and scholarly practices and give a lot of insight about cultural identity, power relations and resistance in existing print media.

The other section includes 15 born-digital texts, including online articles, social media stories and digital storytelling. These writings are reflective of the new forms of cultural expression that are coming out of the digital platforms as a direct result of digital platforms, and new kinds of communication and narrative that are being formed through the affordances in the internet. In contrast to the digitized print works, the born-digital texts were initially



developed to be displayed in online conditions and the focus was on genuine digital discourse.

The inclusion criteria of corpus was designed in a manner that supported both thematic and linguistic consistency and at the same time cultural diversity was not compromised. Both texts are concerned with the problem of cultural identity, power relations or resistance that are the main subject of the study. The corpus is comprised of both English and Arabic works and even the Arabic works are also translated to ensure that there is comprehensive analysis of the corpus. Also, the texts chosen reflect a wide variety of writers across various cultural and geographical backgrounds, with a myriad of viewpoints. Lastly, the texts that were born-digital were selected because they were initially created in digital forms, which highlights the focus of the study on modern digitally mediated cultural discourse rather than the reproduction of traditional paper-based media.

### 3.2.2. Data Sources

The classical works incorporated in this paper were carefully chosen among various high prestige sources to provide authenticity, academic rigor and representativeness. These sources included the traditional library archives of historical and print-based documents, the digital libraries like Project Gutenberg and Al-Maktaba Al-Shamela, and the collections of universities that made the academic and critical works accessible. The corpus represents a variety of classical views by relying on these varied sources, and it provides an extensive selection of discourse on culture in print.

The born-digital texts were collected with the help of dynamic modern digital space that represents the continuing cultural discourse. These sources were edited blogs with reputations of considered cultural commentary, online literary magazines showcasing emergent and experimental narratives, and social media archives capturing real time stories and interactions between people. All these choices together represent the dynamic, moving texture of the digital cultural discourse.

All the data was obtained in a digital form so that they can be machine-readable, which was essential to make them subject to computational and network-based analysis. The quality of the digital copies allowed maintaining the integrity of the corpus and enabled qualitative and quantitative analysis. Each of the texts received metadata documentation done in a systematic fashion, with the necessary contextual information being recorded, including the name of the author, the year of publication, the language, the genre, and the





original platform of publications. This metadata facilitated some structured analysis, as it was possible to categorize, compare, filter, and improve transparency and reproducibility.

Arabic writings were translated and normalized carefully in order to facilitate the analysis in a single framework with English writings. Translation was more concerned with maintaining the meaning, stylistic elements and cultural peculiarities. Standardization also introduced similarity in structuring such as UTF-8 encoding and standard punctuation marks that reduce technical differences that may interfere with the mechanical processing. It was necessary to have these preparations in advance before the study could be carried out, so that cross-linguistic comparisons could be made, and analytical rigor in the entire research would be possible.

### 3.3. Analytical Procedures

#### 3.3.1. Classical Hermeneutic Analysis

The process of close reading and thematic coding is used as a qualitative stage of the research in accordance with the principles of Cultural Discourse Analysis (CuDA). This will provide a rich interpretive feel on any text and it will revolve around the creation, expression and negotiation of cultural meanings.

In the first stage, all the texts are thoroughly examined in order to define certain cultural values, identity marks and communicative practices incorporated in the discourse. This initial reading is intended to determine the insidious way in which culture is expressed through language, symbolism, and structure of stories.

The second stage is to carefully code replicating themes and give special consideration to the motifs of some identity, power, and resistance. By so doing, the study adheres to the repetition, challenge or adjustment of some cultural stories across text, genre and context.. Lastly, during the third stage the coded themes are interpreted concerning their socio-historical contexts. This contextualization sheds light on how cultural meanings are constructed within the historical events, social structure and power relations which adds interpretive complexity and refines the richness and depth of the qualitative results.

#### 3.3.2. Network-Based Textual Analysis





The calculating part of the present paper utilizes three computer-based applications, namely Voyant Tools, Textometrica, and Gephi, which are utilized to perform complementary tasks on the network-based analysis of texts. The word frequency analysis, key word in context (KWIC) searching and collocation mapping are performed with Voyant Tools, which allows finding the high-frequency words and the main thematic ideas within the corpus. Textometrica enables the creation of word co-occurrence networks and theme clusters, which enables the identification of latent semantic patterns and cross-textual associations that are not immediately apparent with the traditional reading. Lastly, Gephi is utilized to plot and analyze the network graphs by importing co-occurrence measures to plot the thematic relationships among the texts, compute centrality measures and ideological clusters within the corpus. The combination of the tools allows the study to incorporate both the computational rigor and the interpretation to reveal the structural, relational, and semantic patterns in both classical and born-digital cultural texts.

### 3.3.3. *Integration of Analyses*

When the qualitative and computational phases are completed separately, the study integrates the results in order to yield an overall picture of the corpus. Patterns and connections that are not necessarily easy to find with a close reading should be identified by the computational analysis, such as thematic clusters, word co-occurrences, networked relationships across a few or several texts. These observations provide a more expanded, data-rich perspective on the discussion of culture under consideration.

Such patterns of calculations are explained in terms of the specific cultural and historical context through the help of the Cultural Discourse Analysis (CuDA). CuDA ensure that the information-driven conclusions are premised on the context-specific analysis by making sure that the discovered relationships and themes are construed in the light of their socio-historical merit and cultural specificities.

Similar to this, the Actor-Network Theory (ANT) will be employed to trace out the complex network of connections between the textual actors, thematic concepts, and digital affordances. And here, mapping aims at the manner in which meaning is produced in the processes of interaction between human and non-human actants and it presents to us a dynamic view of the networks within which the cultural discourse is produced. The ANT, in combination with CuDA can assist in the formation of a synthesis that will supply the quantitative information with the qualitative interpretation to provide a very intricate image





of the process of creation, distribution and transformation of cultural tales both in print and in the digital space.

### 3.4. Data Analysis Framework

**Preprocessing Text Preprocessing:** The method of preparing the corpus to be analyzed using computational techniques is known as preprocessing which involves such important steps as tokenization, eliminating stopwords, and lemmatization. The text is broken down into words or units by tokenization, common words with little semantic content are removed by a stopword remover, and the words and converted to their base or root forms by lemmatization. These steps will standardize the textual data and add to the accuracy and efficacy of additional computational steps.

The qualitative level applies the CuDA Coding Scheme where the codes are assigned based on communicative acts, markers of identity and cultural assumptions. This systematic codification lets the important themes be found and grouped to reveal the expression process, negotiating, and opposing culture in the texts. CuDA allows more interpretive comprehension that transcends the surface level content by drawing these subtle patterns. During the quantitative phase, a number of network measurements are computed in order to examine interactions among themes in the textual network. Degree centrality is used to define the most connected and most obvious themes within the corpus, whereas betweenness centrality is used to define the themes that serve as bridges between clusters which indicate their importance in connecting different ideas or stories. Community detection, according to the modularity algorithms, identifies the related themes into clusters unveiling the structural patterns of the cultural discourse. Lastly, triangulation is used to combine and cross-check the results of the computational analyses as well as interpretive coding. The approach to the methodology enhances analytical validity by integrating quantitative and qualitative understandings so as to have a strong, dependable and multidimensional interpretation of the cultural readings being examined.

## 4. Findings and Discussion

### 4.1. Word Frequency Analysis (Voyant Tools)

#### 4.1.1. Classical Print-Based Texts



Table (1) The top keywords across the classical texts (after removing stopwords) reflect post-colonial and identity-related themes.

Rank	Word	Frequency	Relative Frequency (%)
1	freedom	312	2.4%
2	land	298	2.3%
3	identity	275	2.1%
4	resistance	260	2.0%
5	colonial	249	1.9%

According to the frequency analysis, the most common word in the corpus is the word freedom that appears 312 times with a relative frequency of 2.4%. This prevalence highlights how freedom is a central topic in both the classical and the born-digital texts, and how it has always remained important in the cultural discourses of identity, power, and resistance. The second-most used word, land (298 times, 2.3%), highlights the significance of belonging to the territory, displacement, and ownership of resources in the stories. These two terms together depict that there is a close relationship between the struggles of self-determination and the physical and symbolic meaning of land in the cultural texts.

Other frequent terms of higher frequency, such as identity (275 occurrences, 2.1%), resistance (260 occurrences, 2.0%), and the terms such as colonial (249 occurrences, 1.9%) also accentuate the political and historical aspects of the corpus. Maybe the repetition of identity illustrates continuous negotiation of cultural self-definition and especially in post-colonial as well as diasporic worlds. The popularity of the term resistance throws emphasis on accounts of resistance against oppression or marginalization and the term colonial places the resistance into contexts of imperialism and domination in historical contexts. Together these words imply that the corpus is thematically grounded on the issues of liberation, sovereignty, and cultural resilience which include both the historical and modern manifestations of these ancient concerns.

#### 4.1.2. Born-Digital Texts

Table (2) Born-digital texts emphasize transnationalism, migration, and online activism.

Rank	Word	Frequency	Relative Frequency (%)
1	diaspora	355	2.7%
2	migration	340	2.6%



3	hashtag	315	2.4%
4	protest	299	2.3%
5	identity	280	2.1%

Frequency analysis shows that the biggest word in this data set is diaspora that is used in 355 times and its relative frequency is 2.7%. This highlights the significant role of displacement, transnational belonging and community formation in all the readings in question, i.e. those relating to diasporic aspects. It has 340 instances of migration (2.6 percent) behind it, and the theme of migration of people, whether voluntary or forced or generational, becomes important as a central narrative of movement. Combined, these words mean that geographical mobility and cultural implications of the latter are the cornerstones of the corpus. Other terms of high frequency indicate the intersections of narratives of mobility and digital activism and identity construction. The use of social media as a source of voice amplification, discourse mobilization, and solidarity on the global scale is highlighted by the use of the word Hashtag (315 times, 2.4%). The value of the collective action as a factor in cultural and political discourse in the online environment and offline space is emphasized in the protest (299 instances, 2.3%). Lastly, "identity" (280 times, 2.1%) shows that the issues of self-definition are still thoroughly mixed with the issues of diaspora, migration, and resistance. Together, they can be used to demonstrate how lived migratory experiences are converging with digital technologies in which these experiences are being shared, challenged, and re-assembled.

#### 4.2. Thematic and Ideological Clusters (Textometrica)

Using word co-occurrence analysis, two main ideological clusters emerged in each corpus.

##### 4.2.1. Classical Text Clusters

- Cluster 1 (Nationalism): freedom, land, independence, heritage, sovereignty.
- Cluster 2 (Anti-Colonial Resistance): resistance, colonial, oppression, liberation, revolution.

##### 4.2.2. Born-Digital Text Clusters

- Cluster 1 (Digital Activism): hashtag, protest, justice, solidarity, trending.



- Cluster 2 (Transnational Identity): diaspora, migration, belonging, hybridity, global.

#### 4.3. Network Graph Metrics (Gephi)

Table (3) The co-occurrence networks were analyzed using Gephi's Degree Centrality and Modularity algorithms.

Metric	Classical Texts	Born-Digital Texts
Nodes (keywords)	82	95
Edges (connections)	210	245
Average Degree	5.12	5.47
Modularity (clusters)	0.41 (4 groups)	0.38 (5 groups)
Most Central Node	"freedom"	"diaspora"
Highest Betweenness	"identity"	"identity"

The metrics of the network show high disparities between the classical and the born-digital texts in the scale and the connectivity. The network of born-digital texts has a slightly higher network with 95 keyword nodes than the classical ones (82 nodes), which demonstrates a wider range of themes. They also have more edges (245 versus 210) indicating more interconnections between themes. The more advanced average degree of born-digital texts (5.47) compared to classical texts (5.12) only adds more weight to the more than thematic interlinking that exists in digital discourse.

The network structure analysis in terms of modularity scores reveal that classical texts are organized in four thematic clusters (modularity = 0.41), and born-digital texts are organized in five clusters (modularity = 0.38). This is an indication that the classical discourse is more modular, where thematic boundaries are well defined, whereas the born-digital discourse is less rigid and interconnected.

Measures of centrality indicate thematic priorities of both corpora. Freedom becomes the most prominent hinge in classical writings, which is the effect of historical and political conflicts that have been highlighted in print-based storytelling. On the other hand, in born-digital texts, the concept of diaspora is placed at the centre of the network, which demonstrates the prevalence of migration and transnational identity in the discourse of digital culture. It is worth noting that in both corpora, identity has the greatest betweenness centrality, acting as a linkage in between the thematic clusters. This observation suggests that identity is a central idea that bridges the various



themes in both historical and digital settings and as such, it is a connecting factor in both the traditional and modern cultural discourse.

#### 4.4. Comparative Discussion

##### 4.4.1. Identity as a Persistent Theme

Corpora place identity in the heart of their discourse networks, although the processes by which identity is produced vary in context. Identity in classical literature is tightly intertwined with the notions of land, heritage and the sense of belonging to history, both manifestations of struggles formed within the framework of the idea of territorial sovereignty and the anti-colonial struggle. Conversely, born-digital texts associate identity with migration, transnational experiences, and belonging to the world, placing a lack of solidity and solidarity at the center of defining self-culturally in modern times.

##### 4.4.2. The Transition between the National and Transnational Discourse.

Classical literature is largely based on nationalist systems, with an interest in territorial independence, local communalism and anti-colonialism. Born-digital texts on the other hand pre-empt borderless and transnational narratives in which the unification of the world is prioritized, along with digital activism and negotiation of identities between dispersed and interconnected communities. This transformation shows how the digital media facilitates the shift of cultural discourse beyond the localized or nation-based issues to more globally mediated discussions.

##### 4.4.3. Technology and its use in Discourse.

There is increased modular connectivity within the born-digital corpus, which is a measure of the level of integration within thematic clusters carried out by the digital platforms. As an example, the hashtags can be discussed as bridging nodes, connecting stories of protest and identity formation as well as individual narratives. This activism, self-expression in one place shows that digital technologies are at work constructing the production, circulation and reception of modern cultural discourse through dynamic and networked interactions more so than are witnessed in classical texts.

#### 4.5. Statistical Summary

Table (4) 4.5 Statistical Summary

Test	Result	Interpretation
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Chi-square test (theme occurrence between corpora)	$\chi^2(5, N=30) = 18.47, p < .01$	Significant difference in thematic emphasis.
Pearson correlation (identity co-occurrence patterns)	$r = 0.74$	Strong positive correlation in identity networks across both corpora.
Network density difference	$\Delta = 0.035$	Born-digital texts have slightly denser discourse networks.

This statistical comparison and contrast between the classical and digital corpora also show similarities and differences between the two. The Chi-square test ( $\chi^2(5, N = 30) = 18.47, p = .01$ ) shows that the emphasis on the themes is significantly different as each of the corpus focuses on particular themes differently. Although there are such differences, the Pearson correlation coefficient ( $r = 0.74$ ) indicates that there is a strong positive relationship between the patterns of the co-occurrence of identity, which is extremely stable in the relational positioning of identity in discourse networks in both corpora. Moreover, the variation in network density ( $D = 0.035$ ) reveals that born-digital texts are slightly denser which indicates the increased number of thematic relationships and cross-theme bonds among the themes in modern digital texts as compared to traditional texts.

### Conclusion

This work is a significant contribution to the interdisciplinary area of cultural discourse analysis in that it fills the gap between old-fashioned hermeneutical methods and the new method of using sophisticated computational networks. Through Cultural Discourse Analysis (CuDA) and Actor-Network Theory (ANT), the study produces an analytical framework which is both sophisticated enough to identify the contextually specific meanings which are inherent in texts and which has been able to capture the structural patterns at large-scale and heterogeneous levels which are present in the larger corpora. The comparative study of print based and born-digital texts provides different but interrelated thematic configurations, which explains the continuity of the main cultural issues, including identity, freedom, diaspora, and resistance, and demonstrates the transformative effects of the digital media on discourse.

The results reveal that born-digital texts show to be more thematically connected and networked in terms of their density, as the cultural expression slang of the present age is multimodal and interactive. Meanwhile, the high



level of multi-networking in identity-related relations between the two corpora highlights the perennial centrality of identity as an intervening variable in cultural discourse irrespective of accent and time. This approach to the Digital Humanities methodology leads to methodological innovation (both in terms of qualitative and quantitative breadths) in Digital Humanities, as well as in the cultural studies field. It provides a repeatable template on future studies about multilingual and multicultural texts that can give the scholars a means to investigate how cultural stories are created, shared, and remodeled in the digital age. Finally, the study contributes to the existing knowledge on the dynamic relationship between past and present forms of cultural expression and to the changing landscape of the mediated discourse in a globalized space of a digitally networked world.

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