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ANTICIPATING THE DIGITAL: INTERMEDIALITY, NON-LINEARITY, AND ERGODICITY IN JOHN DOS PASSOS'S «U.S.A.»

В ПРЕДВОСХИЩЕНИИ ЦИФРОВОЙ ЭПОХИ: ИНТЕРМЕДИАЛЬНОСТЬ, НЕЛИНЕЙНОСТЬ И ЭРГОДИЧНОСТЬ ПОВЕСТВОВАНИЯ В ТРИЛОГИИ ДЖОНА ДОС ПАССОСА «USA.»

Abstract:

Structural innovations employed by John Dos Passos in his major work "The U.S.A." trilogy ("The 42nd Parallel" (1930), "1919" (1932), and "The Big Money" (1936)) made it a landmark of modernist literature and earned the author, according to Jean-Paul Sartre, the title of "the greatest writer" of the time. They also established him as a forerunner to innovative ways of structural principles of composing works of electronic literature, which came into being almost half a century later. The paper traces three experimental techniques utilized in the trilogy. First, it examines intermedial reference and intermedial imitation, used by J. Dos Passos through the incorporation of newspaper clippings, song lyrics, fictional realism, and biographies into a form of "visual collage" in order to depict a vast picture of American life at the beginning of the 20th century. Second, it analyzes the non-linearity of narration that creates the effect of simultaneity, used to evoke the feeling of perception of historical events happening simultaneously to everyone everywhere, showing a cross-section of an entire society at a specific time. Finally, it explores ergodicity, or the requirement for the reader to make a non-trivial effort in order to assemble disconnected fragments of a text in order to construct the meaning. Ultimately, the paper argues that these three compositional devices – intermediality, non-linearity and ergodicity – serve as the proto-architectural foundation for modern electronic literature and became some of the essential features of texts of electronic literature, especially hypertext fiction, when writing transferred from the printed page to the computer screen.

Keywords: electronic literature, intermediality, non-linearity, ergodicity, proto-hypertext

Introduction

As Alan Liu [17, p. 1] maintains, the narrative of "new media" is a very old tale — an identity narrative wherein new media simultaneously project and introject "otherness". According to Marshall McLuhan [18, p. 7], any medium is an extension of ourselves, and a new medium merely introduces a new scale of extension. This shift alters not just our perception, but our very apprehension of what a medium can entail.

Historically, such transitions have always sparked anxiety and adjustment; Liu [17, p.6] recalls Plato's *Phaedrus*, where the Egyptian king fears writing will destroy human memory, while N. Katherine Hayles [12, pp.1-2] describes the turmoil within scriptoriums at the dawn of the print revolution. As M.T. Clanchy [8] notes, a new medium only becomes socially meaningful through a massive accretion of practices and forms that scale it into a cultural force.

However, transferring text from one medium to another often reveals a persistent *déjà vu* effect. Jay David Bolter and Richard Grusin [6, p. 55] define this as "remediation"— the idea that the content of any new medium is always an older medium. We see this when we "scroll" down web "pages". Yet, while the fundamental forms of literary expression may remain stable, a shift in platform forces authors to explore new affordances. And yet, long before the digital screen, modernist writers were already pushing the boundaries of the printed page to mimic the multi-layered velocity of the modern world. The main representative among them was John Dos Passos, who used cinematic and journalistic collage techniques in his "U.S.A. Trilogy," which functions as an analog precursor to digital hypertext. The aim of this paper is to identify how Dos Passos's structural innovations, by exceeding the stable principles of literary composition, anticipated and found new expression in contemporary digital fiction.

Literature review

John Dos Passos, whom Jean-Paul Sartre considered "the greatest writer" of the time, is best known for his "U.S.A. Trilogy" ("The 42nd Parallel" (1930), "1919" (1932), and "The Big Money" (1936)), and consistently ranks among the top writers of the 20th century. Besides leaving a vivid picture of American reality at the beginning of the 20th century, Dos Passos's novels mark a landmark of modernist literature, largely due to structural innovations that he introduced into the composition of his novels. Though his literary experiments started with his early novel "Manhattan Transfer" (1925), in which he introduced the stream-of-consciousness technique, he is mainly remembered for his "U.S.A. Trilogy." In these novels, written in an experimental form, he uses various innovative techniques, such as intermediality, expressed through the incorporation of fictional realism, newspaper clippings, biography, autobiography, and song lyrics to paint a broad landscape of American life at the beginning of the 20th century. Non-linearity of narration, applied by him as the main principle of storytelling, creates the effect of simultaneity, used to evoke the feeling of perceiving historical events happening simultaneously to everyone everywhere, showing a cross-section of an entire society at a specific time. Ergodicity, another technique of composition, implies a requirement for the reader to make a non-trivial effort in order to assemble disconnected fragments of a text; it is used to enhance the reader's involvement in the reconstruction of the overall content of the text and participation in the process of creating meaning.

These three compositional devices – intermediality, non-linearity, and ergodicity – serve as the proto-architectural foundation for modern electronic literature and have become some of the essential features of texts in digital fiction, especially hypertext fiction. They also established Dos

Passos as a forerunner of innovative structural principles for composing works of electronic literature, which came into being almost half a century later, when writing transferred from the printed page to the computer screen.

Materials and Methods

Intermobility and Collage Techniques

By borrowing techniques from the visual arts, cinema, and mass media and placing these different types of text together, Dos Passos created a literary version of a visual collage or a cinematic montage. The idea for this he borrowed from the film director Sergei Eisenstein [11], whose theory of montage was based on the idea that violently colliding two different images creates a new, entirely different meaning in the viewer's mind. Dos Passos used text to achieve the same psychological effect, proving that the traditional novel could adapt to the emerging dominance of film and mass media by absorbing their structural principles into its composition.

Thus, in *The Newsreels*, he uses fragments of real newspaper headlines, song lyrics, and political speeches to imitate the styles of journalism, radio broadcasts, and popular music. In the sections titled *The Camera Eye*, he uses autobiographical, stream-of-consciousness prose lacking standard punctuation to imitate the subjective, wandering lens of a cinematic camera. In *Biographies*, he uses stylized, non-fiction sketches of real public figures (e.g., Henry Ford, Thomas Edison), borrowing the form of historical documentary and biography. In *Fictional Narrative*, he writes intersecting stories of everyday Americans in a detached, objective style, following the form of a traditional realist novel. This blending of forms of representation is an example of intermedial reference or intermedial imitation, which, according to the media theorist Irina Rajewsky [22, p. 52], occurs when one medium simulates or adopts the forms, structures, or conventions of another. Dos Passos resorts to this technique in an attempt to capture the chaotic sensory overload of American reality at the time.

The legacy of Dos Passos's structural innovations was already evident in the foundational works of the first-generation electronic literature created on Story Space, powerfully supporting our argument that modernism anticipated digital architecture. The same principle of intermediality has become one of the main techniques of composing works of electronic literature, which frequently use multimedia by embedding video clips, audio files, and interactive graphics directly into the text.

As Dos Passos was confined to print, he simulated the same form of collage in the composition of his works. His *Newsreels* are mashups of real newspaper headlines, fragments of political speeches, and snippets of popular song lyrics. In this way, he embedded external media into the structure of his novels, as if he foresaw the sensory overload of a browser window with several tabs simultaneously open, long before the computer was invented.

The principle of intermedial composition of texts has become one of the main techniques of creating fictional works of electronic literature. Shelley Jackson's hypertext novel "Patchwork Girl" [13], written 65 years after Dos Passos published the first novel of his trilogy ("The 42nd Parallel" (1930)), is a brilliant exploration of identity, using the metaphor of Mary Shelley's "Frankenstein". The text is literally stitched together from disparate sources: passages from Mary Shelley's original novel, L. Frank Baum's "The Patchwork Girl of Oz," historical anatomical textbooks, and Jackson's own original text and black-and-white illustrations. "Patchwork Girl" physically manifests intermedial reference and visual collage as a technique first used by Dos Passos. While Dos Passos was constrained by the physical printed page, having to mimic the aesthetics of

newspaper clippings, song lyrics, and biographies using standard typography, Jackson utilizes an interface to actually construct an intermedial whole. She takes the cut-and-paste technique, pioneered by Dos Passos in print, and executes it natively on the screen.

Non-Linearity and Network Narratives

Dos Passos's pioneering works of nonlinear fiction were a major influence in the field. In particular, Alfred Döblin's "Berlin Alexanderplatz" and Jean-Paul Sartre's "Roads to Freedom" trilogy show the influence of this method. Unlike a "linear" story, where time moves from past to present and then to future alongside a narrative that moves steadily forward on a single track, following a protagonist's desire for something, overcoming obstacles, reaching a climax, and arriving at the resolution of the conflict, Dos Passos gives us a cross-section of an entire society at a specific time. He completely dismantled the track of narration. Instead of moving forward through time, his narrative moves sideways across space, deliberately frustrating our expectation of a traditional plot. Just as a fictional character's storyline starts building tension, Dos Passos interrupts the chapter and introduces a *Newsreel* (a collage of newspaper headlines) or a *Camera Eye* (a stream-of-consciousness memory) that has no direct connection to the scene you were just reading. By constantly frustrating expectations, he prevents the reader from following a linear narration of a traditional novel.

The "U.S.A. Trilogy" features twelve main fictional characters. Their stories rarely come to a climax in the traditional sense; they drift, suspend, and sometimes come to an abrupt pause. The story of Mac, which begins with "The 42nd Parallel," is interrupted by the story about Big Bill, the connection between whom we discover later. The narrative line of a young mechanic in Chicago suddenly stops in the middle of his story to switch to an ambitious public relations executive in New York on exactly the same day. Dos Passos treats time geographically rather than chronologically, showing us that history happens to everyone at once.

Throughout the trilogy, Dos Passos inserts stylized, non-fiction biographies of real historical figures like Henry Ford or Eugene Debs. These historical figures do not interact with the fictional characters, but rather form the historical background of the given period of time. In this way, the author forces the reader to look away from the plot of the novel and turn attention towards the broader historical period.

Contrary to a linear novel, in which the author dictates connections, in Dos Passos's non-linear structure the reader has to find connections by himself/herself, figuring out how a headline in a *Newsreel* relates to the failure of a fictional character three chapters later. This is one way in which Dos Passos acts as a forerunner of the principles of composing electronic literature. Decades before the invention of the internet, hypertext, and digital fiction, he was trying to create a multi-dimensional, interactive reading experience using only paper and ink. For this reason, many media theorists and scholars of digital literature often consider the high modernists, especially Dos Passos, James Joyce, and later writers Jorge Luis Borges and Julio Cortázar, to be the pioneers of the "proto-hypertext".

Discussion

Digital hypertext was not a sudden, isolated invention; rather, it is a direct continuation of experimental print literature. Bolter and Joyce [5, p. 41] view hypertexts as a flexible, interactive evolution of traditional fiction. Expanding on this, Lavin [16, p. 2] argues that early 20th-century

modernist authors like John Dos Passos, Gertrude Stein, and Sherwood Anderson were constructing "network narratives" to map complex social landscapes long before the digital age. The concept and ideology of the network do not belong exclusively to modern digital society. In fact, the theoretical frameworks used to analyze early electronic literature were actually borrowed from mid-century critics who were studying the decentralized, nodal storytelling methods perfected by these modernist writers. As Landow [15, p.1] points out, hypertextuality originally grew out of a deep frustration with the rigid, hierarchical limitations of the traditional printed book. Hence, the digital network serves as the practical realization of complex literary and cultural theories. Cixous [9] suggests that digital networks are the ultimate fulfillment of poststructuralist philosophy, rather than just a convenient tool for connectivity. Poststructuralist and postmodernist thinkers wanted to escape rigid, top-down power structures and "master narratives". In doing so, they were responding to cultural anxieties that experimental modernist writers had already identified decades earlier [4].

The network model perfectly mediates the defining tension of the modernist era: the pull between total unity and fragmented dispersal (driven by shifts like changing U.S. demographics). To navigate these frictions, modernists naturally gravitated toward decentralized, overlapping, and interconnected structures. For example, rejecting the failed metaphor of the American "melting pot," Randolph Bourne [7, p. 115] proposed a network-like social model of "national clusters" forming a "federation of cultures". He believed this transnational, nodal framework could heal wartime divisions and serve as a blueprint for international diplomacy by creating a coherent whole out of fragmented pieces.

Modernist writers actively rejected traditional, linear cause-and-effect storytelling because it failed to capture the true nature of human experience and knowledge. While standard critiques claim modernism simply balances societal fragmentation with a desire for wholeness, the reality is more complex. Modernist structural experiments functioned like dynamic, evolving networks. Lavin [16, p. 2] clarifies that while modernist networks are not identical to today's digital information systems, they established the foundational vocabulary that makes our current network society understandable.

Consequently, modernist literature offers contemporary digital humanities a massive historical archive tracking the evolution of the "network". Thus, while traditional readings of Dos Passos's trilogy "U.S.A." focus heavily on its disconnected, isolating formal properties, Lavin [16, p. 3] argues that these narrative fragments actually interconnect to form a vast "semiotic web". This web ultimately drives the text toward a comprehensive, totalizing vision of the nation and history.

In comparison to early hypertext fiction stories, which consist of "nodes" or semantic blocks of text where the reader has to click a hyperlink to jump from one node to another in order to create their own pathway, the structure of Dos Passos's novels acts like a manual hypertext network. By abruptly ending a fictional chapter to introduce a *Camera Eye*, he forces the reader to "click a link" to a different "node". His narrative does not flow; it also "jumps".

Nonlinearity of narration has become one of the dominant principles of composing works of hypertext fiction since its earliest works. One of them, which is commonly acknowledged as a remarkable work of hypertext fiction, is the novel "Victory Garden" by Stuart Moulthrop [19]. Set during the 1991 Gulf War, "Victory Garden" is a massive, sprawling network of nearly 1,000 nodes of text. It depicts a wide range of characters – soldiers, academics, media figures, and politicians, whose lives intersect dynamically depending on the paths the reader chooses to explore.

The novel is the definitive digital descendant of Dos Passos's attempt to capture a society-wide cross-section. Where Dos Passos used *Newsreel* sections to simulate the overwhelming media landscape of early 20th-century America, "Victory Garden" structurally mimics the 24-hour CNN news cycle of the early 1990s. The hyperlink structure perfectly replicates the non-linear simultaneity, depicting the cross-section of society and creating the feeling of major historical events happening to everyone, everywhere, all at once.

Ergodicity and the Program of the Book

The next functional concept, ergodicity, was introduced into digital media studies by Espen Aarseth [2] for texts that require from readers a non-trivial effort to traverse them. Contrary to the readers of codex literary texts who have to turn pages following the line of narration, the reader of e-literature has to perform an active role by choosing the links to click on in order to compose his/her version of a story. Likewise, Dos Passos requires an ergodic reading experience. You cannot passively read the "U.S.A. Trilogy". You have to actively assemble the fragments and remember disconnected timelines to build the overall meaning of the novels. This way, Dos Passos turns the reader into a "co-creator," which is exactly what is expected from the reader of e-literature.

Dos Passos's experimental techniques of composition pushed the printed book as far as it could go towards becoming a multi-linear, multimedia network. His experiments made his writing a crucial bridge to the way of writing that was to come into practice only with the arrival of the digital era. He took the high-modernist stream-of-consciousness of James Joyce's "Ulysses," combined it with the grittiness of cinema and journalism, and handed his innovative way of writing to future writers in an effort to make sense of the complexity and turmoil of the contemporary world.

His innovative ways of writing found parallels in the new literature to come: distinct, rotating narrative modes were later reflected in hypertexts' nodes and branching narratives; *Newsreel* text collages in embedded multimedia, such as video and audio clips; and mental piecing together of fragments was paralleled in interactive fiction in which readers click to choose the path. In this way, print modernism anticipated digital architecture.

The continuation of experimental ways of composition, initiated by modernist writers, found its reflection in later experiments of writers of electronic literature. Ergodicity, as a principle of composition, was used by Michael Joyce in his hypertext "Afternoon, a story" [14], which is widely considered the first major work of hypertext fiction. The story depicts a narrator who suspects he might have witnessed his ex-wife and son in a fatal car crash earlier that day. The narrative has no fixed center and no definitive ending; readers navigate by clicking linked words, often finding themselves coming back to earlier screens with subtly altered contexts.

Just as the "U.S.A. Trilogy" does not provide the reader with a unified narrative, forcing them instead to synthesize the *Camera Eye*, *Newsreel*, and biographical sections, "afternoon, a story" relies entirely on ergodicity. The text physically resists passive perception. The "non-trivial effort" is materialized in the software architecture. The reader must actively map the fragmented text to reconstruct the plot.

Conclusion

Breaking the Material Boundaries of Print

And yet, electronic literature is not just a transfer of modernists' experiments from a printed page to a computer screen. Aljayyousi [3, pp. 9-11] challenges the idea that digital textuality is

either a seamless continuation of print or a completely radical, unprecedented break from it. Instead, the author argues that early digital forms (like e-books) often mimicked the physical traits of traditional books. However, this "e-hyphenation" serves a purpose: it forces us to look back at print and realize that the traditional book was *always* a piece of technology, not just a natural medium. Citing Johanna Drucker [10, pp. 166-167], Aljayyousi suggests we view the book not as a static object, but as a "program" that dictates a "ritual of reading". The layout, index, and page structure are parameters that guide a reader's cognitive performance.

Drawing on Walter Ong [20, p. 121], Aljayyousi emphasizes that print rigidly "locks" words into a visual space. Control of position is paramount in print. Unlike previous forms of writing- the scroll, the codex, or the printed page- which were invented *solely* to accommodate the written word, the computer is fundamentally a processing machine. Writing and reading are merely byproducts of its complex, multi-use architecture. Therefore, forcing digital fiction to perfectly emulate print is a mistake. We should rather concentrate on learning how new media sheds light on old media. Looking at digital fiction allows us to see how Dos Passos was manipulating the "technology" of the print book. As Aljayyousi [3, p. 17] notes, the emergence of digital literature does not completely sever ties with ancestral formats; rather, it casts those older formats in a revealing new light. Rather than viewing the computer as an unprecedented radicalization of textuality, we should recognize that it exposes what was always true: print is merely one historical phase of textual transmission with its own distinct material limitations. When applied to the “U.S.A. Trilogy,” this perspective reveals that Dos Passos was not merely writing a novel, but self-consciously working within, and straining against, the technological specificity of the printed page. Trying to break the boundaries of print that lock words in space, Dos Passos strove to break this lock using cinematic and collage techniques, foreshadowing the multi-layered nature of the computer.

The rigid materiality of print is defined by spatial control. According to Walter Ong’s [20, pp. 121] media theories, writing shifts language from sound to sight, and the printing press aggressively fixes words into a permanent visual layout where "control of position is everything". Dos Passos's “U.S.A. Trilogy” explicitly wrestles with this spatial imprisonment. Through his cinematic *Camera Eye* and fragmented *Newsreels*, Dos Passos attempted to manipulate the fixed topography of the page, mimicking a dynamic, multi-layered visual experience long before the computer offered a canvas natively built for such fluidity.

To fully grasp Dos Passos’s Trilogy as an analog precursor to digital fiction, one must adopt Johanna Drucker's [10, p. 170] conceptual framework, as championed by Aljayyousi [3, p.17]: viewing the codex book not as a static container, but as a "program" that establishes a "performative space" for the reader. Dos Passos’s Trilogy functions as an analog program. The reader has to actively "run" the text by jumping between different narrative tracks. The structural apparatus of the book, its navigation, pacing, and sequential ordering, functions as a set of boundaries that dictate a specific "ritual of reading". In “U.S.A.” Dos Passos rewrites this traditional program. By organizing his text around algorithmic-like parameters of historical data, biography, and stream-of-consciousness, he forces the reader to execute a highly active, non-linear performance that mirrors the operational logic of digital media, proving that a text can function as a complex mechanism even when restricted to the printed page.

As Liu [17, p. 14] rightly maintains, “The task of studying new media, it might be said, is to help us better to understand what it meant to write, read, and imagine in the past; while, inversely,

that of studying old media is to help us appreciate what it now means to encode, browse, simulate, etc. 'Digital literary studies' should make that possible."

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