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Structured Chaos: A Comprehensive Technical Study of Self-Organization in the Six Stories of Cloud Atlas

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Abstract:

Chaos science is part of the 'new sciences' which examine the behavior of complex systems of the universe. Literary narratives which engage with questions of identity can be studied based on the principles of chaos science. The novel form which utilizes experimental narrative style is best suited for such examination. David Mitchell's Cloud Atlas (2004) has a unique structure of six individual, interlocking stories which ultimately form a single novel. Mitchell's novel represents the principle of 'self-organization' at the 'edge of chaos' as propounded by chaos science. The paper attempts to examine the potentials of applying concepts from chaos science to study literary texts, especially the novel. It argues how Cloud Atlas is a landmark in the novel form through its use of chaos science in the construction of its narrative and how it presents itself as a harbinger for what the future holds for the art of the novel.

Keywords: Chaos science, self-organization, edge of chaos, complex narrative, identity

Cloud Atlas (2004) by David Mitchell is lauded for its unique, experimental narrative construction. Right from his debut *Ghostwritten* (1999) to his recent *Utopia Avenue* (2020), Mitchell's novels have been distinguished for their "virtuoso use of pastiche and bravura intertwining of widely diverse storylines, narrative voices, and geographical and historical settings" (Birch and Hooper 469). Mitchell utilizes unconventional, innovative narrative structuring coupled with lyrical prose in his novels including *Cloud Atlas*. Among Mitchell's oeuvre, *Cloud Atlas* preserves its reputation as an extraordinary *tour de force*, a landmark in the history of the novel form. *Cloud Atlas* is structurally reminiscent of Italo Calvino's *If on a*

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Winter's Night a Traveler (1979). It is organized around six interlocking stories, out of which five stories end abruptly halfway through their narrative. These five stories resume their narrative after the sixth story, which is unbroken, and achieve completion as the novel ends – a structural conceit similar to a Russian nesting doll. The individual stories are set in different historical eras and geographical settings. They experiment with a variety of thematic, generic and linguistic conceits ranging from the epistolary novel, pulp fiction, science fiction, memoir, and the oral fireside yarn. *Cloud Atlas* is unique for its numerous layers of interconnections. Characters with similar traits recur through individual stories, while choices made in one affect the outcomes of other stories. These connecting threads ultimately transform the six different stories, which can be read and comprehended independently, into one complex novel. This paper attempts to establish that the analysis of such complex novels, which exhibit a kind of disordered order, can only be achieved using the insights gained from chaos science. *Cloud Atlas* and its complex narrative structure can only be fruitfully examined with the aid of chaos science, which is widely recognized as a theory capable of analyzing the behavior of complex, chaotic systems.

"Chaos science," including chaos theory and complexity theory, emerged in the late twentieth century as a "new science" of studying the behavior of complex, dynamical systems. A complex system can be defined as that which maintains an intricate network of connections with the environment in which they function. In a complex system, the features of the individual components cannot be isolated to study the features of the whole system. Such systems are not represented by their parts, but each part is unique, playing an independent and simultaneously bounded role in the functioning of the whole system. Complex systems are also capable of evolution, which is essential for the longevity and continuous transformation of that system (Cilliers viii). According to Katherine Hayles, chaos science is "the study of complex systems, in which the non-linear problems . . . are considered in their own right, rather than as inconvenient deviations from linearity" (9). Chaos science ushers in the age of interaction between ideas of 'order' and 'chaos.' It sees 'chaos' as a co-partner, and not the opposite of 'order' in the behavior of complex systems of the universe. It states that a hidden order exists within complex systems which exhibit random, chaotic behavior (Hayles 9). Chaos science observes the role of unpredictability, randomness, and disorder in complex systems of the universe. It examines how

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rapidly changing complex systems which appear to be on the brink of total disruption have the capacity to evolve into a higher level of stability. This principle is called "self-organization" at the edge of chaos (Toffler xv).

Self-organization assists complex systems to adapt to changing external circumstances and to evolve accordingly. According to Paul Cilliers, self-organization enables complex systems "to develop or change internal structure spontaneously and adoptively in order to cope with, or manipulate, their environment" (90). Complex systems which are "far from equilibrium" exhibit this property of self-organization. In a far from equilibrium state, a complex system does strange things. Alvin Toffler says that, in such a state the system becomes, "inordinately sensitive to external influences. Small inputs yield huge, startling effects" (xvi). A sudden change occurs in such systems generating the process of spontaneous "self-organization," where out of a state of nearly no equilibrium or a state of disorder, order and organization arise spontaneously (xv). A far from equilibrium state is connected to the idea of a balancing point, or phase, which is located between absolute order and absolute chaos. Such a balancing phase is popularly termed as the "edge of chaos." Complex systems are capable of balancing order and chaos. Complex systems are at their most creative and dynamic at the balancing point called the edge of chaos (Sardar 82). The edge of chaos can be seen as a critical point in the development of a complex system. From such a point, complex systems can self-organize into a higher level of complexity (Sim 93). Balancing of order and chaos proves to be the basis of complexity and creativity in systems: natural and social. In this regard, M. Mitchell Waldrop states: "The edge of chaos is where life has enough stability to sustain itself and enough creativity to deserve the name of life" (12). The edge of chaos plays a crucial role in the phenomenon of life and the evolution of living systems.

Chris Langton, who coined the term the edge of chaos, uses the example of atoms in different states to examine systems at the edge of chaos (Waldrop 293). He elaborates that atoms in a solid state are frozen and rigid, there is a high level of order which forbids further advancement; while in a fluid state, which is at the extreme to a solid state, the atoms behave in a random manner because of lack of any control (Waldrop 293). Such a state is utter disorder or turbulence. But in between these two extremes, according to Langton, there is a phase which can

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be called the edge of chaos. In this phase we can find systems behaving in a complex manner (Waldrop 293). Langton says that, at the edge of chaos we can find complexity: "a class of behaviors in which the components of the system never quite lock into place, yet never quite dissolve into turbulence either" (qtd. in Waldrop 293). The possibility of transformation, production of information, creativity, and evolution is maximized at the edge of chaos. Stuart Sim says that the edge of chaos is the best place to be for systems to evolve (94). Sim acknowledges that being at the transition point between order and chaos generates the possibility of immense control where even small inputs can produce big changes in the future of the system (94). But he also states that life at the edge of chaos can prove to be a huge gamble. The edge of chaos, "is certainly the most exciting place to be, although it is also a highly insecure state since it involves a delicate balancing act. Sometimes the balancing act between order and chaos fails, precipitating systems into chaos" (Sim 94). Thus, a state of existence at the edge of chaos is replete with possibilities and dangers.

Doyne Farmer supports this view of the balancing act between order and chaos at the edge of chaos (Waldrop 294). He finds the edge of chaos as the best place for any system to evolve. Systems have to balance order and chaos, says Farmer (Waldrop 294). He elaborates the importance of this by producing examples of systems which proved to be too rigid and ordered, or too loose and chaotic. Farmer cites the example of the former Soviet Union as a frozen, rigid system. He states: ""It's now pretty clear that the totalitarian, centralized approach to the organization of society doesn't work very well." In the long run, the system that Stalin built was just too stagnant, too locked in, too rigidly controlled to survive" (qtd. in Waldrop 294). Farmer places the example of the laissez-faire system as a loose, chaotic one which also became an utter failure (Waldrop 294). He proposes the edge of chaos as the ideal phase for any system to be. According to Farmer, healthy economies and societies have to keep a balance between order and chaos. Such a balancing act should not be conducted by societies in the form of a conservative, risk-free approach. Economies and societies which aspire towards constant advancement should function, "Like a living cell, they have to regulate themselves with a dense web of feedbacks and regulation, at the same time that they leave plenty of room for creativity, change, and response to

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new conditions" (Waldrop 294). It can be argued that the dynamics of complexity at the edge of chaos is ideal for economies and societies to advance continuously.

The innumerable possibilities offered at the edge of chaos enables systems to self-organize into a greater level of complexity (Sardar 83). Self-organization is triggered only at the edge of chaos and it can be observed in systems which are adaptive, i.e. systems which can balance order and chaos. Atoms form chemical bonds and organize themselves into an advanced state of complex molecules when they are driven to the edge of chaos (Sardar 83). The process of self-organization of systems at the edge of chaos propels them to a greater level of complexity. The complex systems thus produced are termed "dissipative structures" because it is hard to sustain them for longer periods of time. These also require more energy to maintain their higher level of complexity (Sardar 70). Paul Cilliers presents the example of the human brain, as a complex system. Cilliers elaborates:

Within certain given constraints – including physical, biological and genetic ones – the brain has to develop an understanding of its environment, and be able to operate effectively in that environment. Since it is implausible that the brain contains, *ab initio*, a programme that can cope with all eventualities, we can safely assume that the brain has to have the ability to *learn*. The necessary changes in structure that enables the brain to remember what has been learnt must therefore come about spontaneously. (90)

Thus, the brain can be seen as a dissipative structure which evolves and maintains its capacity for complexity through the process of 'learning.' This process of learning triggers spontaneous evolution. The 'energy' which is required to maintain complexity can be regarded as metaphorically manifested in life processes of learning and evolution. Learning and evolution, "don't just pull agents to the edge of chaos; slowly, haltingly, but inexorably, learning and evolution move agents *along* the edge of chaos, in the direction of greater and greater complexity" (Waldrop 296). Chaos science, thus, presents the edge of chaos and self-organization as foundational for creativity and life.

Chaos science argues that 'chaos' or randomness in systems holds a hidden pattern of 'order,' an order 'in' chaos. It also proposes the capacity for systems to generate order 'out of' chaos. Chaos science has established its credentials as a vibrant field which can also be

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effectively utilized for an interdisciplinary analysis of literary texts. Stuart Sim is of the opinion that chaos science can be appropriated for narrative as well as critical practices (Sim 91). Chaos science has, "enlivened literary and cultural studies, stimulating an intellectual boundary crossing . . . perhaps not seen since the two-culture rift arose out of the triumph of classical physics" (Parker 19). Works of analysis utilizing chaos science, and the insights gained from them may be numerous but the fact remains that quantity can never stand as a worthy argument for acceptability (Norris 115). A huge number of such readings are misinformed and represent chaos science and its concepts incorrectly. All literary texts cannot be effectively analyzed on the basis of chaos science. Analysis has to be limited to works which fulfill specific conditions. According to Jo Alyson Parker all systems cannot be analyzed as chaotic systems; similarly, all narratives of literature cannot be seen as chaotic narratives suitable for analysis using chaos science (Parker 131).

The analysis of literary texts using chaos science has to be confined to narratives exhibiting a specific behavior. Such narratives are those where the nature of 'identity' is foregrounded (Sim 89). Stuart Sim claims that, "any narrative in which free will is a central concern would be a candidate for analysis through the concepts of chaos and complexity" (90). Stephen Kellert concurs with Stuart Sim when elaborating on the effective appropriation of chaos science in numerous disciplines. According to Kellert, ". . . one especially apt use of chaos theory to restructure an existing field concerns the notion of personal identity" (142). Alexander Argyros also establishes identity as one of his "cultural universals," which can be explored using the ideas of chaos science (Kellert 182). Literary and cultural theories including feminism, deconstruction, postmodernism, postcolonialism and queer studies have been concerned with the questions of free will and identity (Sim 89). Chaos science, with its presentation of systems exhibiting orderly disorder, challenges the logic behind stable identities. Personal identity and the issue of free will which cultural theorists analyze can be examined, problematized, and expanded using insights from chaos science (Sim 94). With chaos science providing a scientific backing, debates on identity being produced by cultural and literary theorists will achieve further credibility (Sim 96).

Chaos science and its numerous concepts can be utilized to analyze the behavior of 'complex systems' in literature and arts. According to Cilliers, language and social systems are

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complex systems (Cilliers ix). Thus, works of literature and art being produced using language and ideas derived from socio-cultural interactions are bound to be complex systems. Italo Calvino has described the world and its reality as highly complex. Calvino compares its complexity to that of an artichoke (197). According to him works of literature, including the novel, are bound to represent the world's complexity through works which are in themselves highly complex. Calvino elaborates: "What counts for us in a work of literature is the possibility of being able to continue to unpeel it like a never-ending artichoke, discovering more and more new dimensions in reading" (197). Jo Alyson Parker utilizes the idea of complex systems to conceptualize "chaotic narratives." According to Parker, complex systems "undermine classical notions of stability, repeatability, predictability, causality, absolute time, and observer objectivity. So do chaotic narratives, manipulating the ordering, repetition, and duration of events and highlighting the interconnectedness between text and reader" (25). Chaotic, complex narratives experiment with chronology. These narratives defy linear arrangement of events and intermingle the past, present, and future timelines (Parker 25). Chaotic narratives repeat events on different scales by presenting different versions of the same events. Events are compressed at times and expanded at others. On the topic of interacting with the reader, "a chaotic text may deliberately highlight the dynamics of the reading process. Often, it demonstrates these dynamics within the text itself, featuring a metanarrative and characters engaged in interpretation – or misinterpretation of it" (Parker 25-26). Chaotic narratives exhibit narrative conceits which are inherently postmodern.

By analyzing the features of complex systems, and chaotic narratives, a unanimous conclusion can be made that the 'novel' form is best suited for study as a complex system. It can represent the complexity and narrative vibrancy which complex systems exhibit. The novel can be studied as a complex system. Milan Kundera supports this view when he says, "The novel's spirit is the spirit of complexity. Every novel says to the reader: "Things are not as simple as you think." That is the novel's eternal truth, but it grows steadily harder to hear amid the din of easy, quick answers that come faster than the question and block it off" (18).

Cloud Atlas by David Mitchell is unique for its structuring of the narrative using six embedded stories. The first story named "The Pacific Journal of Adam Ewing" describes a

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period of imperial expansion and conquest for colonies during the 1850s. It is structured in the form of a journal written by the protagonist Adam Ewing, an American lawyer traveling on a ship along the Pacific coast. The second story: "Letters from Zedelghem" deals with the exploits of a young homosexual music composer Robert Frobisher. The story is narrated in an epistolary form utilizing Robert's letters to his lover Rufus Sixsmith. The third story is titled "Half-Lives: The First Luisa Rey Mystery." The protagonist is a reporter named Luisa Rey who works for a gossip-centered magazine called 'Spyglass.' The story uses a pulp-fiction thriller style. The fourth story: "The Ghastly Ordeal of Timothy Cavendish" is about an aging publisher named Timothy (Tim) Cavendish. The story uses the narrative conventions of a memoir. The fifth story is titled "An Orison of Sonmi~451." It narrates the tale of a clone named Sonmi~451, a genetically engineered slave in futuristic Korea. The story is a science-fiction narrative constructed in the form of an interview where a futuristic device called an 'Orison' is used to record Sonmi's statements before her execution. The sixth story is titled "Sloosha's Crossin' an' Ev'rythin' After." It is set in a post-apocalyptic future where the protagonist named Zachry, a goatherd, recounts the struggle of the civilized against a marauding savage race called the 'Kona.' Zachry's story imitates the form of an oral fireside 'yarn.'

The narrative structure of *Cloud Atlas* can be compared to the design of a Russian matryoshka doll, or the nesting doll. The matryoshka doll contains a set of self-similar dolls made of wood, composed of two separate pieces – the top piece features the head and the bottom pictures the body. A smaller doll is seen embedded within the larger piece when we open it up. This smaller doll is placed within the hollow of the bigger doll. A set of numerous self-similar dolls can thus be nestled inside, with each bigger doll concealing a smaller one until the last doll is reached – which is made up of a single complete piece. *Cloud Atlas* is composed of six such stories. Each story, starting from "The Pacific Journal of Adam Ewing," gets disrupted while half-way through for the next story to begin. The process of presenting the 'half' or 'head' pieces (as in a matryoshka doll) continues until "Sloosha's Crossin' an' Ev'rythin' After" which is a complete piece (the centerpiece of the 'doll'). After the sixth story, the next half or 'body' pieces of the disrupted stories continue backwards from the fifth story – "An Orison of Sonmi~451" to the first of Adam Ewing until all achieve completion. The structure can be taken as representing

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symmetries similar to fractal shapes studied in chaos science. David Mitchell seems to implicitly point towards this in the Luisa Rey story:

One model of time: an infinite matrioshka doll of painted moments, each 'shell' (the present) encased inside a nest of 'shells' (previous presents) I call the actual past but which we perceive as the virtual past. The doll of 'now' likewise encases a nest of presents yet to be, which I call the actual future but which we perceive as the virtual future. (Mitchell 409)

A systematic disruption and ultimate completion of temporal, spatial and thematic components of narrative is seen taking place throughout *Cloud Atlas*.

The stories in *Cloud Atlas* not only complete themselves, but ultimately generate closure as a whole novel. The stories are interconnected, and the presence of one is felt in another. Mitchell's novel presents itself not as a linear narrative but as a chaotic narrative. *Cloud Atlas* and its interconnected stories present a complex system where individual components interact externally and internally to drive the system into a state where order and chaos will be maintained under a fine balance at the edge of chaos. The individual components of the narrative, in the form of the six embedded stories, interact with each other. Robert Frobisher of "Letters From Zedelghem" finds, "the edited journal of a voyage from Sydney to California by a notary of San Francisco named Adam Ewing" (Mitchell 64). Vyvyan Ayrs, of the same story, has a dream which explicitly resembles the "Papa Song's" diner where Sonmi, of the story "An Orison of Sonmi~451," works. Ayrs dreams of a ". . . nightmarish café, brilliantly lit, but underground, with no way out . . . . The waitresses all had the same face. The food was soap, the only drink was cups of lather" (Mitchell 80). Luisa Rey of "Half-Lives: The First Luisa Rey Mystery," meets Rufus Sixsmith, Robert Frobisher's lover from the earlier story. She comes across the letters which Frobisher wrote to Sixsmith (Mitchell 117). Frobisher's musical creation called the 'Cloud Atlas Sextet' is found and bought by Luisa in her story (Mitchell 120-121). Timothy Cavendish, the vanity publisher of the story "The Ghastly Ordeal of Timothy Cavendish," is sent a proof copy of a novel titled 'Half-lives: The First Luisa Rey Mystery' (Mitchell 158). There is a reference to human cloning and Korean corporations in Cavendish's story: "Cambridge outskirts are all science parks now. Ursula and I went punting below the quaint bridge, where those Biotech Space Age cuboids now sit cloning humans for shady

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Koreans" (Mitchell 170). Sonmi and Hae-Joo Im watch a movie: "A picaresque entitled *The Ghastly Ordeal of Timothy Cavendish*, made . . . in a long deadlanded province of the abortive European democracy" (Mitchell 243). Sonmi is worshiped as a god by Zachry's tribe in the story "Sloosha's Crossin' an' Ev'rythin' After." Zachry's prayer during worship is: "Dear Sonmi, Who Art Amongst Us, Return this Beloved Soul to a Valley Womb, We Beseech Thee" (Mitchell 251). Sonmi's Orison also appears in the Zachry story. Zachry's son describes Sonmi's Orison in the sixth and final tale: "a silv'ry egg what he named 'orison' in his yarns. Like Pa yarned, if you warm the egg in your hands a beautsome ghost-girl appears in the air an'speaks in an' Old'un tongue what no'un alive und'stands nor never will, nay" (Mitchell 324). Links are established between all the individual tales. Each story follows a common theme of how the strong prey upon the weak. A link is established between the primary characters of all the individual stories: Robert Frobisher, Luisa Rey, Sonmi, and Meronym using the presence of a birthmark resembling a comet. Each individual story interacts with the other as in an open evolving system and drives the narrative of *Cloud Atlas* to the edge of chaos.

The individual narratives in *Cloud Atlas* maintain intertextual links with texts composed before it. Adam's journal resonates with structural and thematic contents similar to those in Herman Melville's novels on sea adventures. Frobisher's episode is inspired by, and linked to, Eric Fenby's memoir of working with Frederick Delius. Luisa Rey's story unearths links with American novelist Thornton Wilder's *The Bridge of San Luis Rey* (1927). Wilder's novel not only informs the Luisa Rey story but also the whole of *Cloud Atlas* which is based on a similar premise of different lives brought together in time under the convergence of fates. Tim Cavendish's story raises connections with Ken Kesey's *One Flew over the Cuckoo's Nest* (1962); it even mentions Kesey's novel explicitly (Mitchell 181). Sonmi's tale cites science-fiction dystopias of Aldous Huxley and Philip K. Dick. Zachry's story with its extremely innovative pidgin variety of English reminds of Anthony Burgess's linguistic innovations in *A Clockwork Orange* (1962) and Russell Hoban's *Riddley Walker* (1980).

Cloud Atlas, with the internal and external interaction of its components produces fluctuations in the narrative. Transformation in the geographical and historical time-space of the novel is also extremely fast paced. The narrative moves from a colonial expansion period of the

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1850s in the Pacific Isles, to a World War period of 1930s Belgium. From such a setting it moves to 1970s California, and from there to contemporary England. The narrative then shifts to a futuristic Korea and from there to a post-apocalyptic Hawaiian island community. The disrupted story-line technique of the narrative facilitates a sort of time-travel: to and fro a post-apocalyptic time-space and the initial imperial expansion phase of the 1850s. Adding to this chaotic time-space in the narrative setting of *Cloud Atlas* is the linguistic innovation using different registers and the structuring of the stories using different narrative techniques. Adam Ewing's story is styled as a journal, Robert Frobisher's utilizes the epistolary format, "Half-Lives" is structured as a pulp-fiction crime thriller, Tim Cavendish's story is in the form of a memoir, Sonmi's story is structured as an interview and points at a linguistic change in the future, and Zachry's tale is a fireside 'yarn' which uses an innovative Pidgin English.

These fluctuations in temporal, spatial, geographical, historical, linguistic, and thematic components of the narrative pushes *Cloud Atlas* to a state of perfect balancing of order and chaos. Even with such wide ranging interconnections, the complex narrative of the novel holds firm and maintains a pattern. Chaotic, complex systems which are pushed to the edge of chaos self-organize into a higher level of order and complexity. Chaos scientist Chris Langton has pointed out that we can find complexity at the edge of chaos, "a class of behavior in which the components of the system never quite lock into place, yet never quite dissolve into turbulence either" (qtd. in Waldrop 293). *Cloud Atlas* with its complex interactions is pushed into the edge of chaos where it is capable of self-organizing into a higher level of order and complexity. Six distinctive, interlocking stories, which are set in widely differentiable settings, self-organize by balancing 'chaotic' irregularities with an 'ordered' pattern or architecture. 'Stories' as individual, independent components self-organize into a complex 'novel' at the end of the narrative. *Cloud Atlas* as a complex narrative demonstrates how experimentations in narration can produce a higher level of complexity. It presents how a higher level of complexity and creative innovation in literature – especially in the novel form – can be achieved by a fine balance of order and chaos. Mitchell's novel is a unique landmark, which is pregnant with immense potential. The insights gained through analyzing Mitchell's novel using chaos science assists in the understanding of the innovativeness in narrative of contemporary novels; novels which are seen

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questioning the limitations of a postmodern analysis. The utility value of chaos science increases when analyzing contemporary novels, especially the novels of David Mitchell. Mitchell's novels, including *Cloud Atlas*, are not mere fragmented mindbenders, but demonstrate coherence, unity, and an ultimate order. This process of order emerging spontaneously out of apparent chaos, as seen in Mitchell's *Cloud Atlas*, can only be examined and validated using chaos science's concept of the edge of chaos. Such an innovative approach can be expanded to analyzing novels exhibiting capacity for balancing order and chaos in their narrative. *Cloud Atlas* also opens up possibilities for narrative innovativeness which could be harnessed for the furthering of the art of the novel.

An examination of *Cloud Atlas* based on chaos science unearths the inherent capacity of the novel for evolution and complexity. Novels, especially those which challenge set forms of narrative, can be seen as complex systems which are perennially set at the edge of chaos. They are capable of leaps into a higher level of complexity with minor fluctuations which can be generated by innovativeness in the narrative structure. These creative innovations will provide the necessary drive for such novels to take the novel form to the next level of complexity and creativity. *Cloud Atlas* presents itself as an original, innovative approach to narrative which has the potential to further the possible horizons of the novel form. The art of the novel is under threat today from getting stagnated due to lack of original forms. Milan Kundera asks, "But hasn't the novel come to the end of the road by its own internal logic? Hasn't it already mined all its possibilities, all its knowledge, and all its forms?" (15). Kundera is pointing at lost possibilities in the history of the evolution of the novel which could have been used to formulate fresh methods of narration in the novel form. He is critical of narrative techniques in the novel form which have been exhausted through repeated use without adding innovations. David Mitchell's *Cloud Atlas* is a unique achievement in the novel form through utilizing the ideas of chaos science in the construction of its narrative. It presents itself as a harbinger for what the future holds for the art of the novel.

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Works Cited

[1] Birch, Dinah, and Kathy Hooper, editors. *The Concise Oxford Companion to English Literature*. 4th ed., OUP, 2012.

[2] Burgess, Anthony. *A Clockwork Orange*. Penguin, 2000.

[3] Calvino, Italo. *If on a Winter's Night a Traveler*. Translated by William Weaver, Vintage, 1998.

[4] ---. *Why Read the Classics?* Translated by Martin Mc Laughlin, Vintage, 2000.

[5] Cilliers, Paul. *Complexity and Postmodernism: Understanding Complex Systems*. Routledge, 1998.

[6] Gessert, George. "Cloud Atlas." *Leonardo* vol. 38, no. 5, 2005, pp. 425-426

[7] Hayles, N. Katherine. *Chaos Bound: Orderly Disorder in Contemporary Literature and Science*. Cornell UP, 1990.

[8] Hoban, Russell. *Riddley Walker*. Gollancz, 2012.

[9] Kellert, Stephen H. *Borrowed Knowledge: Chaos Theory and the Challenges of Learning Across Disciplines*. Chicago UP, 2008.

[10] Kesey, Ken. *One Flew Over the Cuckoo's Nest*. Penguin, 2011.

[11] Kundera, Milan. *The Art of the Novel*. Translated by Linda Asher. Penguin, 1988.

[12] Mitchell David. *Cloud Atlas*. Sceptre, 2004.

[13] ---. *Ghostwritten*. Sceptre, 2000.

[14] ---. *Utopia Avenue*. Sceptre, 2020

[15] Norris, Christopher. *Fiction, Philosophy and Literary Theory*. Continuum, 2007.