

## Abstracts

### Epistemological Implications of ‘Chaos’ Aesthetics in Tom Stoppard’s *Arcadia*

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In the contemporary era, since there has been an ascendancy in the value of the concept and practice of interdisciplinary research as an academic program or process seeking to synthesize broad perspectives, and epistemology in an educational setting, the present research attempts to provide a possibility of bridging the gap between science and art by bringing to light the recent manifestations of science-art interaction in theatre and dramatizing the world of science thematically and formally. Chaos theory, as the mainstream focus of such dramatic conceptualization of science in art, is a field that in recent years has acquired interest and practitioners in a number of disciplines in arts and humanities. In this regard, The purpose of the present research is to excavate the epistemological implications of ‘chaos’ in the major play of Tom Stoppard, *Arcadia*(۱۹۹۳), meticulously through the mediums of

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language, form, structure and content. Stoppard, by applying the very implications of 'chaos' and 'entropy' in the science play, *Arcadia*, the destabilization of identity and the inability of language to offer security of meaning, and questioning and dismantling of the individual self, which leaves the text as an epistemological inquiry into how meaning is constructed, further points to the chaotic implications of the play. Yet, Stoppard sees 'chaos' aesthetically, hence he adjusts his vision to see 'chaos' as a place of opportunities, a location of interactive disorder generating new orders- then not necessarily be synonymous with randomness, rather it is a source of energy out of which change, creativity, and hope have sprung.

With the advent of thermodynamic studies, quantum physics, and ultimately chaos theory, scientists have raised a challenge to the static vision of existence we have so long desired to validate. Their neo-Romantic vision questions the Newtonian world governed by a strictly linear causality that asserts a world of invariance which results in a vision of an unchanging 'Eden' where every day is like the next and ultimately individuation is impossible. After centuries of seeing chaos as the exact opposite of order, contemporary world began to adjust its vision to see chaos as a place of opportunities, a location of interactive disorder generating new orders and of order transforming to regenerative disorder- a dynamic blending of disorder and order, then not necessarily be synonymous with randomness, so the term need not have the negative connotation currently attributed to it. Yet, it is a source of energy out of which change, creativity, and hope have sprung; Hence, this is what the new scientists call 'chaos': nature's pursuit of patterns of order amid a constant sea of change and reorder. Chaos theory is a field that in recent years has acquired interest and practitioners in a number of disciplines in the arts and humanities. The 'paradigmatic shift', from linear to nonlinear thinking, from cause-and-effect logic to unpredictability and fuzzy logic, from a Cartesian world view to modern and postmodern vision of the universe, from Apollonian to Dionysian aesthetics, and so on are the trends which implications of 'chaos' brings about. The science of chaos, according to Demastes, is not fundamentally a new one; what is new is a vision of the world which is articulated in the contemporary era. As an epistemological metaphor in theatre, chaos theory is utilized by , among others, Tom Stoppard, an influential British playwright and one of the most internationally performed dramatists of his generation who explores the meeting point of 'chaos theory' with art, and drama in particular, in most of his works explicitly or implicitly.

*Arcadia* (1993) as Stoppard's major play is the focus of this study. In this regard, the form, language, structure and content are the aspects that are to be analysed as the epistemological implications of 'chaos' aesthetics in his aforesaid plays. *Arcadia* (1993), Stoppard's most eminent science play, deploys the theory of chaos aesthetically in form and content. On its surface, it is about classicism versus romanticism. It is about the relationship between the two, posing this question: can one exist without the other? There exists a similarity of 'epistemological thought' between the Romantic era and chaos theory and that a chasm exists between the Romantic/chaotic and traditionally epistemological Enlightenment. Comprehending the relationship between

Romantic Epistemologies and chaos theory clarifies much about Stoppard's *Arcadia*. Plays about science seem to provide a possibility of bridging the gap between science and art. *Arcadia* as a science play allows bringing to light the recent manifestations of science-art interaction in theatre and dramatize the world of science thematically and formally. Chaos theory which according to Demastes "is a web of interdisciplinary understanding that transcends even the science-art chasm" (161), is the mainstream focus of such dramatic conceptualization of science in *Arcadia*.

In *Arcadia*, Stoppard uses a direct approach by infusing the very structure of his play with chaos theory. The plot structure of *Arcadia* depends on recursive symmetry, strange attractors and human action for its movement and development. In this play, Stoppard foregrounds relationships and sex, demonstrating the ways in which our actions are informed by them. Stoppard's *Arcadia*, contrasts the traditional, Euclidean geometries of spheres, cubes and cones with the infinitely more complex geometrical forms which chaos theory describes. The play is about the balance between variety and invariance in human life. It thematises life's unpredictability and uncontrollability, and the eternal recurrence of sex and death. These themes are merged together with the loss of innocence, the eternal gap between the real and the ideal, and finally, with the question of what exactly assumed as beauty for human beings.

In *Arcadia*, the interplay of form and disorder is both thematic and structural. The play not only discusses the coherence of human experience in terms of chaos theory, but it also combines the structures found in nonlinear mathematics in its very form. The setting of the play, the English parkland that is metaphorically also the classical

Arcadia and the Christian Eden, reflects form and content onto each other by representing two different forms of artistically imagined nature. The fact that Stoppard uses chaos theory in *Arcadia* is evident in the dialogue, and it seems that he has been attracted to the beauty of fractal surfaces when he states that *Arcadia* is “the authentic postmodern play, eclectic, picturesque, devoid of morality, glittering with the surface dazzle” (qtd. in Polvinen ۱۰۳).

Thematically speaking, interweaving the nineteenth-century arguments over aesthetics with the twentieth-century characters debate on the sciences and the arts creates a play in which the patterns formed in nature and in art are vital to both beauty and meaning. Thus, despite the fact that it was initially praised by theatre critics for its fractured, postmodern structure, the play’s chaotic form does not imply the abandonment of textual unity. Instead, chaos is presented as the creator of a fluid form which gives shape, meaning and beauty to the characters’ lives. What is more, *Arcadia* is a play in which, as Prapassaree and Jeffrey Kramer (۱۹۹۷: ۱) put it, the ‘realistic frame holds’ despite the ‘seemingly surrealistic’ moments in the dialogue. To reveal the ‘epistemological implications’ into *Arcadia* (۱۹۹۳), the researcher with the help of modern and postmodern thoughts, means to reveal the fact that knowability is an impossibility, furthermore to reject epistemological certainty. According to the aforesaid points, this research examines the play which attempt to do so and attempt to analyze the method and the extent to which the playwright accomplish this.

**Key words:** Chaos Aesthetics, Epistemology, Entropy.