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## **REALITY AS PROACTIVE HISTORIAL NETWORK IN ANGELA CARTER'S THE INFERNAL DESIRE MACHINES OF DOCTOR HOFFMAN**

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**Abstract:** *The attempt to locate representative literary works within the whole social semiosis, including the scientific and philosophical ideas pervasive in a phase of culture, owes much to the field concept of quantum physics. From N. Katherine Hayles's seminal approach to the mutual interaction between the cultural matrix and individual works in The Cosmic Web. Scientific Field Models and Literary Strategies in the Twentieth Century (1984) to recent contributions by C. Matheson, E. Kirchoff, J-M Margaret Sönmez, Mine Özyurt Kılıç, Jago Morrison, Tom Cohen or David Punter, the new paradigm of complexity has been brought to bear upon literary studies defined as culturalist, interdisciplinary, a-material or spectral. Time and space are central to a discussion of the new mapping of fictional worlds modelled on physical concepts such as multiverse, fractals, gut symmetries, complexity. In contrast to the spacetime physics of modernism, quantum physics works with a synchronous temporal model of parallel spacetimes, in which there is no flow of time dividing past actualities from future potentialities. Carter's City S (The Infernal Desire Machines of Doctor Hoffman) spans "a vast repository of time, the discarded times of all the men and women who have lived, worked, dreamed and died in the streets which grow like a wilfully organic thing." Reality has become unpredictable, Hoffman's generators of unreality atoms playing dice with a space where apparitions "inhabited the same dimensions as the living". The "kingdom of the instantaneous (...) no longer held a structure of time in common". The present paper is looking into Carter's experiment of temporal mapping, for which a new vocabulary is being evolved by interdisciplinary scholars.*

The interface of literary and scientific discourse is getting mutual support from creative writers and theorists, we may conclude after going through the catalogues of books coming out from the press of the academic world. Published shortly after the turn of the new millennium, Julian Wolfreys' collection of essays (Wolfreys 2002) surveying the current tendencies in critical theory has proved a true prophecy. The majority chapters focus on schools of theorised critical practice drawing on the new picture of the universe as built by quantum physics: Stuart Sim is writing on "Chaos theory, complexity theory and criticism", Stacy Gillis, on "Cybercriticism", Tom Cohen, on "A-material criticism", David Punter, on "Spectral criticism".

The recent Cambridge Scholars Publishing issue of *Winterson Narrating Time and Space*, edited by Margaret J.M. Sönmez and Mine Özyurt Kılıç, might very well grow into serial publication of similar culturalist work on Angela Carter, Martin Amis, Ian McEwan, Peter Ackroyd and other canonical figures of contemporary British literature who have grounded their fictional worlds on assumptions about the non-linear time, non-teleological history, multiple modal logics and dissonant chronotopes of the multiverse. Jago Morrison looks into McEwan's "unravelling" of time and into Winterson's "re-membering the body" in their "New Physics" fiction (Morrison 2003, 67-79, 95-114). Actually, the multidisciplinary study of literary texts which are cognitively mapped according to the present, complexity paradigm, go back to the early nineties and even earlier, when the challenging, ground-breaking approaches undertaken by N. Katherine Hayles felt too innovative and audacious to be included within the curricular programmes inside the academia.

As Kılıç (Kılıç 2009, 13) remarks in the *Introduction* to *Winterson Narrating Time and Space*, space and time in her novels are never "lightly sketched"; they are central to the plot and characterization so that

any minute detail is in fact a telling comment on the thematic network of the work. Passages in which characters speak explicitly on the nature of time and space alternate with those where a narratorial voice other than that of the character on the scene pronounces a framing consciousness.

Rather than a fictionalized version of physical theories on the nature of time and space, Angela Crater's novel *The Infernal Desire Machines of Dr Hoffman*, first published by Penguin Group in 1972, seems to emulate the central concept of complexity science which studies systems with interdependent components. The fictional world emerges out of a random matrix towards a structure of meaning or relevant information thanks to key words, concepts or figures which act as attractors generating semantic force fields or clusters. The phenomenon is described in a recent article published by a group of Spanish physicists in *The Physical Review* (P. Carpena 2009: 035102- 1-4):

Inspired by the level statistics of quantum-disordered systems following the random matrix theory, Ortuno et al. have shown that the spatial distribution of a relevant word in a text is very different from that corresponding to nonrelevant words. In this approach, any of the occurrences of a particular word is considered as an energy level within an energy spectrum formed by all the occurrences of the analyzed word within the text. (...) In the case of a relevant word the energy levels attract each other, while for a nonrelevant word, the energy levels are uncorrelated and therefore distributed at random (...) The connection between word attraction (clustering) and relevance comes from the fact that a relevant word is usually the main subject on local contexts, and therefore it appears more often in some areas and less frequently in others, giving rise to clusters.

This study examines the way the fictional world is structured by the force fields of representations of space and time which correspond to three competing logics echoed by the three epigraphs to the book.

Robert Desnos decrees the absolute power of the lawless libidinal body in a chaotic world of chance and randomness: **Les lois de nos desirs sont les des sans loisir.**

With Wittgenstein's analytic logic, reality has been left behind: **Remember that we sometimes demand definitions for the sake not of the content, but of their form. Our requirement is an architectural one: the definition is a kind of ornamental coping that supports nothing.** In the 6.361 paragraph of *Tractatus logico-philosophicus* he says that connections flouting the law are unthinkable. The net of logical abstractions is cast over reality as an expression of what Nietzsche dismisses as the arrogant intellect's will to power.

Finally, the quote from Alfred Jarry's *Exploits and Opinions of Doctor Faustrall Pataphysician* urges the reader to place himself in the situation of a perplexed man **outside time and space who has lost his instruments of measuring either - his watch, his measuring rod and his tuning fork.**

The College of Pataphysics, founded by a group of intellectuals in 1948 Paris, revived Jarry's proposition of an alternative physics - pataphysics meaning leg physics - a bathetic reversal of head physics or noetic constructions - or *pas ta physique* - not your physics. Its slogan, *Eadem mutata resurgo*, I arise the same yet different, betrays the members' fascination with contradictions and paradoxes. The science of imaginary solutions removed by two degrees from reality, appealed at the time to writers of the surrealist and absurdist school such as Raymond Queneau, Eugene Ionesco or Jean Genet. Angela Carter's motive for turning to pataphysics as one of her ciphers was the entire epistemological background of a later age. Rather than as a mode of cultural critique or a parody of the scientist and rationalist spirit, her constructions of time and space draw on the assumptions of contemporary physics as filters of socio-cultural knowledge. Complexity is the study of nonlinear dynamics, of the combination of chance and determinism. The combinatorics of Carter's space-time mappings emulates the combinatorial statistical physics consisting in the count of the possible states of a system or the mathematical calculations involving imaginary numbers necessary to reduce the multiplicity of a system's hypothetical states to only one placed within a concrete spacio-temporal frame, also known as the collapse of the wave function. The earlier games practised by pataphysicians, such as chance combinations of letters and nonsensical associations of words are now the

object of the mathematicians' study of orderly patterns resulting from combinations of apparently random associations, such as the letters of a proper name. How to reduce the apparent chaos of an unknown universe with briefly territorialized cultural systems soon to get disintegrated into a chaotic flux, or with pockets of knowledge here and there, to homogeneous cultural flows, predictability, regularity of change and behaviour?

The three logics structure the behaviour of the three main characters. The Minister of determination would like to rule out randomness, the anarchy generated by the desire machines of his antagonist, Dr Hoffman. From cognitive, the issue has become one of ontological inquiry. The Minister's world is bounded and Newtonian (a "hard-edged world of here and now"), static and governed by precise physical laws, linear, the causal links of the system forming a single chain, explained away by clear, unified and harmonious theorems. Mirrors are broken, because they offer alternatives, free from the operation of the gravity law whereby each material body occupies its prescribed position in the system. Contrariwise, Dr Hoffman's guerillas create unreality, they cause interference, the penetration of the real world by messengers of a parallel world which, as in the quantum experiments, only betray their presence through effects: "though absolutely unreal, nevertheless, were". Reality turns into an ontologically ambiguous site, haunted by the ghosts of the dead, memories of childhood traumas, the ghosts of desires, the traces of previous texts. Identities are unstable, me-copies multiply across spaces or along time, the protagonist keeps spinning versions of himself, with the former, youthful me confined at the end of the book we have just read, his reasons being incomprehensible to his present, old self, or even inhabit different bodies at one and the same time - like Albertina, the glass woman.

The historical Hoffmann is associated with the rise of the supernatural in fiction, what Dorothea E. Von Mücke (Von Mücke 2003, 106-10) calls "the phrenological paradigm" which displaced the neutral scientific observer position. As Appellate court judge, ETA Hoffmann was called upon to pronounce a verdict in the Daniel Schmolling murder case, the psychiatric diagnosis being that of *amentia occulta*: the irrational urge to commit an otherwise unmotivated deed. Juridical rationality was making room for the criminal defence pointing to pathological disturbances originating in the irrational, compulsive drives and irrepressible sensuality as the source of criminal behaviour. Faced with the ungoverned energy of erotic desire, Hoffmann turned to art as the instrument capable to tune the chaos of antisocial behaviour to a more orderly layer of reality like that of music. *Das Fräulein von Scudery* transposes the gruesome trail case into a fine piece of inquiry into sublime human motives for irregular behaviour while setting the artist above the police officer in the detection game. In an earlier piece, *The Automation*, Hoffmann, who as writer named himself Amadeus after his favourite composer, had defended artefacts with their power to change the observer, on account of the existence of a common element in the most heterogeneous bodies: the strings whose vibrations had created the universe out of chaos. Desiderio, the protagonist of Carter's novel, shares this passion for Mozart's exquisite genius, Hoffman's agents substituting his name for his on the nameplate outside his door. The desiring self, manipulated by Hoffman's daughter Albertina, and dragged by a libidinal eastern Count to the lowest level of transgressive sexuality, does not lose the capacity for making a moral choice in the end which saves the world from the entropy of the present world of simulacra - artificial needs and desires created by the technology of the consumer society - reverting to his former employer, the Minister, yet only halfway, as artists do by creating that medial agent of order emerging out of randomness which is the aesthetic object. It is ahistorical, suspended between what is past and what is not as yet present: "when I think of my journey, Desiderio says, not only does everything seem to have happened all at once, in a kind of fugue of experience, just as her father would have devised it, but everything in my life seems to have been of equal value ...

Spatially, Desiderio's is a haunted world: the infernal doctor forcing on him "the apprehension of an alternate world in which all the objects are emanations of a single desire." Finally, the fabric of this unreality is woven through patafors, i.e. literalized metaphors. The game of chess is no longer a trope but assumed as the very site of the plot: "But, at the game of metaphysical chess we played, I took away her father's queen

and mated us both for though I am utterly consumed with this desire, it is as impotent as it is desperate." The haunting literary characters are of course Prospero Ferdinand and Miranda in a Lewis Carroll variation of the protagonist getting entrapped in the bidimensional reality of cards. The difference is that the ontological disruption is not corrected, Desiderio does not awake from his dream journey back into the safe three-dimensional world of Victorian England. He remains a prisoner of generic conventions, defining his narrative as picaresque adventure or heroic adventure while baffling the reader's expectation of a love story or murder story. The explanation is that whereas the detection plot leads to final revelation, disclosure or enlightenment, the romance plot allows of spatial and temporal transgression.

Nobel Award winner Philip Anderson sees the underlying order of the world as a hierarchy of independent systems. Transilience is the name of the science which studies the properties of each level which may be rewritten as mathematical calculations: one may speak of predictable causal links on the level of physics, for instance, but symbolical systems allow of links across time and space. Instead of a linear plot unfolding in continuous and homogeneous time and place, the novel establishes links across time with other texts, constructing repeat situations, fugues and variations on *Gulliver's Travels*, *The Life Opinions of Tomcat Mur*, *The Sandman*, *The Tempest*, *Hamlet*, *In Search of Lost Time*, the *Book of Genesis*, the *Scriptures*, the *Nebular Hypothesis*, Freud's *Interpretation of Dreams*, contemporary scientific discourses... The fictional world opens into the historical. The Determination police remind one of the Holocaust, while Doctor Hoffman, mysterious, elegantly dressed, smelling of medicated soap, inhabiting an artificial paradise of music and technoart living against nature and according to the dictates of desire is strongly reminiscent of Beau Brummel and his heritage of dandies.

The picture of the City - vaguely situated in South America -, is mapped in ways which do not observe the superposition principle as is the case with linear systems. One map is of the kind Proust draws out after his visit to the Church at Combray in *A la recherche*: it is four-dimensional, as the layering of styles has added time to the three-dimensional space. In like manner, Desiderio's City S spans " a vast repository of time, the discarded times of all the men and women who have lived, worked, dreamed and died in the streets which grow like a wilfully organic thing (...) preserving the past in haphazard layers, with the present alleys and avenues built over the relics of the older. The other map is drawn by a quantum physicist. Dr Hoffman's generators, like David Deutsch's matrix generating the multiverse, destroy the space and time equations of the spacetime governed by the same physical laws. Complexity implies interaction of the constituent systems with unpredictable results, therefore "nobody knew what would come next". As in quantum systems, it is possible for more than one body to occupy a certain space: the apparitions "inhabited the same dimensions as the living" - while time is annihilated: "it was now the kingdom of the instantaneous". Their virtual reality allows of interaction with people in the real world who "no longer held a structure of time in common". The non-substance or unreality atoms trigger the laser beam measuring the degree of reality or rather of non-reality. Identity of the signpost, or definition or character - fixed, stable, well-defined - has been replaced with identity by analogy, while the repertoire of the system's states takes the paradoxical form of guts relating readers to the undulate pattern of intestines and simultaneously to the general unified theory of the universe, thereby enacting that permanent vacillation between randomness and order, determinism. Characters can walk in or out through any door opening into the past and back again. Categorical distinctions have collapsed, space is heterotopic, that is governed by different logics. The doctor's ambassador for instance is making a bid to the Minister of "four opera houses, the cities of Rome, Florence and Dresden before the fire." The contemporary theory of gut symmetries is reviled by the Ambassador as a modern variation on the Procustes bed motif: (in the name of symmetry you slide [things] into a series of straightjackets) whereas the Hoffman world is the emergent state of chaoplexity: *The doctor knows ... how to allow real forms to emerge into substantialities*.

The seven wonders of the world exhibited by the peep-show reverse the seven days of the genesis rewriting it as anti-Creation and an anti-teleology. In the beginning is only repetition: I have been here before, and in the end there is no rest but only the "perpetual motion" of erotic energy. As in Ian Stewart's

theories, it is mathematics that governs the physical substances: The symbols, according to the peep-show proprietor's Hoffmanian lecture, *serve as patterns or templates from which physical objects and real events may be evolved*. Whereas the oracle in Hoffman's *Automation* is a Turk, in Crater's novel the wheel of Fortune is operated by an Armenian, another representative of a minority culture. Chance, randomness are assigned to the European other, while the scientist spirit craving for knowledge is Jarry's faustrall - role of Faustus in the theatre of the world or the sacramental drama played out before the anonymous ditty of the quantum universe. The will to power characterises the European, as well as the prioritization of the wilful self either in search of libidinal fulfilment or of some rationalist project. Hoffman himself, as Desiderio discovers in the end, pursues some totalitarian myth - sexuality. At the other pole, the Amerindian river people place the spirit of communality above selfhood and substitute a spontaneously emerging order of a self-organizing system for rule from above: "More than ever I realized their life was a complex sub-universe with its own inherent order as inaccessible to the outsider as it went unnoticed by him." Amerindian mythology is one of ontological transgressions, with a grandmother figure "hatched from a parrot's egg" and a woman impregnated by a snake" whose offspring they kill because he is torturing them with lessons on the alphabet. The forking device generates the narrative counterpart of Hoffman's ambassador as a godhead figure, the disembodied intellect reducing the universe to singularities and studying their combination potential. They do not belong to the order of physics, like the Minister's computer bank, but to that of symbolic systems: *They are symbolic constituents of representations of the basic constituents of the universe. If they are properly arranged, all the possible situations in the world and every possible mutation of those situations can be represented*. Hoffmann is a demiurge as his generators can produce any combination. The doctor's principle is that "everything it is possible to imagine can also exist". These are the words which Virginia Woolf attributes to Wittgenstein on one of his visits to the Bloomsbury circle occasioned by a discussion on the definition of beauty. In the sign-saturated hyperreality of postmodernity, aesthetics has been replaced with semiotics. Authorship, with reinscription. If myth generates order against the panorama of futility in the decaying West, as T. S. Eliot says of Joyce's *Ulysses*, rewriting the literary tradition may be a solution in the age of exploded notions about the fundamental epistemological framing of the familiar three or four-dimensional world:

I had even begun to believe that the manipulation of those numinous samples might indeed restructure events since, in a poetic and circuitous fashion, they had certainly helped to organize my disastrous night at the Mayor's house.

Such textual, "numinous samples" are sadomasochistic constructions of femininity or the words of grief-stricken Ophelia after the loss of her father relaid in the scene of Mary Anne, the Mayor's daughter, speaking of his disintegration. The replotted plot unfolds against the backdrop of the nebular hypothesis. The increasing disorder caused by Hoffman's generators of rampant desires is manifest in physical catastrophes such as the disappearance of a city - a replay of the Sodom and Gomorra episode -, the peep-show scenes of blasphemy and eroticism, the disintegration of the bodies of the acrobats of desire. The Lithuanian count in his carriage of eighteenth-century design accompanied by a boy in the familiar master-servant paradigm of hierarchical and hegemonic social arrangements embodies the rationalistic, atheistic and relativistic spirit of the Enlightenment which, in the postmodernist critique of modernity, is held responsible for the reign of Terror, the holocaust of Nagasaki Hiroshima or Dresden, the disastrous effects of the myth of power and control. Whereas Wallace Stevens prided himself on being a connoisseur of chaos, an architect of harmonious worlds of the imagination, the Count of the physics of chaos and complexity is a connoisseur of catastrophe.

Entropy or disorder increase as an effect of the anarchic desire mechanism operated by the Doctor. yet it is calmly accepted for as quantum physicists say "destruction is only another aspect of being" and values become a matter of indifferent commutability: "It is not in the least unusual", says the Count, an Ivan

Karamasov advocate of permissiveness in the absence of God, to assert that he who negates proposition at the same time secretly affirms it.

The demise of reason, of the rational search for order in the post-cognitive age, when logic yields to statistics, combinatorics, mathematical computations of changes in non-linear systems, when the study of physical phenomena is said to be dependent on the conditions of observation, when the fabric and configuration of reality are modelled on computers rather than understood, and the calculation of spatial and temporal coordinates subject to the uncertainty principle, the epistemological wreck looks like a return to the Nebulous time before the emergence of the intelligible architecture of the universe. Desiderio and Albertina, the doctor's daughter and evil enchantress resembling Mozart's Night Queen, journey to a Swiftian realm of centaurs, of horses who boast their capacity for rational behaviour while reviling the decaying human race. The Minister's call to order interferes with the Doctor's plan of establishing a dictatorship of desire. Desiderio chooses order over chaos yet of a special kind. His book forms a pattern with a long tradition of philosophical fables inquiring into the nature of man and of the world. The order of complexity emerges as self-replicating configurations as if generated by the quantum hypothesis of analogous changes occurring in correlated systems. An 2009 ESSE Conference called for papers on metatextuality as a postmodernist phenomenon in need of an explanatory narrative. Angela Carter's response is not the anxiety of influence but the self-organization of symbolic systems. The patterns of intertextuality, the discontinuous links of the new, computer hypertextuality follow the physics analogy of the nearest-neighbour spacing distribution. The clustering across time and cultures around previous texts acting as attractors is determined by semantic and generic analogies. The pataphysics of the same, yet different. The entropy of the physical universe ends up with the death of neutronic stars, in the emptiness of black holes. As matter vanishes, order is reestablished as information. Texts are generated out of cultural genes or memes. They resemble fractals which are self-similar pictures produced by substitution and branching. For instance, the ridiculous didacticism of Enlightenment *Bildung* based on reason which rules out affections, anxieties and the other components of the integrated human personality, advocated by Swift's wise horses, Hoffmann's tomcat Mur and Carter's centaurs at the expense of despised humans or the topic of woman as sufferer swirling through the rites of passage in anthropology, Shakespeare's staging of heroic masculinity and bruised femininity or the misogynist construction of the Sadean woman. Here is order emerging out of chaos according to codes more appropriate to the computer age than to the print culture.

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