Zero-oneness of the world: geometries of space and time between subtext and surface – re-coding the structures of life

Summary

The proposal that the world is made of sequences of zeros and ones, overtly expressed in DeLillo’s early novel *Ratner’s Star* (1976), marks the first time in DeLillo’s fiction that he introduces the idea that the (creation of) reality is of mathematical nature. The “zero-oneness” of the world thirty odd years later, although it still may be an uncommon thought in literature, is ubiquitous in the visual arts, in film and in architecture, and binary code has become the basis of our digitally enhanced reality. Looking at DeLillo’s Millennial novels, this paper seeks to explore models of the space-time continuum of the fictional reality that DeLillo constructs; focusing on *Ratner’s Star* as a literary exploration of a three-dimensional space and on the novel *Body Artist* as an investigation of the fourth dimension, pondering time, we hope to register the “sum total of one’s data” (*WN*) as the only palpable texture of DeLillo’s reality.

**Key words:** Don DeLillo, *Ratner’s Star*, *Body Artist*, space-time in fiction

Ničelnost sveta: geometrije prostora in časa med podtekstom in površino – vnovično kodiranje struktur življenja

Povzetek

V svojem zgodnjem romanu *Ratner’s Star* (1976), ki odkrito obravnava svet kot zaporedje ničel in enic, DeLillo prvič izpostavi zamisel, da je ustvarjanje realnosti matematične narave. “Ničelnost” sveta kakih trideset let pozneje, čeravno ne tako pogosta misel v književnosti, je vsepolsov prisotna v umetnostnem svetu, filmu in arhitekturi, medtem pa tvori binarni sistem podlagu za našo digitalno okrepljeno realnost. Članek proučuje DeLillove romane ob prelomu tisočletja in skuša odkriti modele avtorjevega prostorsko-časovnega kontinua v fikcijskih realnostih; s posebnim ozirom na roman *Ratner’s Star*, ki pomeni literarno raziskavo tridimenzionalnega prostora, in *Body Artist*, ki odkriva četrto dimenzijo – čas, je članek nadeja vpogleda v »skupno vsoto vseh podatkov« kot edinega oprijemljivega tkiva DeLillove realnosti.

**Ključne besede:** Don DeLillo, *Ratner’s Star*, *Body Artist*, prostor-čas v fikciji
Zero-oneness of the world: geometries of space and time between subtext and surface – re-coding the structures of life

the structure of life itself has changed and will rapidly change in the near future.

Vinko Penezić and Krešimir Rogina
the project “Who’s afraid of the Big Bad Wolf?”
La Biennale di Venezia 2008

1. Universe expanding

Techne in Heideggerian terms is understood as a part of poeisis as much as of epistemology, a process of revealing as much as a process of creation.¹ An architectural investigation into technology and the foundational elements of space of Croatian architects Vinko Penezić and Krešimir Rogina is an excellent example of how techne may be introduced into architecture as a strategy of creation. Their project for the 2008 Venetian Biennial Exhibition “Who’s afraid of the Big Bad Wolf?” crafts a space which addresses “the structure of life” in its texture, implying its “zero-oneness”. Technology is presented as a process of modeling of the domain of the real, rather than as an assembly of amusing gadgets. I take their project as an example, since it is my firm belief that it represents an analogy and a rather well formed visual representation of the strategies Don DeLillo deploys in constructing his fictional space-time continuums. Representing fictional worlds from a similar perspective, in Body Artist as well as in Cosmopolis and more recently in Point Omega, Don DeLillo’s writing, leaving the ways of consumer society on the surface, focuses on exposing the evolution of the proposed “structure of life” and on the outcomes of the process. His fictional worlds have often been understood and interpreted as postmodern, consumerist, artificial and on occasion even one-dimensional, inhabited by ideas, rather than by “real” characters. However, in an attempt to present an ultimately different outlook and interpretation, the focus of this paper will be on his novels as an exploration of ideas about space, time and identities, possibly revealing disturbances in presenting “the real” through the layers of meaning which, as it turns out, do not always rise to the surface. This will be an attempt to provide the argument that DeLillo’s writings address the “structure of life”, which we observe in development of thought, along with the development of technology, and in the change of worldview.

It is my intent to explore a portion of DeLillo’s fictional world which I believe best reflects cultural outlooks through ideas of mathematics as its intertext or as its materialization of space/time, expecting to find sometimes a desired equilibrium of texture, and at other times only a single thread of thought, establishing a foundation for the narrative world. I expect it to be a productive process inevitably involving destruction as one of its highest potentials, relying on the proposition that “[m]athematics is what the world is when we subtract our own perceptions” (RS 432). Therefore, it is my intention to examine portions of the fictional worlds DeLillo constructs

¹ If we understand technology as deriving from this concept of techne, Heidegger continues, then we will see that its essence lies not in the instrumental production of goods or manipulation of materials, but in «revealing.» Remember that Heidegger has said something similar about the silversmith, who, through his techne, brings together the form and matter of the chalice within the idea of «chaliceness» to reveal the chalice that has been «on its way» to existence.

in his novels *Ratner’s Star*, and *Body Artist* with respect to the ideas of “mathematical structures” involved in their creation.

### 2. Cracks/strings/textures – fearful symmetries of space and time

Early in the novel *Ratner’s Star*, DeLillo, through one of the numerous characters, introduces one of the ideas which perhaps should be considered crucial for all the three novels and their changing worlds:

> “In some shape or other we try to find the pictorial link between the universe and our own senses of perception,” Nyquist said. “What does the universe look like? A balloon that’s expanding? A funnel full of ball bearings? A double helix? A strip of paper twisted and connected in a one-sided ring? Where are we in the universe? We can’t see enough of it to say.” (*RS* 49)

The metaphor in the project by Penezić and Rogina emphasizes that the change of beliefs about the structure and function of space on a macro level (i.e. the universe in different historical periods) introduces a change in the attitudes on a micro level. In their *Manifesto of Architectural Counterrevolution*, they propose that human perception of the world/universe has changed from a flat plane to a firm structure of a globe and further to the impalpable sequences of endless networked structures, and that the change in our understanding of the world facilitated the change in the perception of architecture as one of the most obvious manifestations of the physical world; the new vision accepts only for its most vital structures a process of destruction as a mechanism of creation. Applying similar logic, DeLillo in his novel *Ratner’s Star* (1976), plays with the ideas which are the basis for the conceptualizing of the universe, incorporating both widely accepted models as well as some purely theoretical ones. In his novel *Body Artist* (2001), however, he explores the ideas of time from the perspective of the Millennium, focusing on different micro levels of perception. We observe the shift of thought – from a system in which the concept of reality and its shape is represented by the either/or opposition in *Ratner’s Star*, to the parallel universes co-existing inside human consciousness symbolized by streaks of time in *Body Artist*, which will further extend to the idea of spatiotemporal networking whose vitality embraces the processes of creation and destruction equally, in *Cosmopolis*. One of the basic ideas bringing us into the process is overtly expressed already in *Ratner’s Star*:

> Once we go beyond planar surfaces we see how mysterious a subject is the geometry of space and time. Who is turning the laws of the universe upside down and were they true laws to begin with? (*RS* 89)

DeLillo’s geometries of space and time grow more abstract as the propositions (mathematical foundations) they are presumably based upon become more explicit. In other words, in *Ratner’s Star*, mathematics is most explicitly a part of its text, while the space and time of the narrative are bordering on pure abstraction. However highly elaborated, they seem as if they never left the blackboard. On the other hand, in his Millennial novels, mathematics is not close to the story, it is buried in the deep structure of events; it is a subtext, whilst the fictional space-time seems to belong to the realm the reader would recognize as his or her own reality.
To reach for the “mathematical” which is hidden beyond the obvious in order to illustrate the process, I have decided to try to rely on the visual, exposing geometrical figures which are either present in the narratives or are considered symbolic in the interpretation of the narratives – the imaginary, yet ever so realistic “stellated twilligon” and a concept of a mohole in *Ratner’s Star*, and a Moebius strip as a symbol of infinity in *Body Artist*. All the figures, although very different, correspond to the idea that the fabric of the real is always a sequence of “ones and zeros” as its smallest constitutive meaningful units.

3. From Armillary Sphere to a Stellated Twilligon, into a Mohole (*Ratner’s Star*) and back

*Ratner’s Star* is not thought to be one of DeLillo’s major works, although the author himself considers it to be his best early work – one of the greatest obstacles to its reading being the setting of the story, which, although it had been interpreted as a postmodernist rabbit’s hole where the main character, Billy Terwiliger, would correspond to (a version of) Alice in Wonderland, still is a much less arbitrary or random place than one would expect. Although it seems also to be governed by unstable principles not easily understood, Mark Osteen in his elaborate study on *Ratner’s Star* (2000) suggests that the lack of understanding of the novel should be sought in its “cartoonish characters, static structure and arcane subject matter” (Osteen 2000, 61). Osteen declares that the inner model of *Ratner’s Star*’s “speculative meditations on the ‘unsolvable knot’ of the science and mysticism” (61) experiments with the blending of many genres and struggles to lead the narrative towards numerous possible aims. Although it is undoubtedly impossible not to agree with Osteen’s observations, for the purposes of this analysis, I would choose to follow an isolated thread of this narrative which exposes, before all, the power of a belief in the “genesis” narrative (scientific hypotheses included) and focuses on the testing of vitality of the reality-structure based on a foundation lacking certainty – vitality being its capability of adapting to “the change of belief”.

The story of *Ratner’s Star* revolves around two simple tasks – a coded message believed to originate from outer space, namely from the direction of “the Ratner’s star”, and the processes involved in finding a solution to the proposed riddle, namely: who sent it, what the message means, how it will change the course of history. It tells a story of human perception of the (single, relevant) reality structured from the perspective of science, incorporating as its text history and the logics of mathematics on the one hand, and juxtaposing it with experience and belief presented as an integral part of scientific processes. Beyond this fairly simple story stretches a vast network of events and characters who perform numerous tasks and whose presence or absence may be interpreted in many different ways to serve as many purposes. However, some of the people, and some of their ideas, strike us, as Osteen declares, as a “dream-text that dramatizes the powerful, unforeseen effects of the underworlds that exist beneath our day-time reality” (61). One such idea, challenging the power of belief and introducing a “dark side” to the equation of this narrative universe, is the idea of a “stellated twilligon” as the model of the world accompanied by the idea of a mohole as the measure of its reality.
A *Mohole*; according to *Ratner's Star*, traps all the forces in the universe; they are not entities, nor are they forces, they cannot be represented and constitute a “value-dark dimension”. It is a rather self-centered theory represented by a controversial figure of a scientist by the name Orang Mohole:

This is Moholean relativity, just beginning to attract attention, very controversial, named by me after myself. What I theorize happens in a mohole is that X-rays, gamma rays, ultraviolet light, radio waves, gas, dust clouds and so forth are trapped and held by relativistic forces we don’t fully understand as yet — forces created in the first one thousandth of a second after the universe began. *(RS 181)*

As Osteen suggests (2000, 78), Mohole’s is a theory composed out of the portions and fragments of Einsteinian relativity and Heisenbergian quantum mechanics modeled so as to invert the principles of General theory of relativity. The theory states that, instead of being the same for everyone in the system, space and time are actually different for everyone in a mohole universe, and what is more, that in order to exist, a moholean universe depends on the observers’ interpretation (a touch of empiricism) and on the uncertainty principle which presupposes that one can never be certain that anything exists to observe, since the process of observation alters the observed (which belongs to Heisenberg’s uncertainty principle). The model of such a Moholean universe in the novel would be a “stellated twilligon” — a figure of a “boomerang”, bearing a somewhat different significance for the protagonist Billy Twillig.

“My model of the universe is open at the bottom, closed at the top. Imagine two triangles sharing the same base. With one abnormality: the base is invisible. This gives us two apexes, representing the closed top, while the lack of a base signifies the invisible mass. Can you visualize such a figure?”

“A stellated twilligon.” *(RS 181)*

The analogue universe of this fictional place drifting outside geography which functions as the setting for the story, Field Experiment Number One, or FENO, is burdened by the spatial forms of cycloid and of an armillary sphere and by a mindset grounded firmly in traditional science. Even though such a world may not be identified as a “possible reality”, it nevertheless resists the temptation of embracing a possible variation — a Moholean universe. It remains only a gateway, granting access to the world of a Wonderland, a “realm of dreams that constantly change according to the dreamer’s needs or desires” (Osteen 2000, 78) to the more or less deserving. The possibility of existence of such a reality is being challenged with ardor by the idealistic, high-modernist tirades, glorifying the space-time grounded in officially recognized mathematics; a stream of consciousness of another controversial scientist in the novel, by the name of Endor:

Mathematics is the only avant-garde remaining in the whole province of art. It’s pure art, lad. Art and science. Art, science and language. Art as much as the art we once called art. It

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2 Project Mohole historically belongs to geosciences and represents a term a 1960s project which was to be an equivalent to the space race in the Earth sciences. Named after a Croatian scientist, Andrija Mohorovičić, the project aimed to drill through the Earth’s crust to the area called Mohorovičić discontinuity, which is thought to separate Earth’s crust from its upper mantle. The project was discontinued in 1966.
lost its wings after the Babylonians fizzled out. But emerged again with the Greeks. Went down in the Dark Ages. Moslems and Hindus kept it going. But now it’s back bright as ever. I got too careless for mathematics. Forgot how swift and deadly it can be. (RS 85)

This juxtaposition of ideas, each creating a fabric of reality of its own and being mutually exclusive, functions as a guideline for the reader which should lead to a conclusion that mathematics, too, is the fruit of human imagination, as much as a Mohole universe is. However, as Osteen comments, for Endor, even so, the fictions which mathematics has to offer, are privileged, universally verifiable, and engender real-world improvements (Osteen 2000, 79). And indeed, in the first half of the novel, mathematics is the belief presented as the grounds of reality for the protagonist, as well as for the reader.

Although initially it seemed that the two possible universes belonged to different planes of existence, one being reality, and the other something else, much to the protagonist’s disbelief, the two proposed systems start to overlap, and not only in claiming the figure of stellated twilligon. The world of FENO will start to fluctuate, resembling the realm of dreams constantly changing with the dreamer’s needs in the attempts to break the code and to create a meaningful message out of sequence of zeros and ones. At the same time, the shared space and time will indeed become different for everyone in the underground research unit, in the bat caves, in their canisters and in the padlocked rooms. At one point Billy will ask himself if Endor became a recluse and an eccentric not because he had not solved the problem but because he has – towards the end of the story – the cracking of the code also produces cracks in the reality of the FENO universe:

What they’ve apparently discovered is that we are in the mohole, if that’s the way to phrase it. This solar system appears to be what we call mohole-intense. We are part of the value-dark dimension. All along we’ve been anxious to identify a mohole somewhere out there. We felt it would help us confirm the path of the radio message. And it has, it has. In a wider application we were sure it would shed valuable light on the mohole phenomenon itself. But we never anticipated finding a mohole so close to right here, to us right here. Evidently it’s just happened, it’s extremely recent, we’re right in it. Everything around us on out at least to the most distant planet and right in to the sun itself, our sun, we ourselves, all of us, people, matter, energy, we’re part of a mohole, we’re in it, we’re mohole-intense. (RS 410)

Finishing the novel with a solar eclipse as the solution to the riddle – more specifically, the solution to the riddle was the exact time of the eclipse in binary code – DeLillo seems to initiate a new cycle that is to produce a texture of reality rather different from the one of three-dimensional space. Here, time, the fourth dimension, is the key, or our perception of it is the key, since telling time and keeping it has so many different implications.

Accordingly, although they do not belong to the same plane chronologically, Ratner’s Star on a subtext level seems to have a lot in common in the observations of reality through the fourth dimension with DeLillo’s first Millennial novel the Body Artist.
4. Model of the world inside out – a Moebius strip (The Body Artist)

“What does the universe look like? … A strip of paper twisted and connected in a one-sided ring? Where are we in the universe?” (RS 49)

Never mind the time theorists, the cesium devices that measure the life and death of the smallest silvery trillionth of a second. He thought that we were the only crucial clocks, our minds and bodies, way stations for the distribution of time. Think about it, Einstein, my fellow Albert. (Underworld 235)

Time observed through human experience is a rather complex notion, if we bear in mind that the process of transformation of the perception of time through information technology became the basis for a new contemporary social system, resulting in the formation of the “space of flows”. Perception of time has changed through history depending on the context, however, in Western societies, Newtonian interpretation of time as absolute, placed time in a position of the highest organizational principle in nature. Before Newton, time existed in portions of variable size – changes of day and night, seasons, changing, religious holidays, all served as time markers. They were points in time which traced its flow, which could be firstly described as circular, and only then as linear. When societies introduced mechanical devices to measure time, and relied on the movement of planets and stars to mark its flow, or when we dived into the insides of an atom of cesium to build an “atomic clock”, time lost its circular movement and became purely linear, absolute and objectively quantifiable. Such “time” conditions how we perceive history as human experience, as a finite and definite sequence of reference points on a timeline.

DeLillo plays with the idea by constructing a character, Lauren Hartke, a conceptual artist, the protagonist of the novel Body Artist, and has her in her performance “Body Time” portray precisely these aspects of our perception of time. She seems to be looking for a balance between the time which has stopped inside her being and the machine-constructed time ticking away from her computer screen even when no conscious minds register its flow. In the process the reader discovers a multitude of universes sprouting inside out, building individual portions of infinity.

The novel Body Artist was published in 2001, and according to the majority of reviews, was surprisingly different from his previous novel Underworld, both in volume and in scope. It is an intimate narrative about the personal drama of a lonely woman, and within her story, it is a manifesto disclosing layers of time – it tells about different perceptions of time and about different ways of registering time passing and measuring whatever we are left with inside the boundaries of our existence. It is constructed around a rather unusual artist and her attempts to come to terms with the trauma of her husband’s suicide and about her need to recreate sequences of time through her art, reconstructing segments of her universe between memory and the present linking perception of time to the performance of her own body. Her performative acts elaborate the idea that our perception of the body, i.e. the medium which signifies the body, is inseparable from the body’s raw form (Wegenstein 2006, 32) – claiming that the body is always conditioned by the process of mediation. However, for Lauren Hartke, her body is not only a mediating form between the subject and the world; it is a place uniting the holistic and the fragmented. Within
the fictional universe, although it perhaps may appear differently, there is no objective world out there and another subjective universe inside her being. In accordance with Merleau-Ponty’s claim that “the subject and the world become one in the flesh” (ibid.), Lauren Hartke’s performance “Body Time” demonstrates precisely phases and layers of the fusion.

In the performance Don DeLillo moulds Lauren’s body into a set of universal bodies, reflecting feminist theory from Donna Haraway and Judith Butler to Elizabeth Grosz and Luce Irigaray. Lauren’s body is an accumulation of different media layers which facilitates perpetuation of the identification process, since layers may be deactivated or reinstated. Gender as a category is released from assumptions and stereotyping and it becomes a free nomadic performatrice feature of identity. Lauren’s friend Mariella Chapman will call it Lauren’s power of transformation, and it will render femininity mysterious and empower it to incorporate both of the sexes and numerous nameless states (BA 110). The body operated by “Body Time” is a direct demonstration of the perception of the body as a space of social interaction; Lauren makes her body a medium, creating the circumstances for it to accommodate the universal space of conflict.

Behind the obvious, in the performance, there is an ongoing process which redefines the balance between body and mind, exaggerating mediation through the layers of time – merciless online “realtime” on her monitor, time trapped in a moment, symbolized by the old Japanese woman in the garden, the time of the wrist watch a woman needs to catch up with by trying to get a cab, and finally her inner unspeakable time arising from Lauren’s grief projected as an interpretation Mr. Tuttle.

You are made out of time. This is the force that tells you who you are. Close your eyes and feel it. It is time that defines your existence…Time is the only narrative that matters. It stretches events and makes it possible for us to suffer and come out of it and see death happen and come out of it. (BA 92)

Lauren is destroying dichotomies subject/object, or inside/outside which corresponds with the model of corporeality of Elizabeth Grosz, with the fluid body; her model assumes an open and flexible set of meanings, interventions and reconstructions, generating the metaphor of creation from inside out. Visualizing the process, Grosz uses the Moebius strip analogy – aspects of the inner in a subject directly lead to the outer planes of the body, which destroys all the dichotomies related to the perception of the body.

The model of the Moebius strip allows for the subjectivity to be interpreted not as a combination of psychic deep and corporeal surface (Wegenstein 2006, 23), but as a surface which records rotations in 3D space creating the effect of depth (Grosz 1994, 210). The body, its image, according to Bergson contains two aspects which occasionally and paradoxically unite. On the one hand, body image is a materialization of the subject’s perception of their own corporeality. The body is a necessary mediator between identity and the unknowable reality outside the body; it governs the relationship with the outer reality through the images. Our own image is the core of being and its perception, it is a certain form of an interface towards the world (Bergson in Wegenstein 2006, 29). On the other hand, Bergson’s image de corps points out that the body is
a creation which facilitates the perception of the world around us. Both of the related aspects of corporeality are reflected in the performance “Body Time” – Lauren’s body is simultaneously the mirror and the screen onto which the images from the outside are projected, and the center of perception, a shape created in the center of perception, although it is constantly changing, becoming a Bergson’s body, a flexible boundary between future and the past (ibid.).

Me, my body, are rather a set of molecules and atoms which are constantly renewed. It is a state of matter too hot for one to be able to distinguish solid bodies in it. It is a world of universal variation, of universal undulation, universal rippling: there are neither axes, nor centre, nor left, nor right, nor high nor low. (Deleuze 2005, 58)

Much like the moholean universe in Ratner’s Star, shattering the “conventional” one to pieces, here too, in a process of destruction, “Body Time” will preserve Lauren’s most vital structures, allowing her creativity to complete the Moebius strip, blurring the boundaries of the inside and the outside. Lauren’s time, measured with her body has completed a cycle. The texture of her world, though, does not become lighter nor does it become any clearer. Here DeLillo is challenging his reader as much as he is doing so with the structure of the universe in Ratner’s Star – time we culturally perceive as linear, as it is projected in our language through tenses, as it is presented as a sequence of more or less related events in history. In Body Artist, DeLillo seems to be telling us that the time of the online clock Lauren is watching on her computer screen, is a dimension outside her reality. It is perhaps outside the reality of any human life; only subjective time exists observed as a cycle, twisting its inside on the outside at the moment it reaches its own completion – a Moebius strip, infinity.

5. Conclusion

Structures of life in DeLillo’s novels, although almost never explicitly presented, seem to be as much a projection of his characters’ mindsets as a consequence of social interactions and beliefs accepted in contemporary cultures. The time-space continuum in his fictional worlds reflects the transformation of technologically enhanced environment of the post-industrial, postmodern world, not unlike the one described by Manuel Castells (2000a) in his seminal work The Information Age: Economy, Society and Culture – “The rise of networked society.” Castells suggests networks as a new social morphology of our societies. Ratner’s Star and Body Artist initiate a reconstruction of the system of belief, challenging the old, creating open space for the new, therefore allowing the change to take place, even though in the novels themselves the suggested course of change is far too abstract and, if you like, in the case of Ratner’s Star, plain wrong from today’s perspective. Perhaps that is also a reason why the greatest value of these not so popular novels often remains hidden behind the rather difficult reading cluttered with abstractions. Yet, if we focus on the key points – space, time, and technology, it requires little effort to imagine the world presented by Castells as one of the possible realities of DeLillo’s fictional universes. The dynamics of the social structures defines space, according to Castells – it is therefore not readymade, but rather generated by the actions taking place at particular moments.

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3 There is one reality, at least, which we all seize from within, by intuition and not by simple analysis. It is our own personality in its flowing through time – our self which endures (9). Our intelligence can place itself within this mobile reality, and adopt its ceaselessly changing direction; in short, can grasp by means of that intellectual sympathy which we call intuition (69). Bergson 1949.
Geometries of space and time in *Ratner’s Star* and *Body Artist* in their textures suggest future clusters, spaces of flows and fully generated networks which reflect contemporary universes of DeLillo’s worlds in the novels *Cosmopolis* and *The Falling Man*, confirming once again that, however we choose to see our space-time, models of it remain firmly rooted in science, technology and mathematics, even if most of us remain unaware of it. This levels out their vitality and potentials against the magnitude of the processes of de(con)struction they are able to endure.

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