Abstract. In A New Refutation of Time Jorge Luis Borges explains a philosophical perspective that manifests itself in all his literary works: he sees physical and spiritual realities as co-habitants of the conscious self, outside of whose context they are non-existent and thus illusory. Paradoxically, Borges’ view of reality converges (or possibly is the negative reflection of) a theory of consciousness proposed by Canadian neuroscientist Michael Persinger, an empiricist who contends that all religious and mystical experiences are products of physical states reproducible to varying degrees in a laboratory. Like Cervantes’ Don Quixote and the collection of Arabian tales —The Thousand and One Nights— Borges’ literary works present physical and fictional realities existing as such only in the context of their perception. This paper explores the common ground shared by Borges’ literary creations and Michael Persinger’s theories about paranormal phenomena.

In his essay A New Refutation of Time, Jorge Luis Borges cites some premises of the English philosopher Berkeley, set forth in Principles of Human Knowledge, in which the latter “denied the existence of matter”:

This does not mean... that he denied the existence of colours, odours, tastes, sounds and tactile sensations; what he denied was that, aside from these perceptions, which make up the external world, there was anything intangible called matter. He denied that there were pains that no one feels, colours that no one sees, forms that no one touches... He believed in a world of appearances woven by our senses, but understood that the material world is an illusory duplication (228, 181-82).

Berkeley believed in a purely subjective world, in which nothing (neither thoughts, passions, ideas formed by the imagination, nor “physical” objects - “trees... in a park or books existing in a closet... exist otherwise than in a mind perceiving it”) (228, 182).

Borges states that “the idealism of Berkeley and Leibniz’s principle of indiscernables” (219, 172) are the two arguments that led him to his own “refutation of time” (218, 172) that manifests itself in all of his books. Borges establishes an integral link (or parallel) between the negation of the continuity of matter and spirit that is implied by Berkeley’s theories, and the negation of past and future time: “...once matter and spirit—which are continuities—are negated, once space too is negated, I do not know with what right we retain that continuity which is time. Outside each perception (real or conjectural) matter does not exist; outside each mental state spirit does not exist; neither does time exist outside each present moment” (230, 184).

Borges sees physical and spiritual reality as co-habitants of the conscious self, outside of whose context they are non-existent and thus, illusory. In view of the common ground shared by these “opposed” terms, it is not surprising that, in The South, Borges paradoxically acknowledges the atemporal “magical” quality of living in a purely physical state, while writing...
about a librarian whose life has been

2. To facilitate accessibility to Michael Persinger's theories for readers whose primary research is not behavioral neuroscience, I am referring to Nicholas Regush's excellent commentary and resume ("Brainstorms and Angels", published in Equinox) of Persinger's recent work. Among the many "original" works by Michael Persinger that are relevant to our topic are the following:

... "On the possibility of directly accessing every human brain by electromagnetic induction of fundamental algorithms", Perceptual and Motor Skills v. 80 (June '95, pp. 791-99).
... "Out-of-body-like experiences are more probable in people with elevated complex partial epileptic-like signs during periods of enhanced geomagnetic activity: a non-linear effect", Perceptual and Motor Skills v. 80 (April '95), pp. 563-69.

3. To my knowledge, Persinger does not classify the interaction of the two sides of the brain as a metaphor-like process. However, Julian Jaynes has described it in those terms in The Origin of Consciousness in the Breakdown of the Bicameral Mind (see especially pp. 12, 54-56).

In Marcel Proust and the Text as Macrometaphor, I enscribe metaphor within the larger framework of consciousness and perception, presenting the concept of macrometaphorical fiction, that "depicts on a large scale the metaphorical quality of language and of the human 'existential crisis' which represents itself in the lack of correspondence between language and its signified concept" (199). Textual macrometaphor realizes itself in a literary work through binary oppositions that manifest themselves in its characterizations, milieu, symbols, and ideas. Unarticulated relationships establish themselves between all of these textual elements through the intermediary of their innate similarities, giving rise to a third "reality" that is distinct from the unseen Dosed dissimilar terms that allowed it to reveal itself. lived more in the mental reality of literature than in the physical reality of his environment.

He... thought, as he smoothed the cat’s black coat, that this contact was an illusion and that the two beings, man and cat, were as good as separated by a glass, for man lives in time, in succession, while the magical animal lives in the present, in the eternity of the instant (70, 180).

By establishing in his short story a link between magic and the physical nature of the eternally present animal, Borges points the way to a comprehension of mind and transcendental consciousness as a physical rather than a spiritual phenomenon—a point of view that appears to contradict his apparent negation of the physical world in numerous other stories such as The Secret Miracle, that extoll the superiority of the intellect over lived, physical reality. In The South, Borges explores the common ground linking physical and dream reality.

Ironically, the magical physical state alluded to by the idealist Borges converges with a theory of consciousness proposed by the Canadian neuroscientist Michael Persinger, an empiricist who feels that all religious and mystical experiences are the products of physical states reproducible to varying degrees in a laboratory (Equinox, 71).2

In "Brainstorms and Angels" (Equinox, No. 82, 1995), Nicholas Regush summarizes Persinger’s recent scientific research and recounts his personal experience as a subject (hoping "to experience the presence of God", Equinox, 63) in Persinger’s Behavioral Neuroscience Laboratory at Laurentian University in Ontario, Canada. Whereas Christianity and many other world religions have promoted the idea that the soul exists on "a spiritual plane separate from the body" (Equinox, 67), Persinger sees each brain hemisphere producing its own brand of consciousness through neurotransmitters —"meeting places where neurons signal to one another" (Equinox, 65). His experimental data appears to indicate that most paranormal "spiritual" phenomena such as angels, visions of God and (more recently) extraterrestrials, that have been part of religious and literary works for centuries, can be reproduced at will by stimulation of the temporal lobe with electrical charges (Equinox, 63).

According to Persinger, "the fundamental principle of neurophenomenology is that all subjective experiences, despite their apparent cultural or religious implications, are associated with specific patterns of brain activity" ("Out of Body Like Experiences...", p. 563). Scientific research in the 1970’s indicated that each brain hemisphere has its own brand of consciousness (Equinox, 67; see also The Origin of Consciousness in the Breakdown of the Bicameral Mind, 100-125). Persinger suggests that his classical stimulation of the temporal lobe creates a microseizure that unlocks the normally well-guarded door between the two hemispheres of the brain. When this occurs, a person’s sense of self is suddenly altered by the (metaphor-like)3 intrusion of the right hemisphere’s sense of self on the left one, creating an altered state or the feeling of another presence. Because the right hemisphere is primarily for non-verbal, spatial tasks, it engenders visual and spatial distortions, accompanied by great emotion (Equinox, 68-69). This, says Persinger, explains why some people report seeing demons, oddly-shaped humanoids, or poorly organized human body forms. Persinger sees nothing mysterious or perplexing about experiences such as mystical encounters: "The only mystery is the attribution of the experience to a supernatural cause" (Equinox, 71).

As well as proposing the physical nature of spiritual or paranormal experiences, Persinger emphasizes the fallacy inherent in trying to discover the "truth" about such experiences
through hypnosis. Although memories forgotten by the conscious self would appear to constitute a tangible physical totality like old photos stored in a locked box in the attic, Persinger warns that memory is constantly being reconstructed, and "even the mildest suggestion from hypnotists may implant ideas that grow with time into stories" (Egan, 73). By extending his argument, we can perceive that the false memories induced by an external suggestion are indistinguishable when recalled from a memory that springs from a 'lived' experience. Thus, the "physical" process of recall may integrate "fictional" and "realistic" memories to the extent that imagination and reality are indistinguishable.4

At this stage, we should remind ourselves what Persinger's theories have to do with Berkeley's visions of time and space, Borges's short stories, Cervantes' Don Quixote, and the collection of Arabic tales entitled The Thousand and One Nights.

Berkeley's and Persinger's seemingly contradictory visions of the tangible, physical world merge in their definitions of "illusion". Berkeley the idealist sees matter existing only in the context of perception, proclaiming all non-perceived "matter" to be "illusion". Persinger the empiricist denies the existence of any spiritual reality existing beyond the illusions created by the physical interactions of neurons in a functioning brain. If physical reality is depicted as an illusion on the one hand and spiritual reality is represented as an equally dubious illusion on the other, then physical and spiritual realities meet as reflections of each other on a level playing field - the realm of representation, which includes the theoretical works of Persinger and Berkeley as well as literary works such as Borges' short stories, Cervantes' Don Quixote, and The Thousand and One Nights.

In view of this above mentioned mutual reflection of spiritual and physical reality, Don Quixote's attempt to incorporate the fictional reality of tales of knight errantry into his lived physical reality (albeit within the realm of literature) does not seem so deluded after all. By depicting the superimposition of the "real" world onto an "imaginary" one, and vice versa, Cervantes illustrated that (physical) reality and imagination (literature) were equally illusory realms. Borges also notes that Cervantes confused the objective and the subjective - the "world of the reader and the world of the book" (194) - in so far as that the protagonists of Part I of the tale become the readers of their own adventures in Part II.

Cervantes' expressed purpose for writing Don Quixote was to "destroy the authority and influence which books of chivalry (had) in the world and among the common people" (30). Michel Foucault in The Order of Things (Les mots et les choses) suggests that Cervantes exposed the fallacy inherent in the medieval system of resemblances that viewed "nature and books alike as part of a single text" (48, 62): a system in which writing (and any other system of signs) was the true reflection of an existing signified concept (46-48, 60-62). After numerous episodes in Part I of Cervantes' masterpiece which apparently illustrate the discrepancy between Don Quixote's mad, fictional perception of reality and physical reality itself, Chapter III Part II of the tale includes a reference to a book that has been written about Don Quixote's adventures in Part I, that is a truthful, realistic account of his confusion of reality and fiction, including his battle with giants that really were windmills, and many other such deeds of heroism (487, II 60-61). Ironically, the "historical" account of Don Quixote's adventures appears to lend credence to the medieval system of resemblances that Cervantes apparently wished to expose as false and that Don Quixote wished to verify. More significant than its ability to reflect lived reality, however, is the novel's documentation of the power of individual perception to convert illusion (fiction) into tangible (lived) reality, as the "illusory" battles engaged in by Don Quixote produce "real" physical injuries for himself and others (488, II 61-62).

The reflective correspondence of "physical" and "fictional" reality in Cervantes' masterpiece was a source of fascination for Borges, that he explored in critical essays about Don Quixote as well as in numerous short stories and poems. In Parable of Cervantes and the Quixote for example, Borges observes that, for Cervantes and Don Quixote - "the dreamer and the dreamed one" (242, 51) - ... the whole scheme of the work consisted in the opposition of two worlds: the unreal... and the everyday..." (242, 51-52). Borges infers that time annulled the physical character: "they did not suspect that the smooth away that discord" (242, 52).

In Partial Magic in the Quixote, Borges establishes parallels between the previously mentioned fusion of reader and book (the novel within the novel) in Cervantes' novel, with similar mergers of "literature" and "lived reality" in Shakespeare's Hamlet (the play within the play), Valmiki's Ramayana (the poem within the poem), and the Middle East's A Thousand and One

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4. The lack of differentiation between "false" and "true" memories has an affinity with Jacques Derrida's view of the relationship between a represented concept and its written representation. A basic premise of most of Derrida's work is that all representation give rise to a play of reflected doubles that irrevocably obscure the origin of speculation. (See "Linguistics and grammaratology", Of Grammatology, 36; "Linguistique et grammaéologie", De la Grammatologie, 54-55).
Nights —(the “true story” of the Sultan’s dilemma told as one of the tales that Scheherazade is narrating to delay her execution and that he is listening to). Borges sees the inversions of reality and above literary works as suggestions that the boundary between lived reality and fiction is spurious: “...if the characters in a story can be readers or spectators, then we, their readers or spectators, can be fictitious. In 1833 Carlyle observed that universal history is an infinite sacred book that all men write and read and try to understand, and in which they too are written” (46, 55).

In his short story The Circular Ruins, Borges posits “physical reality” as indistinguishable from “dream reality”. A magician dreams (creates) piece by piece a “dream son” whose appearance is undistinguishable from any other human being. After his project is complete, the dreamer discovers by accident that he too is the product of someone else’s dreams. In Everything and Nothing, Borges similarly describes God the creator as just another dream creation, likeable to any other author or literary creation: “The voice of the Lord answered from a whirlwind: “Neither am I anyone; I have dreamt the world as you dreamt your work, my Shakespeare, and among the forms in my dream are you, who like myself are many and no one” (249, 61).

In accordance with the concept of “false memories” mentioned previously in connection with Persinger’s theories concerning the physical nature of “spiritual” phenomena, Borges explores another facet of the reflective nature of reality and fiction (illusion, imagination) in Tlon, Uqbar, Orbis Terius (Tlon, Uqbar, Orbis Tertius), wherein an “invented” country described in an encyclopedia entry as a “physical” reality becomes indistinguishable from more well-known prosaic physical realities, by virtue of it becoming incorporated into history: “Already the schools have been invaded by the (conjectural) primitive language of Tlon; already the teaching of its harmonious history (filled with moving episodes) has wiped out the one which governed in my childhood; already a fictitious past occupies in our memories the place of another, a past of which we know nothing with certainty - not even that it is false”. (18, 34).

In the Library of Babel, Borges likens the physical universe to a library; thus negating the distinction between physical reality and representation (illusion, fiction) in much the same way that Cervantes’ Don Quixote did. Borges perceives the library/universe’s essential “physical” characteristics to be spiral structures and mirrors, that for him “represent and promise the infinite” (51, 75). Whereas the ancient Greeks posited the universe as being made up of four physical elements—earth, air, fire and water, so Borges the librarian perceives the contents of the library to be composed of four linguistic elements—the space, the period, the comma, the twenty-two letters of the alphabet (54, 79).

In response to the majority of his colleagues who declare the library (Universe) a closed, finite totality by virtue of its many reflective surfaces (“In the hallway there is a mirror which faithfully duplicates all appearances. Men usually infer from this mirror that the Library is not infinite (if it really were, why this illusory duplication?”), 51, 75), Borges suggests that “the Library is unlimited because it is cyclical” (58, 85). Its cyclical nature breaks down the distinction between order and chaos (reason and madness), as disorder is perceived as “order” when re-encountered.

If an eternal traveler were to cross it in any direction, after centuries he would see the same volumes were repeated in the same disorder (which, thus repeated, would be an order: the Order (58, 85).

In Borges’ conversion of disorder to order through repetition (familiarity), we can see the inversion of madness and reason in Parts I and II of Cervantes’ Don Quixote. After repeated pathetic attempts to play the part of a knight errant in Part I of his tale, Don Quixote in his deathbed ceases to be a madman in his friends’ perception and truly becomes, in their eyes, a knight errant at the end of Part II.

Borges’ figurative macrocosmic convergence of physical reality (the universe) with writing or representation (the library) in The Library of Babel is reflected in microcosm in another short story, The Garden of Forking Paths. Tsu Pen, the protagonist, is the creator of two works—a physical and a fictional reality— that are in fact the same object: “I am withdrawing to write a book... I am withdrawing to construct a labyrinth”.

Everyone imagined two works. To no one did it occur that the book and the maze were one and the same thing (25, 95).

Just as Borges posits the universe (library) as infinite by virtue of its cyclical nature, so Tsu Pen suggests that a book can be infinite if it is “a cyclic volume, a circular one”. A book whose last page is identical with the first” (25, 96). He sees The Thousand and One Nights as an example of an infinite book, by virtue of Night 602, when Scheherazade “begins to relate word for word the story of The Thousand and One Nights, establishing the risk of coming once again to the night when she must repeat it, and
thus on to infinity" (25, 96).

In Seven Nights, Borges stresses the idea of infinity as "consubstantial" with 
The Thousand and One Nights and the idea of magic as a "unique causality... the belief that besides the causal relations we know, there is another relation. That relationship may be due to accidents, to a ring, a lamp. We rub a ring, a lamp, and a genie appears" (51, 67-68). The unexpected convergence of physical realties that produces magical effects has its literary counterpart in "stories within stories" which create, according to Borges, "a strange effect, almost infinite, a sort of vertigo" (53, 70).

In view of the parallel that I proposed previously between Persinger the empirical neuroscientist and Borges the idealistic dealer in words and literary images, it is significant that Borges defines magic as the product of a physical reaction—the chance encounter of entities that gives rise to another phenomenon. In his short story The South, the unexpected encounter that initiated Juan Dahlmann's mental and/or physical transportation in time and space to the romantic past of his maternal grandfather was the not-at-all-magical meeting of his forehead with a "recently painted door which someone had forgotten to close" (168, 178). Dahlmann, at the onset of his journey to the south, establishes the previously mentioned parallel between magic and the purely physical "animal" state (170, 180), and subsequently rejects the "superfluous (literary) miracles of Scheherazade in favour of the marvel of "the morning itself and the mere fact of being" (170, 181). As if aspiring to the state of the "magical animal" (the cat in the cafe he visited on his way to the train station), Dahlmann "close[s] his book and allow[s] himself to live" (170, 181), just prior to the train leaving the city.

Just as Persinger has suggested that magical, supernatural phenomena such as genies are the products of the intrusion of the conscious self of the right side of the brain onto the conscious self of the left hemisphere, so Dahlmann feels, after closing his book, that "he was two men at a time: the man who traveled through the autumn day and across the geography of the fatherland, and the other one, locked up in a sanatorium and subject to methodological servitude" (170, 181). The remainder of Borges' story is a subtle superimposition/infusion of events and faces from the physical reality of the sanatorium onto the real or imagined images of the countryside that Dahlmann previously knew more through literature and nostalgia than through actual visits (171, 181). Borges never provides the definitive evidence that allows the reader to ascertain whether Dahlmann's journey to his death is realized in the context of a dream or in physical space, because ultimately, for Borges, the distinction between physical and dream reality is inconsequential, compared to Dahlmann's perception of the events. Picking up the knife offered to him by an old gaucho and crossing the threshold of the cafe to meet certain death in a knife fight on the plain, Dahlmann "felt that if he had been able to choose, then, (in the sanatorium) or to dream his death, this would have been the death he would have chosen or dreamt" (174, 185). Similarly, in Cervantes' text, any incongruity between Alonso Quijano the sane country gentleman and Don Quixote the mad self-appointed knight-errant is annulled by the common goodness that the hero's friends have always perceived in him: "For in truth, as has been said before, whether he was plain Alonso Quijano the Good, or Don Quixote de la Mancha, he was always of an amiable disposition and kind in his behaviour, so that he was well-loved, not only by his own household but by everyone who knew him" (937, 11589).

Like the philosopher Berkeley, Borges and Cervantes both present a subjective view of the world, in which physical and fictional realities exist as only such in the context of their perception. On the other hand, both authors also lend credence to the empiricism of the neuroscientist Persinger, who negates the existence of any spiritual, paranormal reality beyond the "illusions" (fictions) that can be produced by the physical interaction of neurons from opposite sides of the brain. Assuming that a book is a physical object, and that the combination of words in a book constitutes a physical process, then the interaction of opposed terms (madness/reason, illusion/reality, etc.) in a literary work constitutes a "physical" reaction induced by its author who set up the conditions that facilitate that superimposition of dissimilar phenomena. Just as Persinger perceives "illusory" visions resulting from the encroachment of the "self" of the right hemisphere of the brain onto the "self" of the left side, so internal realities may be revealed to a reader through the metaphor-like convergence of different phenomena or opposed terms in a literary work (see Proust, 1970: 889-901 and Jaek, 1990). Borges and Cervantes both present, in the context of their fictional creations, the perceptual breakdown of the "physical" barriers separating the "physical" reality of a book's reader from the "fictional" reality depicted in the context of the literary work; and thus open up the possibility that "physical" reality as humanity commonly perceives it may be "fiction" in the mind of another.

Perhaps, like Scheherazade in The Thousand and One Nights, humanity creates stories to delay its confrontation with the ultimate reality of death, while simultaneously seeking more "physical" solutions to the problem. Significantly, Scheherazade's fictional creations granted her the time necessary to engender in her womb the
physical being who ultimately liberated him from the curse of time—the sultan’s son in whom he could see himself, just as he previously perceived himself in her nightly stories. If Borges is right, humanity has no existence other than its perception of itself in its own creations, that may or may not be reflections of the mind of God. Steven Hawking has pragmatically suggested that, “if we discover how the universe works, then we will discover the mind of God”.

Readers of Borges, the Quixote and The Thousand and One Nights will ask themselves if that discovery will be made in the context of the fictional or the physical universe, or in their mutual reflection? The last word goes to Borges who, in the Mirror of the Enigmas, equates the “divine mind” (212, 123) with the ability to see chaos as order, by virtue of an ampler perspective. On the other hand, he also describes that ampler perspective (“the terrifying immensity of the firmament’s abysses”; 210, 121) as “an illusion—an external reflection of our own abysses, perceived in a mirror” (210, 121). With that we come back to the infinite reflective realities of reader and text. Humanity’s knowledge of physical or fictional realities is a reflection of itself, and seen from another perspective, all such reflective perceptions may be pure “literature”.

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