Minotaur Lost: The Labyrinthine Nature of Time in Postmodern Fiction*

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Summary

The article uses the conclusions reached by contemporary science to investigate the postmodern renaissance of the labyrinth. The first part concentrates on spatial labyrinths in the fiction of Umberto Eco and Jorge Luis Borges, as these are precursors of temporal labyrinths, and shows how Newton's laws, which prove the relativity of space, can be used to explain these labyrinths. The second part of the article examines temporal labyrinths in Borges's and Peter Ackroyd's work. Einstein's theory of relativity as well as recent developments in new physics, is used to provide a possible explanation of these labyrinths of temporal relativity. The article shows that the obfuscation and comprehension of both spatial and temporal labyrinths depend on the distinction between inside and outside: inside the labyrinth, there is confusion; outside the labyrinth, the structure can be comprehended. The parallel development in literature and science, in their acknowledgement of the relativity of space and time, becomes apparent from the above.

Opsomming

Die artikel gebruik die gevolgtrekkings van kontemporêre wetenskap om die postmoderne renaissance van die labirint te ondersoek. Die eerste gedeelte konsentreer op ruimtelike labirinte in die fiksie van Umberto Eco en Jorge Luis Borges, aangesien dit die voorlopers van temporale labirinte is, en toon aan hoe Newton se wette, wat die relatiwiteit van ruimte bewys, gebruik kan word om hierdie labirinte te verklaar. Die tweede gedeelte van die artikel ondersoek temporale labirinte in Borges en Peter Ackroyd se werk. Einstein se relatiwiteitsteorie sowel as onlangse ontwikkelings in die nuwe fisika word gebruik om 'n moontlike verduideliking van hierdie labirinte van temporale relatiwiteit te gee. Die artikel toon aan dat die verbystering en begrip van sowel ruimtelike as temporale labirinte van die onderskeid tussen binne en buite afhang: binne die labirint is daar verwarring; van buite af is die labirint verstaanbaar. Die parallelle ontwikkeling in literatuur en wetenskap in hulle erkenning van die relatiwiteit van ruimte en tyd, word gaandeweg uit bogenoemde duidelik.

The notion of the labyrinth has been in existence for centuries, in architecture, horticulture, drawing, and literature. Yet it has experienced a revival in postmodern literature, where the labyrinth is viewed as text, and the text

as labyrinth.

Although generalisations may be inappropriate to postmodernism, the renaissance of the labyrinth is connected with the main characteristics of postmodernism: uncertainty, fragmentation, indeterminacy, decentring, and meaninglessnèss. All of these apply to labyrinths. One may know one's immediate surroundings or position inside a labyrinth, but the co-ordinates of that position within the labyrinth as a whole will be unknown to one, which may cause confusion, disorientation, and uncertainty. This fragmented awareness is described in Jorge Luis Borges's *The Book of Sand* by a man showing the protagonist an infinite book with no beginning or end, who says: "If space is infinite, we may be at any point in space. If time is infinite, we may be at any point in time" (Borges 1979: 89). The labyrinth is furthermore a locus of decentring, of endless "Forking Paths" (Borges 1970: 44-54). It is aimed at disseminating, rather than making a rationally determined bee-line for a specific point which can be kept in view throughout. Even though one may be in search of the Minotaur at the centre of the labyrinth, the labyrinth is designed to lead one everywhere except where one wants to be. Traversing a labyrinth means instinctively feeling that everything must somehow, someday, make sense, that there must be a way out, while simultaneously being faced with evidence that there is no way out, that nothing makes sense, that ultimate meaning remains elusive. The labyrinth is thus symbolic of the deconstruction of logocentrism, of the "postmodern condition", which, in turn, is a reflection of our experience of the world, as epitomised by a *New Yorker* cartoon depicting "a minotaur contemplating a subway map" (Faris 1988: 178).

The fields from which possible explanations of labyrinths can be drawn are themselves labyrinthine in number, complexity, and confusion. One of these possible explanations is a scientific, or more properly, a pseudo-scientific explanation, which uses some of the conclusions reached by science, but avoids its labyrinth of formulae and equations.

In this article a distinction will be made between spatial labyrinths (as found in Umberto Eco's and Jorge Luis Borges's work) and temporal labyrinths (concentrating on Borges and Peter Ackroyd). These types of labyrinth agree with the last two of the three types distinguished by Eco (1988: 80-82) in *Semiotics and the Philosophy of Language*. Apart from the linear labyrinth of Theseus and the Minotaur which leads to the centre and outside again, Eco identifies the maze or mannerist labyrinth and the meander or rhizome. The last two types are of importance here. The maze displays choices between alternative paths and has dead-ends, so that one can make mistakes, the Minotaur being the visitor's trial-and-error process (Eco 1988: 81). For the purposes of this article, the maze will be identified with the

older, conventional spatial labyrinth, which is by no means obsolete in contemporary literature. The second type of labyrinth, which agrees with Eco's rhizome, the temporal labyrinth, is virtually uniquely twentieth century. It proliferates in the work of T.S. Eliot, Kurt Vonnegut, Jeanette Winterson, Robert Coover, Italo Calvino, Martin Amis, Borges, much of science fiction, and Ackroyd. Eco (1988: 81) describes the rhizome as a net in which all points are connected to constitute an unlimited, potentially infinite, territory without a centre, exit, or outside. There can be no global vision of all its possibilities but only local visions of the closest ones, which can be no more than falsifiable hypotheses about its further course (p. 82). Because it is infinite, there appears to be no end where one can grasp a pattern (Bennett 1988: 126).

Although the main focus of the article will be the temporal labyrinth, the spatial labyrinth will also be examined briefly, as the temporal labyrinth is, in many ways, a development of the spatial labyrinth, and as an explanation of the one depends on an explanation of the other.

An example of the first type of labyrinth, the mainly mannerist spatial labyrinth, is the Aedificium in Eco's *The Name of the Rose* (1984), a structure foreshadowed by Borges's Library of Babel in "The Library of Babel" (1970: 78-86). In their exploration of the labyrinth, William and Adso find that it consists of numerous rooms, with different combinations of blind walls, windows, books, mirrors, doorways, and red or black scrolls (Eco 1984: 169-178). While William initially believes that he understands the layout of the labyrinth, his attempt to show Adso the logic behind it is simultaneously a discovery that the builders had been much shrewder than anticipated: because William's expectations are thwarted, their journey becomes disoriented, a disorientation which extends to Adso's perception of time, as it feels as if centuries pass in the labyrinth (p. 175). William, however, remains convinced that he knows the way out of any labyrinth from the inside. After explaining his method of leaving signs at every junction to Adso, Adso enquires "And by observing this rule you get out?", to which William is obliged to reply "Almost never, as far as I know" (p. 176). An anonymous author in Borges's "The Immortal" (1970: 139) also becomes confused and disoriented in, what he presumes, is the City of the Immortals. He even begins to accept that there is nothing "but cellars with nine doors and long branched-out cellars" and has no conception of time (p. 140). What these characters experience is what one would expect of those entering a labyrinth; yet the monster lurking within should have inside knowledge of its labyrinth. In Borges's "The House of Asterion" (1970: 170-172), even the Minotaur becomes confused. His favourite game consists of pretending to show another like himself around his house, but he has to

admit: "Sometimes I make a mistake and the two of us laugh heartily" (Borges 1970: 171). When all of these characters eventually escape from their labyrinths, it is by accident, not through logical deduction.

In order to avoid the above confusion and to understand spatial labyrinths, an examination of Isaac Newton's conclusions on the relativity of space is necessary.

In a stable, pre-Newtonian universe, time and space were viewed as absolute. Aristotle had said that the natural state of a body was rest and only a force acting on it would make it move; then Newton showed that a force would not make a body move, but would change its speed. Thus the natural state of a body is movement in a straight line at the same speed, which implies that there is no unique standard of rest valid for all bodies. Stephen Hawking (1994: 17) provides a good example: if one sets aside the rotation of the earth and its orbit around the sun, one can say that the earth is at rest and that a train on it is travelling north at ninety miles per hour or that the train is at rest and the earth is moving south at ninety miles per hour. In addition, if a person were to hit a ping-pong ball on a table on the moving train and the ball were to bounce twice on the same spot, to a person on the ground outside it would appear that the ball had hit two different spots a certain distance apart, the distance depending on the speed of the train. The non-existence of absolute rest means that no event has an absolute position in space (Hawking 1994: 18); its position is relative to the observer's position in space or - literally - *point of view*.

The relativity of space can be used to explain spatial labyrinths and their disorientating effect. The distinction between inside and outside provides the key. When trapped in a labyrinth, one cannot see its layout, but only one's immediate surroundings. To recall the metaphor of the ping-pong ball: if one were to tell the person on the train that the ball had hit two points twenty metres apart, the person might well be confused. Were one to let the person view the same episode from outside the train, one's claim would cease to amaze. The same applies to spatial labyrinths. The solution is to view the labyrinth from the outside, where the entire labyrinth is visible. While this may not be of consolation to a person trapped inside, it does assist one in understanding spatial labyrinths as phenomena, since comprehension of the labyrinth as space is relative to one's point of view.

In *The Name of the Rose* the solution to the labyrinth is only discovered when William and Adso realise that "on the outside we know quite well the layout of the Aedificium! But it is when we are inside that we become disoriented" (Eco 1984: 215). William then sets out mathematically describing the inside of the Aedificium from the outside (pp. 215-216). When they enter it, Adso finds that the initial letters of the scrolls in each room spell

the names of the regions of the world (Eco 1984: 313-314). Because of their diagram of the labyrinth from the outside, they realise that one room, the "finis Africae", apparently has no entrance. When they discover a means of entrance, they have solved the mystery of the labyrinth, and of the murder plot of the novel, the latter being a qualified solution. While William has solved the labyrinth by rationally examining it from the outside, he states his belief that the real world cannot be solved in the same way: "There was no plot ... and I discovered it by mistake .... I behaved stubbornly, pursuing a semblance of order, when I should have known well that there is no order in the universe" (1984: 491-492).

Although William's comprehension of the labyrinth is clearly relative to his position, he refuses to believe that comprehension of the imperceptible order of the *world* may also be contingent on looking at it from the outside. After all, the layout of the Aedificium follows that of the medieval world; if the one can be understood, why not the other, too? Earlier in the novel, William remarked: "Thus God knows the world, because He conceived it in His mind, as if from the outside, before it was created, and we do not know its rule, because we live inside it, having found it already made" (p. 218). As it is practically impossible for William to view the world from the outside, he has to conclude "[t]here is too much confusion here" (p. 493). While the Aedificium as mannerist labyrinth (and as closed text) has been made comprehensible, the world as rhizome (and open text) still obfuscates. Because the narration is not omniscient, the reader also only sees the labyrinth from the inside until the characters see it from the outside. Thus the reader and characters simultaneously come to an understanding of the labyrinth.

Few would disagree with William that spatial labyrinths make sense from the outside, possibly because we have come to a full acceptance of the relativity of space. There is, paradoxically, nothing confusing about the spatial labyrinth as concept, even if actual spatial labyrinths still confuse.

Our experience of rhizomic temporal labyrinths is a different matter. These are closer to William's experience of the world than to his experience of the Aedificium.[1] In fictional texts which deal with or are structured as temporal labyrinths, time is no longer linear and characters move around in time, which seems unnatural. Yet it is not as preposterous as it may appear. As with spatial labyrinths, science can provide an explanation for these more perplexing labyrinths. In proposing a possible explanation, the article will focus on the type of temporal labyrinth found in Ackroyd's fiction. While the specifics of the explanation may not apply to all temporal labyrinths, the implications of the relativity of time will hold for other such labyrinths.

In most of his novels, Ackroyd creates a new experience of time as a labyrinth of simultaneity or the ever-present. One character seems to travel in time by crossing a threshold and taking over or merging with another character similar to the first, for example, Little Dorrit and Audrey in *The Great Fire of London* (1988c), and Dyer and Hawksmoor in *Hawksmoor* (1988b). In the process one or both of the characters become like children and die, a reverse movement towards the point of birth and non-existence. When the characters merge, the past and present coincide, as one character exists at a time prior to the other. Time becomes a labyrinth where characters travel in different directions and eventually meet. Their meeting hints at rebirth, which is traditionally associated with the labyrinth. Borges's fiction contains a similar labyrinth, best described in "The Garden of Forking Paths" where Ts'ui Pên had set out to write a novel and to construct a labyrinth in which everyone would be lost. The labyrinth and the book are one, as Stephen Albert explains to Pên's grandson:

> ... your ancestor did not believe in a uniform, absolute time. He believed in an infinite series of times, in a growing, dizzying net of divergent, convergent and parallel times. This network of times which approached one another, forked, broke off, or were unaware of one another for centuries, embraces *all* possibilities of time. We do not exist in the majority of these times; in some you exist, and not I; in others I, and not you; in others, both of us.
>
> (Borges 1979: 53)

These temporal labyrinths take the theory of relativity as well as other recent scientific developments into account.

Although Newton relativised space, he believed in absolute time, completely separate from space. In 1905 Einstein's special theory of relativity showed that absolute time would have to be abandoned as well.

Einstein's famous equation, $E = mc^2$ (where E is energy, m is mass, and c is the speed of light, which remains constant for all observers), states that if the mass of an object increases, so must its energy, as it will be more difficult to increase its speed. A second important equation is that for the speed of light, where the speed of light (c) equals the distance travelled, divided by the time required to cover that distance. Because of the relativity of space, Newton's theory shows that the distance travelled by a pulse of light will appear different to different observers, depending on their positions in space. If the speed of light will always be the same for all observers, irrespective of their positions, an increase in the distance travelled by a pulse of light would mean an increase in the time taken to cover that distance. For an object travelling at a speed close to that of light, the greater its energy, the greater its mass, the greater its speed, the greater

the distance travelled, the greater the time taken to travel that distance; in other words, time slows down significantly. Thus, instead of an absolute time, each observer has his/her own measure of time. Time and space are furthermore not independent of one another, but are combined to form space-time (Hawking 1994: 24). Although Einstein later postulated the general theory of relativity which also takes into account the curvature of space-time by gravity, the special theory of relativity is sufficient for present purposes, as it proved the relativity of time. In summary, each individual, depending on his/her position and velocity in space (which, in turn, determines his/her energy), has his/her own measure of time. Time is thus, at least partly, relative to the observer.

In this respect, there is no difference between temporal and spatial labyrinths: the position of the observer relative to the labyrinth will determine the degree of confusion or comprehension. For one trapped inside a labyrinth of time there can only be confusion, as can be seen in Mark's description of time in *First Light*: "it was the word for that which no living thing could understand, because to understand it would be to exist outside it. Only those who had died could comprehend time, for time was God" (Ackroyd 1989: 289). As with spatial labyrinths where the destructive Minotaur waits to kill, death seems to be central to temporal labyrinths.

There is a marked dichotomy between our everyday view of time and the view put forward in fiction, such as Ackroyd's, as well as contemporary science. We cling to the notion that time is linear and more or less absolute, as this belief provides us with stability. In fiction involving temporal labyrinths, past, present, and future are indistinguishably one. That this is also the case in contemporary science, is something we are either unaware of, or unwilling to accept. Yet various scientific theories point to a labyrinthine time. Therefore much of the fiction dealing with temporal labyrinths depicts worlds which are in line with contemporary scientific conclusions transferred to the level of everyday reality. Such fiction may be closer to reality than our generally-held perceptions. The scientific concepts of space-time, black holes, the quantum connection, imaginary time, and matter and antimatter all imply that time is a labyrinth inside of which we are still trapped, as are Ackroyd's and Borges's characters. These concepts have been selected on the basis of their overt or implied relativisation of time, as well as their applicability to the labyrinth of time as found in the texts under discussion. Thus, although the choice of scientific concepts may appear eclectic and random, the concepts are suggested by the texts themselves: the choice is literary rather than scientific.

The first concept to be examined is space-time. In fictional temporal labyrinths, there is a definite link between time and space, as is apparent in

Borges's (1979: 68) "Utopia of a Tired Man", where a seventy-year old man enters a house and converses with another person who lives in the future. The house is the constant factor linking two times and lives. This person believes that all travel is spatial, including the seventy-yearold man's journey into the future, and states that "we could never rid ourselves of a here and now" (Borges 1979: 68). The relation between time and space is also described in Ackroyd's *First Light*:

> ... space is inconceivable outside of time, and time itself is only an aspect of space. These forces are fractured or incomplete, therefore; only the relationship between them is significant, since in that relationship there is some faint echo of the order which existed before the creation of the visible universe.
>
> (Ackroyd 1989: 155-156)

Similarly, Hawksmoor in *Hawksmoor* implies a connection between space and time when he wakes up: "And for a moment he did not know in what house, or what place, or what year, he had woken" (1988b: 152). Even in texts dealing with purely spatial labyrinths, the characters' *spatial* disorientation is accompanied by *temporal* disorientation.

Einstein and others have shown that time is just another dimension, and that the concept of space-time should replace a separate time and space. Our knowledge of this space-time is circumscribed. Like someone trapped in a spatial labyrinth who only knows his/her immediate environs, a person trapped in a temporal labyrinth has access to only one lifetime of space-time. In his essay, "A New Refutation of Time" (1970: 258), Borges goes as far as to say that "each moment we live exists, but not their imaginary combination". To see the complete pattern, we would have to be *outside* of time in a state of timelessness or eternity.[2] In science such a state is only achievable beyond the universe, at a singularity such as the Big Bang or Big Crunch, or as one passes the event horizon of a black hole. Damian Fall has such a Big Crunch experience towards the end of *First Light*:

> If the universe were contracting, returning to its unimaginable moment of birth, then surely it would have happened instantaneously? Once the pressures of time and space were reversed, and the universe doubled back upon itself, surely this unravelling would occur outside time - would occur, in a sense, after time had ceased to exist?
>
> (Ackroyd 1989: 296)

Such an eternal state is a state similar to that of the author and reader who stand outside the fictional world. The closer we are to seeing the whole labyrinth, the more we may realise that simultaneity must replace chro-

nology. Louis De Broglie (quoted by Zukav and Capra) describes this simultaneity as follows:

> In space-time everything which for each of us constitutes the past, the present, and the future is given en bloc .... Each observer, as his time passes, discovers ... new slices of space-time which appear to him as successive aspects of the material world, though in reality the ensemble of events constituting space-time exist prior to his knowledge of them.
>
> (Zakav 1979: 238 and Capra 1975: 195)

Thus all of time exists all of the time.

In *First Light* Ackroyd provides a definition of time, which echoes De Broglie:

> Everything on earth existed with him [Damian Fall], shared his time with him in an ever-receding present moment; everything was connected, but this network of invisible relations was a network of simultaneity. Damian had to assume that there was such a thing as the past but any evidence for it was part of the present, too. All the world had ever known was a succession of present moments. There was - there is - nothing else.
>
> (Ackroyd 1989: 134)

In Ackroyd's novels the time-travelling characters form networks (for instance, Chatterton, Meredith, Charles, and even Edward in *Chatterton* (1988a)) which span centuries and are linked by space in that the characters live in the same place. In everyday life, we perceive all spaces as existing at a particular moment in time. In accordance with the notion of space-time, time and space cannot be separated, so that it would be equally accurate to say that all times exist at a specific point in space. The characters in the network stay in one space, but move in time. In *Hawksmoor* (1988b) the twentieth-century Hawksmoor and the eighteenth-century Dyer probably share the same lodgings near the Seven Dials, yet Hawksmoor seems to be investigating crimes committed by Dyer, as if they are not separated by two centuries. Strangely, they do not perceive this movement in time; only readers who view events from the outside do so.

All the characters experience their time as the present, as does Dr Yu Tsun in "The Garden of Forking Paths", who writes that "everything happens to a man precisely, precisely *now*" (Borges 1970: 45). In Ackroyd's fiction there is often even a switch from the past to the present tense when characters experience a moment approximating time-travel, for example, when Charles is in hospital with a brain tumour and is apparently approaching his merging with Chatterton: "There is no past and no future, only this moment ..." (Ackroyd 1988a: 166).

Consequently, space-time is a timeless, eternal labyrinth of simultaneously existing interlinked present moments. We usually move through it in one direction: forwards; but there may be other directions. When Hawksmoor tries to imagine the past, he sees nothing *in front of* him (Ackroyd 1988b: 214), and he *remembers* the future (p. 199), as does Dyer when he remembers things that will happen in Hawksmoor's time centuries later (p. 131). As Mark in *First Light* says: "Just because we are trapped in time, we assume that there is only one direction to go. But when we are dead, when we are out of time, everything returns .... Everything is part of everything else ..." (Ackroyd 1989: 318). The tumulus is seen as such a space where time can move in different directions (pp. 267-268).

The scientific concept of the black hole also points to a labyrinthine time. Time would slow down infinitely as an astronaut approached the event horizon of a black hole, so that he/she would be stretched out like spaghetti by gravity and would not survive, unless he or she managed to fall through a "wormhole" and come out in another region of the universe (Hawking 1994: 158). Rowan in *The Great Fire of London*, in fact, says on awakening that it feels as if he had fallen through a hole in time (Ackroyd 1988c: 73). As characters in Ackroyd's novels approach a point of time-travel and cross the threshold (a type of event horizon), they experience time as slowed down. Dyer in *Hawksmoor* (Ackroyd 1988b: 209) opens the door and crosses the threshold, then comes to the conclusion that he has run to the end of his time, whereas Little Arthur in *The Great Fire of London* (Ackroyd 1988c: 145) knows that "[t]here is virtue in slowness". Towards the end of *Chatterton*, for example, Charles, Chatterton, and Meredith seem to merge, and experience an infinitely decelerated time:

> Falling, and Chatterton is walking down a stairway of old stone where he passes a young man [who could be Meredith] ascending on the other side; and he is *always* walking, *always* passing him, and the young man *always* shows him the puppet which he holds in his left hand. Falling, and Chatterton is standing beside a young man with his head bowed in pain [probably Charles]; there is a fountain behind them, and the fountain is playing *for ever*.
>
> (Ackroyd 1988a: 233, my italics)

As far as the outside world is concerned, these characters die, rather than travel in time. In this novel there are a number of paintings which provide valuable clues for one's interpretation of events. The one Seymour painting of a child standing in front of a ruined building resembles a black hole, as everything seems to "spiral inwards towards a vanishing point in the middle of the painting" (Ackroyd 1988a: 35), and "the building seemed to swirl ... to be sucked" (p. 117). As Chatterton approaches his death, he feels that

"[e]verything is coming to a point: it is in front of him and he keeps on walking towards it as he sings" (Ackroyd 1988a: 216).

While exploring the tumulus in *First Light* (Ackroyd 1989: 269) where "[t]he centuries were collapsing together", Mark is also described as if he is entering a black hole: "... he was straddled between two worlds - the upper half of his body now within the tomb as eagerly he peered forward, the lower half still protruding in the outer world. Part of him had been swallowed up" (p. 184). Even the beggars who reappear from century to century in *Hawksmoor* have "passed into a place, one might almost say a time, from which there was no return" (Ackroyd 1988b: 70). It is generally accepted that nothing can escape from the event horizon of a black hole (Hawking 1994: 94). Hawksmoor's reveries reflect this aspect, and could be a description of a star collapsing to form a black hole:

> If one element was suddenly to vanish, would the others disappear also - imploding upon each other helplessly as if time itself were unravelling amid a confusion of sighs, calls, shrieks and phrases of music which grew smaller and smaller?
>
> (Ackroyd 1988b: 126)

Aside from space-time and black holes, new physics has relativised time in a third way, which is relevant to Ackroyd's novels, namely the quantum connection. In the novels two characters from different centuries are connected, and exist and experience the same things simultaneously. They even intrude into each other's lives. In *Chatterton*, for example, the twentieth-century Charles seems to die the moment the painting of George Meredith as Chatterton is completed ("His face is swelling, his eyelids bursting in the heat"), just as Chatterton appears to die the instant the painting of a middle-aged Chatterton self-destructs:

> The face of the sitter dissolved, becoming two faces, one old and one young; as the paint decayed before Merk's eyes, the flakes becoming clots of colour which dropped onto the floor, these two faces recurred in a series of smaller and smaller images until after a few moments they had entirely disappeared .... It was too hot.
>
> (Ackroyd 1988a: 170, 228)

In both cases, infinite heat (or energy) is released. These pairs of characters echo Bell's Theorem in new physics, according to which calcium atoms exposed to lasers of a certain frequency emit pairs of photons which travel off in opposite directions. If the polarisation of one photon is changed, that of the other changes immediately. This quantum connection is unattenuated,

discriminating, and instantaneous (Maudlin 1994: 22-23). What happens in one place is intimately and immediately connected to what happens elsewhere, which in turn, is intimately and immediately connected to what happens elsewhere, and so on (Zukav 1979: 315). This is the case with numerous characters in Ackroyd's novels, for instance, Hawksmoor and Dyer in *Hawksmoor*. When Dyer is flogged across the back by a prostitute (Ackroyd 1988b: 151), Hawksmoor dreams that the skin is being stripped from his back (p. 152). What happens to the one, happens to the other too. Damian in *First Light* refers to this quantum physical phenomenon when he tells Mark about objects which can suddenly emerge in two places at once, or which simply appear and disappear (Ackroyd 1989: 160).

While we as readers see connections and parallels among the characters in Ackroyd's novels, the characters also realise that there are connections, as is clear from statements such as: "[a]ll these events were random and yet connected, part of a pattern so large that it remained inexplicable" (Hawksmoor, speculating on the link between murderer, victim, and investigator in Ackroyd 1988b: 157), "[e]verything is touching everything else" (Mark in Ackroyd 1989: 43, 156), "chaos [is] part of the pattern" (Farmer Mint in Ackroyd 1989: 303), and "... his [Spenser Spender's] life was linked with theirs, and all who had preceded or would follow them .... And they, also, became part of him - as though he contained them all within himself at the same time as they directed him forward. The pattern was one, within and without" (Ackroyd 1989: 36-37). In Borges's (1970: 78) fiction a librarian in "The Library of Babel", which is symbolic of the universe, also refers to the formlessness, chaos, jumbles, and incoherences (p. 80), the "quantum anarchy" (Merrell 1991: 164), that has, paradoxically, allowed for the formulation of a general theory of the Library (1970: 81); and Homer in "The Immortal" mentions the echoes among acts and thoughts in the past, present, and future (Borges 1970: 146), while the connections are described as "a pattern of repeated lines" in "Theme of the Traitor and the Hero" (Borges 1979: 103). Quantum connections have been transferred to the realm of everyday life.

A fourth scientific indication of the labyrinthine nature of time is found in imaginary time, in matter and antimatter. According to scientific laws, time can theoretically go forward or backward (Hawking 1994: 152). If time reverses its direction, it is known as imaginary time, used in quantum field theory when dealing with matter and antimatter. Every particle has an antiparticle (Hawking 1994: 73), antimatter consisting of subatomic particles with opposite electrical charges from particles in matter that makes up the world. An antiparticle is then a particle moving backwards in time (Zukav 1979: 236) or a particle in imaginary time. When matter and antimatter are

brought together, they annihilate each other's mass, producing immense energy. When Stephen Hawking warns: "There could be whole antiworlds and antipeople made out of antiparticles. However, if you meet your antiself, don't shake hands! You would both vanish in a great flash of light" (1994: 73), one realises that this explains events in the temporal labyrinths of Ackroyd's novels.

Characters from the past and present resemble matter and antimatter. Hawksmoor and Dyer in *Hawksmoor* (Ackroyd 1988b), for example, are alike in all ways except for the centuries in which they live, and Charles and Chatterton in *Chatterton* become indistinguishable on meeting, and are merely described as the "one" and the "other" (Ackroyd 1988a: 47). Later, on dying, Charles and Chatterton both experience a rush of light (Ackroyd 1988a: 169, 230). Damian Fall in *First Light* (Ackroyd 1989: 328), who converses with his double, also experiences a different time, and sees a sky filled with light. These characters in Ackroyd's novels meet after having become like children again (which implies a reversal of the flow of time, or existence in imaginary time). On meeting, the characters die, releasing energy which can later be reconstituted as matter. As characters seem to propagate through the centuries, this reconstitution is associated with objects and characters in which or whom energy is found, for example, the tumulus in *First Light*, which grows brighter as Mark watches it "with all the centuries glowing within it. A place of power" (Ackroyd 1989: 14). This energy has the potential to cause time to slow down, perhaps even alter its course, as it can give objects increased velocity. In *Hawksmoor* the travelling man whom the twentieth-century Ned encounters at Egham refers to a Biblical force or energy, namely God, that has this potential: "For your sake He might let the sun turn back in its course, and let time itself travel backwards ... if He cared to, that is" (Ackroyd 1988b: 77).

Borges's (1970) story, "The Other", is remarkably similar to Ackroyd's novels. In the story, Borges is sitting on a bench facing the Charles River in Cambridge, Massachusetts, in 1969 when he has the impression of having lived that moment before (p. 3). A young man sits down next to him; he is also called Borges, but is sitting on a bench a few steps from the Rhone in Geneva in 1918 (p. 4). During their conversation, it becomes clear that they are a younger and an older version of the same person, linked by the bench which exists "in two times and in two places" (p. 10). The two Borges figures resemble matter and antimatter. Yet both survive the encounter, possibly because they say goodbye "without having once touched each other" (p. 10).[3] As in Ackroyd's fiction, the implication of the two manifestations of one being is that space-time is essentially an interconnected web of simultaneity. Whereas characters (such as Adso) in spatial

labyrinths often encounter mirrors, characters in Ackroyd's and Borges's temporal labyrinths encounter their mirror-images in a more literal sense.

Both science and fiction invent stories to explain the temporal labyrinth. Einstein's theory of relativity revolutionised the idea of time, which led to further developments in science, some of which appear incompatible with aspects of Einstein's theory. Instead of refuting relativity, however, these theories have increased the awareness that time is labyrinthine. When Mark in Ackroyd's *First Light* realises that "... everything connects .... Everything is part of the pattern", it is particularly apt that Alec responds: "Yes. If only we knew what it was .... I suppose that we can only see the pattern if we were outside it. And in that case we would have ceased to exist. So all we can do is make up our stories" (Ackroyd 1989: 264), even if they are stories told in the dark (p. 159). At present, humanity is inside that rhizomic labyrinth where we (like William) can merely postulate falsifiable theories about a phenomenon that cannot be viewed in totality from the inside. As readers of the world, we become its unauthoritative authors (Schmitz-Emans 1992: 117). Fiction, especially omniscient narratives, may help clarify the phenomenon of time: fiction allows readers to view universes from the inside *and* outside. In one lifetime the characters see one or two things which contradict their linear view of time; we see many more in the course of centuries and realise that time is not linear. As Ackroyd's fiction describes phenomena which can be described by scientific theories from the "real" world, we who look from the outside can make rational sense of the characters' experiences, and turn their rhizomic labyrinth into a mannerist one. Ironically, however, we do not yet have a complete unified theory to describe our experiences in the rhizomic, unreadable real world, where the Uncertainty Principle rules. If we accept that time is a labyrinth, there is a possibility that everything should - theoretically - one day be explainable from outside. The same hope concludes Borges's "The Library of Babel":

> If an eternal traveller were to cross it [the library] in any direction, after centuries he would see that the same volumes were repeated in the same disorder (which, thus repeated, would be an order: the Order)
>
> (Borges 1970: 85-86)

It is, therefore, hardly surprising that the labyrinth is used as a metaphor for overwhelmingly complex and ambiguous worlds (Lindstrom 1990: 24). Its maximum microscopic internal disorder and confusion reflect a maximum macroscopic order and illumination (Schmitz-Emans 1992: 114; Cipolla 1987: 11 & 120).

Thus there appear to be parallels in scientific development and the literary use of labyrinths. The older spatial labyrinths are a remnant of a time when space was seen as absolute. Only in such a time could spatial labyrinths truly obfuscate. However, when the relativity of space began to permeate all aspects of life, spatial labyrinths became comprehensible, which led to the use of temporal labyrinths in literature. Although the notion of the relativity of time has existed for decades, we are reluctant to acknowledge it in all spheres of life; therefore, temporal labyrinths still confuse. Temporal labyrinths and the labyrinth of time will become more intelligible the moment we accept the implications of the notion that space-time is relative, and only comprehensible from the outside.

In many ways, we are still trapped within the labyrinth, where we lack a global vision, and where our local visions are subject to falsification. As William says to Adso:

> The order that our mind imagines is like a net, or like a ladder, built to attain something. But afterward you must throw the ladder away, because you discover that even if it was useful, it was meaningless .... The only truths that are useful are instruments to be thrown away.
>
> (Eco 1984: 492)

The realisation that we are inside a labyrinth and the acceptance of our condition may, however, leave us free to explore hitherto hidden possibilities of the labyrinth.

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Notes

1. In Robert Wilson's (1982: 12-13) terminology, the Aedificium is a physical, "mimic" or "weak" labyrinth with an identifiable underlying principle, while the world appears to be a "conceptual" or "strong" labyrinth, the underlying principle of which cannot be identified. This latter type of labyrinth is perceived from within.

2. In Ackroyd's fiction, those characters who appear to travel in and through time are, significantly, insane *outsider* figures.

3. The Histriones in Borges's (1970: 150-158) "The Theologians" similarly believe that all men are two men: if the one is awake, the other sleeps. Yet, unlike in

"The Other", at the moment of death, the two are joined (Borges 1970: 154), which is in keeping with what science predicts for matter and antimatter.

References

Ackroyd, P.
1988a *Chatterton*. London: Abacus.
1988b *Hawksmoor*. London: Abacus.
1988c *The Great Fire of London*. London: Abacus.
1989 *First Light*. London: Abacus.

Bennett, H.T.
1988 Sign and De-Sign: Medieval and Modern Semiotics in Umberto Eco's *The Name of the Rose*. In: Inge, M.T. (ed.) *Naming the Rose. Essays on Eco's The Name of the Rose*. Jackson: University Press of Mississippi.

Borges, J.L.
1970 *Labyrinths*. Harmondsworth: Penguin.
1979 *The Book of Sand*. Harmondsworth: Penguin.

Capra, F.
1975 *The Tao of Physics*. London: Wildwood House.

Cipolla, G.
1987 *Labyrinths: Studies on an Archetype*. New York: Legas.

Eco, U.
1984 *The Name of the Rose*. London: Picador.
1988 *Semiotics and the Philosophy of Language*. Basingstoke: Macmillan.

Faris, W.B.
1988 *Labyrinths of Language: Symbolic Landscape and Narrative Design in Modern Fiction*. Baltimore: Johns Hopkins University Press.

Hawking, S.
1994 *A Brief History of Time: From the Big Bang to Black Holes*. London: Bantam Books.

Inge, M.T. (ed.)
1988 *Naming the Rose. Essays on Eco's The Name of the Rose*. Jackson: University Press of Mississippi.

Lindstrom, N.
1990 *Jorge Luis Borges: A Study of the Short Fiction*. Boston: Twayne.

Maudlin, T.
1994 *Quantum Non-Locality and Relativity: Metaphysical Intimations of Modern Physics*. Oxford: Blackwell.

Merrell, F.
1991 *Unthinking Thinking: Jorge Luis Borges, Mathematics, and the*

New Physics. West Lafayette: Purdue University Press.

Schmitz-Emans, M.
1992 Lesen und Schreiben nach Babel: Über das Modell der labyrintischen Bibliothek bei Jorges [sic] Luis Borges und Umberto Eco. *Arcadia: Zeitschrift für vergleichende Literaturwissenschaft* 27(1-2): 106-124.

Wilson, R.R.
1982 Godgames and Labyrinths: The Logic of Entrapment. *Mosaic: A Journal for the Interdisciplinary Study of Literature* 15(4): 1-22.

Zukav, G.
1979 *The Dancing Wu Li Masters: An Overview of the New Physics*. London: Rider/Hutchinson.