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**BRIDGING THE SCIENCE-HUMANITIES DIVIDE: W.G.SEBALD'S THE RINGS OF SATURN**

*Abstract: A multi-layered hybrid novel, W. G. Sebald's The Rings of Saturn is simultaneously a journey through space and time, on the coastal side of Suffolk and back through the history of its modernity and development. Discussing the beginnings of science and meandering through the rise of modern scientific ideology, the novel can be read as an attempt to bridge the gap between the sciences and the humanities by weaving a labyrinthine net of meanings. Scientific discourse is deconstructed and revealed to be just another piece of fiction. The intimate narrative connections between art and science point to a common origin, obscured later by early modern scientific discourse, whose purpose was to define science as the ideal domain of objectivity and rationality.*

*Keywords: scientific discourse, the science-humanities divide, history of medicine, science as a master narrative.*

The title of the novel may seem at first sight puzzling for a novel describing a journey through the coastal side of Suffolk. One of the novel's epigraphs, an entry in a German encyclopedia offers a clue to its significance: "The Rings of Saturn consist of ice crystals and, probably, meteorite particles describing circular orbits around the planet's equator. In all likelihood these are fragments of a former moon that was too close to the planet and was destroyed by its tidal effect." In mythology Saturn and its Greek counterpart Chronos are sovereign deities ruling time. Endowed with a complex symbolism, Saturn as time embodies the powers of creation and destruction which unfold cyclically. As such he is the protector of agriculture and farmers, who practise their job in accordance with the seasons. On a philosophical note, Saturn stands for an old pagan conception of time as cyclical (the eternal recurrence of events, history repeats itself) in contrast to the Christian understanding of time as linear, which assumes that as time unfolds, things progress towards some goal. The title of the novel becomes thus a metaphor for the numberless traces of destruction that the narrator notices around him, destruction that comes about either as the natural effect of the passage of time or as the result of man's frantic search for power and knowledge.

The novel begins with the acknowledgment, on the part of the narrator, of the resorts that prompted him to undertake the journey: "In August 1992 (...) I set off to walk the county of Suffolk, in the hope of dispelling the emptiness that takes hold of me whenever I have completed a long stint of work." The feeling of freedom that this undertaking has given the narrator is accompanied, in retrospect by a "paralyzing horror that had come over me at various times when confronted with the traces of destruction, reaching far back into the past." (4) The recording of this journey turns into an opportunity for the narrator to meditate upon the extent and the causes of this destruction, which go back to the times of the so-called scientific revolution, beginning in the sixteenth and the seventeenth centuries.

**Thomas Browne and the science-humanities divide**

Significantly, the first chapter focuses on the discussion of Sir Thomas Browne's work and Rembrandt's *The Anatomy Lesson*. An English philosopher and physician

from the 17<sup>th</sup> century, Sir Thomas Browne is the author of *Religio Medici*, a hybrid book which merges Christian faith, alchemy, hermetic philosophy, astrology and physiognomy. In one of the photos incorporated in the novel, the skull of Thomas Browne appears seated on two editions of *Religio Medici*. The book was a best-seller in its time, bringing the author Europe-wide fame and establishing his reputation as an encyclopedic personality. Through its particular mixture of science and mysticism, it stands out as an example of early modern science, a blend of scientific observations, Christian and pagan philosophy and mystical speculations. It contains everything that was to be later excluded from the rhetoric of science as well as scientific practice by the philosophy of reason and instrumental rationality which emerged during the Enlightenment. Its anti-rationalistic strand made the book a favorite reading of the Romantics, especially of Samuel Taylor Coleridge and Thomas de Quincey, two authors alluded to in *The Rings of Saturn*. Living in the 17<sup>th</sup> century, the watershed of the scientific revolution Sir Thomas Browne was perhaps the last great representative of the Platonic-Pythagorean tradition which conceived of the universe as a system of correspondences constructed according to principles of mathematical order. This tradition had its roots in classical antiquity, was re-interpreted in Europe as Christian Neoplatonism and brought about a revival of the sciences during the Renaissance. Central to this tradition was the belief that numbers and geometrical pattern held the key to understanding the universe, and understood the material universe as a place of illusion and corruption. Only the harmony perceived in numerical/geometrical patterns could give one an idea of the eternal realities existing beyond the shadows of the material world. Sebald discusses Browne's Neoplatonic-Pythagorean philosophy at length in *The Rings of Saturn*, including a reproduction of the quinquax, an infinitely multiplying rhomboidal pattern, which Browne sees occurring in "certain crystalline forms, in starfish and sea urchins, in the vertebrae of mammals and the backbones of birds and fish, in the skins of various species of snake, in the crosswise prints made by the quadrupeds, in the physical shapes of caterpillars, butterflies, silkworms and moths..." (12)

Sebald's novel begins and ends circularly with Sir Thomas Browne (the last chapter focuses on Browne's *Musaeum Clausum* or *Bibliotheca Abscondita*). This suggests that the author's divagations and comments on Brownian philosophy are particularly important in outlining his position. In *Religio Medici*, Browne confesses that his learning is derived from the minute and thorough study of two great books: the book of God (the Bible) and the book of Nature<sup>1</sup>. For Browne as for many practitioners of early medicine, religious belief and medical practice went hand in hand. What is more, according to Lund, Browne's personal belief was "furthered by his medical knowledge of human bodies, rather than by philosophical enquiry into first principles" (231) Cunningham argues as well that Browne does not perceive any separation between religion and natural investigation, but rather sees them as reinforcing each other, nature providing an "additional and complementary route to God" (50-1) This interweaving of natural science and the occult (religion, esotericism, magic) which was the province of the Renaissance scientist (a polymath with various other interests as well) was to come under fierce attack in the 18<sup>th</sup> century when the philosophy of reason coupled with advances in technology began to dominate scientific practice and discourse. Experiment, observation and inductive reasoning drove out the occult from the fields of science- while scientific discourse on the other hand became imbued with rationality and logic, dismissing religious explanations as irrational or superstitious. In recent years, however, the philosophy of science has attempted a return to these early modern underpinnings of science. Michel Serres envisages a science of "sewing" in "Knowing and

<sup>1</sup> Burns notes that "One metaphor that legitimized the study of the natural world in Christian Europe was that of nature as a vast book, to be read by the devout natural philosopher as a divine revelation. (34)

Believing: a Dialogue”, which would reconcile science and religion by recreating the connections between the exact sciences and faith. The characters in the dialogue are Pantope, an engineer and Pia, a medical doctor. It is interesting to note that the advocate of belief is Pia, who, as Pantope acknowledges is also the one “who mends the fabric torn asunder during the Enlightenment by science and religion” (50) by virtue of pity, a requirement of her medical profession. In *Hermes: Literature, Science, Philosophy*, Michel Serres has attempted to overcome the division between science and the humanities, arguing that there is a passage (or passages) between the exact sciences and the sciences of man. This passage, according to Serres, is not linear but labyrinthine: “From the sciences of man to the exact sciences, or inversely, the path does not cross a homogeneous and empty space. Usually the passage is closed, either by land masses or by ice floes, or perhaps by the fact that one becomes lost.” (18)

In *The Rings of Saturn*, the narrator describes two experiences of getting lost in a labyrinth. First he loses his way in the yew maze at Somerleyton, a palace built by Morton Peto with funds derived from his massive investments in the building of railroads. The second experience is even more disturbing: while walking on the sandy tracks of Dunwich Heath, he finds himself returned to his initial departing point, from where he had began his walk an hour before. Analyzing this experience in retrospect, he realizes that the causes of his confusion had been multiple: first of all, the land had been deforested, and the only landmark, a peculiar villa with a glass-dome observation tower, acts as a kind of Fata Morgana, presenting itself “time and again from quite a different angle, now close to, now further off, now to my left and now to my right”(78); secondly the paths lack signposts giving clear directions, while simple straight walking was impossible because of the heather and the marshland. Both experiences work as metaphors for the dead-end created by the advancement of technology and science: we are now forever entangled in the labyrinths of progress, among the by-products of war, spoliation and environmental destruction that it brings about. The labyrinths of our contemporary predicament were created, in Harrari and Bell’s opinion, by the radical separation between arts and sciences as well as by the compartmentalization of science and its infinite division into branches, specializations and subspecializations<sup>2</sup>.

### ***The Anatomy Lesson and the centrepiece of science***

As Thomas Browne completed his doctorate in “the Hippocratic sciences” in Leiden, Rembrandt’s native city, at the same time *The Anatomy Lesson of Dr. Nicolas Tulp* was painted (1632), the narrator concludes that the young English doctor must have been present at the event:

In January 1632, while Browne was in Holland, and thus at a time when he was engaging more profoundly with the mysteries of the human body than ever before, the dissection of a corpse was undertaken in public at the Waagebouw in Amsterdam- the body being that of Adriaan Adriaanszoon alias Aris Kindt, a petty thief of that city who had been hanged an hour or so earlier. (7)

He goes on to ruminate on the meanings of the painting depicting the public dissection of a corpse where a guild hall served as an anatomical theatre. What is the context

<sup>2</sup> Here is the full quote “We have now institutionalized this separation in our universities by distinguishing between the faculty of arts (or letters, or humanities) and the faculty of sciences. We have thus complemented conceptual categories and exclusions with physical and architectural configurations that mirror and reinforce divisions: walls, partitions, separate university faculty and libraries. (...) The increasing complexity of problems to be solved calls for more and more specialization- more divisions and separations developing into territories, disciplines, and branches of knowledge or, one might say, into schools, sects, and research groups. (...) The tendency to divide in order to conquer has brought science to a critical point at which it is slowly becoming more of a trade the scientist practises than a scientia whose object is knowledge.” (xxii)

of Rembrandt's painting? Beginning with the 16<sup>th</sup> century, anatomy became the main concern of medicine, and autopsies and dissections, formerly prohibited by the Church<sup>3</sup>, were now being allowed under certain conditions. Dissections were performed in universities and hospitals for the benefit of medical students, yet in the 17<sup>th</sup> century public anatomy demonstrations became a socially complex event, whose signification extended beyond mere scientific interest. The fact that they were publicly performed in anatomical theatres, large rooms of amphitheatrical shape that provided a better view of the body suggests dissections were some sort of spectacle. A public anatomy lesson, like any other major ceremony, was conducted like a ritual, with fixed prescriptions governing the gestures of the social actors involved. These involved first the "acknowledgement of the Papal Indulgence for the ceremony", and after that a "learned professor would read a great oration on the structure of the human body while a barber-surgeon attacked the cadaver." (Magner 204) The corpse usually belonged to a criminal "guilty of a crime heinous enough to merit the sentence of "execution and dissection"<sup>4</sup>. The fact that public dissection was viewed as part of capital punishment seems to justify the narrator's pronouncement that the ceremony, apart from being a "demonstration of the undaunted investigative zeal of the new sciences" also represented "the archaic ritual of dismembering a corpse, of harrowing the flesh of the delinquent even beyond death".

*The Anatomy Lesson of Dr. Nicolaes Tulp* was Rembrandt's first group portrait, commissioned by the Amsterdam Guild of Surgeons. In 17<sup>th</sup> century Holland group portraits were a popular genre- demonstrating the meteoric rise to power of its middle-class, as a result of colonization and trading links with the East and West Indies. Wealthy families and notable persons used to commission artists to paint group portraits- which acted as symbols for the high social standing or the complex networks of power in which the subjects were involved. Although in the Dutch culture of egalitarianism all the subjects had to be placed symmetrically so that no one got offended, the result being somehow stiff and formal, Rembrandt's painting is truly a work of genius in its composition, as it both obeys the commission and profoundly alters its meanings. If the high-social standing of Dr Tulp is suggested by his black wide-brimmed hat, the observers are arranged in a kind of pyramid, which counter-balances the figure of the Reader in Anatomy. This strange arrangement places the corpse in the centre of the painting- and as in Rembrandt's paintings light always emanates from the bodies of his subjects, a soft greenish light emanates from the corpse of Aris Kindt, directing the gaze of the onlooker on his predicament. The centrepiece of science, Rembrandt suggests, is a dead body.

And yet, as the narrator explains, science is also a way of "making the reprobate body invisible" by noting that "Dr. Tulp's colleagues are not looking at Kindt's body"; instead "their gaze is directed just past it to focus on the open anatomical atlas in which the appalling physical facts are reduced to a diagram, a schematic plan of the human being" (8) The human body is made invisible by a certain perspective and technique which the narrator traces back to Rene Descartes, whose philosophy, the narrator emphasizes, forms "one of the principal chapters of the history of subjection." Descartes lived in Holland a great part of his life and his mechanical philosophy had a major influence in the country. The mechanical theory, which views the universe as a large scale mechanism/artifact came to replace, during the Scientific Revolution in the 17<sup>th</sup> century, the Platonic-Pythagorean paradigm which had

<sup>3</sup> Initially, the Church permitted only forensic autopsies of plague victims in order to ascertain the cause of death. In 1537, the strictures against dissection were removed through new laws. (Kelly 21)

<sup>4</sup> In England the 1751 "Murder Act" mandated the dissection of the bodies of executed criminals in cases of heinous murders." Thomas Wilford, a 17 year old boy convicted for stabbing his wife to death was the first condemned to be "hanged by the neck until you are dead; after which your body is to be publicly dissected and anatomized" ([www.capitalpunishment.org](http://www.capitalpunishment.org))

been dominant in the natural sciences during the Renaissance. Cartesian dualism, the radical separation of body and mind, with its attending conception of the body as a machine which in the event of a fault, can be “either repaired or discarded” is what prompts the newly developing sciences to disregard the human being as whole and to concentrate instead on the schematic understanding of how the body machine works. The anatomical atlas on which the surgeons’ gaze is fixed is Andreas Vesalius’ *De Humani Corporis Fabrica*<sup>5</sup> (*On the Fabric of the Human Body*), a foundational text on human anatomy, which emphasized the priority of dissection in the study and practice of medicine. Vesalius exposed the errors committed by Galen, at that time the leading authority in matters of human anatomy and showed that some of his discoveries have been made by dissecting monkeys and did not apply to human beings—thus actively contributing to the collapse of ancient medical authorities and to a revolution in dissection.

While the surgeons’ gaze is fixed upon “the schematic plan of the human being” as detailed in Vesalius’ foundational book, the gaze of the viewer is directed onto the corpse, and in particular to the hand being dissected. As the narrator remarks, the hand “is not only grotesquely out of proportion compared with the hand closer to us, but is also anatomically the wrong way round: the exposed tendons which ought to be those of the left palm, given the position of the thumb, are in fact those of the back of the right hand.” (10) Rembrandt appears to have mistaken (or deliberately flaunted) both the laws of perspective and those of accurate representation. What the narrator implies is that the painter’s deliberate mistake turns the centre of the whole painting into a “crass misrepresentation”, and that the “unshapely hand” stands for the “violence that had been done to Aris Kindt.” If science makes the flesh invisible by choosing to take into account just the schemata of the body and its workings and thus objectifying the human, it is left to art and the artist’s imagination to turn the viewer’s gaze back to the flesh and reconstitute the wholeness of the human being. What science refuses to see is the tragedy of the corpse, its subjectivity revealed by Rembrandt’s art through the complex composition of the painting: “It is with him, the victim, and not the Guild that gave Rembrandt his commission, that the painter identifies. His gaze alone is free of Cartesian rigidity. He alone sees that greenish annihilated body.”<sup>6</sup>

Rembrandt’s painting can also offer itself as a commentary on the emerging epistemology of science as a search for objective truth. The scientific method of arriving at the truth is by dissecting it, cutting it up and analyzing it. Yet the truth it discovers only concerns the workings of a lifeless machine. By dissecting the object of their study, the surgeons acknowledge the limitations of their trade: the truths they discover are those of death and the corpse. In a sense, science prays on death: corpses are needed for dissection. In another it has to kill: the vivisected animal always dies at the end.

### **Autopsy, observation and the constructedness of scientific discourse**

In Rembrandt’s *The Anatomy Lesson* the surgeons’ gaze is fixed upon Vesalius’ revolutionary study of human anatomy *De Humani Corporis Fabrica*, paying respect to one of the major underlying concerns of the period we generally call the Scientific Revolution— the desire to see for oneself or autopsy<sup>7</sup>. According to Burns, Vesalius was “the

<sup>5</sup> It is interesting to note that Vesalius’ *Fabrica* appeared in 1543, the same year that Nicolaus Copernicus advanced his heliocentric theory of cosmology in *De revolutionibus orbium coelestium*. The majority of historians consider this year to be the beginning of the Scientific Revolution.

<sup>6</sup> Two decades after *The Anatomy Lesson of Dr. Nicolaes Tulp*, Rembrandt is commissioned to paint its successor. In *The Anatomy Lesson of Dr. Joan Deyman* he goes even further, making the dissected offender bear a striking resemblance to Andrea Mantegna’s *Dead Christ*. The body whose brain is being dissected is thus compared to the crucified Christ just taken down from the cross.

<sup>7</sup> From Ancient Greek “autos” (oneself) and “opsis” (eye)- to see for oneself, with one’s own eyes.

most notable anatomist in sixteenth-century Europe” (316). Originally a Galenist (he studied medicine at the University of Paris, the centre of Galenic revival, then edited some of Galen’s treatises and published six anatomical charts closely following Galen) in his masterpiece *De Humani Corporis Fabrica*, he “made all of Galen’s anatomy potentially wrong” by suggesting that Galen’s human anatomy was based on the dissection of monkeys and showing that his extrapolations from animal to human anatomy had been wrong<sup>8</sup>. At the University of Padua, as a lecturer in surgery and anatomy, Vesalius worked only on human bodies, which he cut and dissected himself, instructing his students to follow the path of direct observation. He was part of general trend<sup>9</sup> that initiated a thorough revision of the fundamental domains of knowledge by challenging the authority of the old masters of European science (the classical antiquity). While in the Middle Ages formal education in the sciences (natural philosophy and medicine) was grounded in the reading and textual commentary of a small number of earlier authors (Aristotle, Galen, Ptolemy) beginning with the sixteenth and seventeenth century an epistemological revolution takes place, and knowledge comes to be increasingly derived from “direct, sensory engagement with animals, plants, and minerals” (Park 15). Empiricism, in the wake of Baconism, forms the epistemological basis of the natural sciences.

Tracing the birth of observation as both an epistemological genre and scientific practice, Katherine Park notes that in the field of natural sciences observation is marginal in relation to the concept of experience and meditation. Derived from the practices of timekeeping of the early medieval Christian monasteries, observation becomes a practice in astronomy and medicine, two sciences that involved watching over the cyclical movement of the stars or the unfolding states of a disease. In the sixteenth and seventeenth centuries, when knowledge derived from first principles and based on authoritative writings begins to lose ground, empirical observation slowly comes to the fore in the field of the natural sciences (35)

Autopsy, now exclusively linked to the field of forensic medicine, was used at first to refer to a specific way of acquiring knowledge and not specifically to human dissection. The Greek roots of the term, *auto/opsis* point to the significance of an empirical way of knowing where one sees with one’s own eyes rather than trust somebody else’s authority. The term was coined in French in the sixteenth century, and in England came into usage into the seventeenth. As Klaver writes, “the modern idea of the autopsy springs from the merging of two empiricist functions: looking at and analyzing the body, and particularly in medical science, the act of cutting up the body.” (3) Thus, although initially used to refer to an empirical way of deriving knowledge that privileged vision<sup>10</sup>, when applied to medicine (as one cannot see a body unless cut up and dissected) the term came to denote the procedure for cutting up a body in order to establish pathological causes of death.

Scientific observations and experiments based on the concept of *autopsia* (seeing for oneself) aim to endow the newly developing sciences with objectivity. Objectivity was both a result of collective authorization from the communities of scholars (The Republic of Letters) and certain technologies that guaranteed it such as the use of instruments (the microscope, the telescope) and images (the botanical illustration, charts, the photographs). All these techniques privilege vision as the prevailing epistemological mode.

*The Rings of Saturn* contains 72 photographs that document the narrator’s journey through Suffolk. From illustrations of works of art to landscape photography, they are

<sup>8</sup> Traditional Galenic errors were the beliefs that men have one more rib than women do and that the human liver has five lobes, when in fact it has none.

<sup>9</sup> This trend also included Copernicus (who challenged the geocentrism of Ptolemaic astronomy), Kepler, Galileo, Leonard Fuchs, who attempted to create a new botany, Isaac Newton and William Harvey (who dealt the final blow to the humoral medicine of Galen by discovering the circulation of blood).

<sup>10</sup> The creation of the Academy of Lynxes in Italy in the 17<sup>th</sup> century (lynxes were believed to have keen eyes) is another proof that vision was thought to be the foremost quality furthering scientific enquiry

used as visual support to the text. What is the role of these photographs and why does Sebald resort to using them in such a great number? They act in a similar way to Aris Kindt's unshapely hand in Rembrandt's painting: by creating a sort of crass representation they undermine any claims to objectivity that images possess in relation to the subjectivity of narrative and text.

The photographs are supposed to demonstrate visually the details of the trip and the meanings that are attached to it: they are supplements to the story. By themselves, the photos can achieve nothing- they have power to signify only in conjunction with the narrative and the narrator's commentary. The most telling example is perhaps the photo of the Chinese quail: at Sommerleyton Hall, in one of the deserted aviaries, the narrator sees "a solitary Chinese quail, evidently in a state of dementia, running to and fro along the edge of the cage and shaking its head every time it was about to turn, as if it could not comprehend how it had got into this hopeless fix." (19) This hopeless fix mirrors the narrator's experience of getting lost in the maze at Somerleyton, and, on a greater scale, the very predicament of modernity. Yet what does one see in a picture? An ordinary blackish bird, frozen in time in a cage. Moreover, behind it, lost in the average haziness<sup>11</sup> of the photos, one can distinguish another bird in the distance. There is a tension between the authorial "solitary Chinese quail, evidently in a state of dementia" and the picture itself, in which the bird cannot move and does not seem to be solitary. How can one interpret this discrepancy between text and image? Is this discrepancy just a blunder on the part of the author? I believe not. The narrator is asking himself the same questions in front of Rembrandt's painting- and by answering it, he also provides us with the answer: the blunder is intended to demonstrate the inefficiency of the image, the lie of representation: we can infer nothing from images. Going even further, he seems to assert that meaning is produced at the intersection of image and text. Without the narrator's story of getting lost in Sommerleyton maze, the Chinese quail anecdote would have no significance: the image itself is mute, presenting no evidence. The abundance of photos shows, rather ironically, that the production of meaning does not rely on images, but on narrative. The objectivity that images are supposed to produce is itself another master narrative of science.

In fact, science itself is just another narrative, a piece of fiction carefully crafted. The narrator recounts a story by Borges *Tlon, Uqbar, Orbis Tertius* dealing, as he remarks, with "out attempts to invent secondary or tertiary worlds" (36). The story begins with a conversation between the fictional Borges and his friend Bioy Casares. At one point, wishing to find out the source of a remark Casares has made, Borges discovers an entry on Uqbar in the Anglo-American Cyclopaedia, an entry that exists on in the edition that his friend has purchased. Making further inquiries, they are led to discover that the description of Uqbar is entirely fictitious, similar to the invention of Tlon. Beginning as a collective enterprise of a secret society of astronomers, biologists, engineers, poets, metaphysicians, painters and mathematicians led by a genius, the invention of Tlon (a fictional country) is continued with the invention of Orbis Tertius (a fictional planet) across several generations. These fictional worlds become more and more real as the tiniest details of their geography, history and language are created. The project involves a huge number of people and spreads across centuries and generations. One is reminded of the early attempts at figuring out the rules of planetary motion, where only the observations of several succeeding generations of astronomers could constitute an adequate basis for theory and speculation. On the other hand, the hierarchical organization of this secret society may be an allusion to Bacon's vision of an

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<sup>11</sup> All the photos enclosed in the novel are black and white, rather blurred, without definite and clear-cut contours.

idealized scientific society in *The New Atlantis*, where scientific leaders devise utopian plans which their subordinates are left to carry out.

The amazing thing about these collective fictitious projects, writes the narrator, is that soon they turn into realities that efface the real and create their own reality:

the encyclopedists' project (...) aimed at creating a new reality, in the course of time, by way of the unreal. The labyrinthine construction of Tlon (...) is on the point of blotting out the known world. The language of Tlon (...) has now invaded the academies; already the history of Tlon has superseded all that we formerly knew; in historiography, the indisputable advantages of a fictitious past have become apparent. Almost every branch of learning has been reformed. A ramified dynasty of hermits, the dynasty of the Tlon inventors, encyclopedists and lexicographers, has changed the face of the earth. (36)

Borges' text is a comment on how the scientific revolution managed to change the face of the earth and reformed learning and knowledge itself. For us, the post-Foucaultians, knowledge exists only in the binomial Knowledge/Power and is inseparable from instrumental rationality, colonial/imperial ideology and ecological collapse. What Sebald reveals through this short parable written by Borges is the social and cultural constructedness of science- a point emphasized by the contemporary critique of science (Michel Serres, Bruno Latour, Isabelle Stengers, Ilya Prigogine). Although scientific discourse underwent significant changes during and after the scientific revolution by the attempts to assert the complete objectivity of scientific truth, *The Rings of Saturn* reveals the blind spots, the gaps lying at the heart of every such discourse. In *The Formation of the Scientific Mind*, the French philosopher Gaston Bachelard offers a critique of the premises that underlie empiricism and the belief in scientific objectivity. For Bachelard, scientific objectivity is impossible, prevented by a multitude of epistemological obstacles as, he writes, "Even in a clear mind there are dark areas, caverns still haunted by shades"<sup>12</sup> (19)

At the same time, science construed as a collective fictional enterprise bridges the science-humanities divide, the gap that stands at the root of the modern predicament. Sebald's novel, through its labyrinthine construction and its endlessly proliferating stories that seem to mirror each other may constitute just one of those secret passages that, according to Serres, cross the heterogeneous space between the exact and the human sciences.

### References:

Bachelard, Gaston. *The Formation of the Scientific Mind: A Contribution to a Psychoanalysis of Objective Knowledge*, Manchester: Clinamen Press, 2002

Borges, Jorge Luis. "Tlon, Uqbar, Orbis Tertius" in *Labyrinths. Selected Stories and Other Writings*, New York: New Directions, 1964

Burns, William E. *The Scientific Revolution: An Encyclopedia*, California: ABC- Clio, 2001

Cunningham, Andrew. "Sir Thomas Browne and his *Religio Medici*: Reason, Nature and Religion" in *Religio Medici, Medicine and Religion in Seventeenth Century England*, Ole Peter Grell and Andrew Cunningham, eds., Aldershot: Scolar Press, 1996

Harari, Josue V. and David F.Bell. "Journal a plusieurs voies": Introduction to *Hermes: Literature, Science, Philosophy*, Baltimore and London: Johns Hopkins University Press, 1982, ix-xL

Kelly, Kate. *The Scientific Revolution and Medicine: 1450-1700 (History of Medicine)*, New York: Facts On File, 2010

<sup>12</sup> Quoting Browne, Sebald writes that: "all knowledge is enveloped in darkness. What we perceive are no more than isolated lights in the abyss of ignorance, in the shadow-filled edifice of the world". (11)

Klaver, Elisabeth. *Sites of Autopsy in Contemporary Culture*, Albany: University of New York Press, 2005

Lund, Mary Ann. "The Christian Physician: Thomas Browne and the Role of Religion in Medical Practice in *"A Man Very Well Studyed"*: *New Contexts for Thomas Browne*, Kathryn Murphy and Richard Todd, eds Leiden: Brill, 2008, 229- 45

Magner, Lois N. *A History of Medicine*, Florida: Taylor and Francis, 2005

Park, Katherine. "Observation in the Margins, 500-1500" in *Histories of Scientific Observation*, Lorraine Daston and Elisabeth Lunbeck, eds., Chicago: University of Chicago Press, 2011, 15-44

Sebald, W.G. *The Rings of Saturn*. London: Vintage Books, 2002

Serres, Michel. *Hermes: Literature, Science, Philosophy*, Baltimore and London: Johns Hopkins University Press, 1982

Serres, Michel, Roxanne Lapidus. "Knowing and Believing: a Dialogue", *SubStance*, vol.23/2, 1994, 49-55

---. *The History of Judicial Hanging*. "Dissection". 18 june 2014. [www.capitalpunishment.org](http://www.capitalpunishment.org).