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Article abstract

Jeffrey Moore's *The Memory Artists* (2004) represents a recent turn in contemporary Canadian literature involving texts that investigate the implications, ethics, histories, and epistemological power structures of science, scientific theories, and the linguistic and philosophical interplay between literature and science. Attending to the philosophical tradition of Henri Bergson, Silvan Tomkins, and Jean-Paul Sartre highlights the ways in which the representation of biological conditions such as synaesthesia and hypermnesia, as well as Alzheimer's and amnesia, inform *The Memory Artists* – how the chemical makeup of individuals produces different ways of knowing the world and forces us to question what separates human knowledge from the material body in which it arises. In doing so, the novel reconstitutes the traditional boundaries between memory and matter, science and art, and the fictional and factual into a sliding scale of degrees of difference.

Jeffrey Moore's *The Memory Artists*: Synaesthesia, Science, and the Art of Memory

MARC ANDRÉ FORTIN

We must remember that at bottom the generalisations of science or, in common parlance, the laws of nature are merely hypotheses devised to explain that ever-shifting phantasmagoria of thought which we dignify with the high-sounding names of the world and the universe.

— *The Golden Bough*, James George Frazer

JEFFREY MOORE'S *The Memory Artists* (2004) represents a recent turn in contemporary Canadian literature involving texts that investigate the implications, ethics, histories, and epistemological power structures of science, scientific theories, and the linguistic and philosophical interplay between literature and science. Nino Ricci's *The Origin of Species* (2008), Tim Bowling's *The Bone Sharps* (2007), Joan Thomas's *Curiosity: A Love Story* (2010), Rivka Galchen's *Atmospheric Disturbances* (2008), and Harry Karlinsky's *The Evolution of Inanimate Objects: The Life and Collected Works of Thomas Darwin (1857-1879)* (2010) are just a few examples of contemporary Canadian fiction that consider the possible historical and theoretical consilience between art and science, knowledge and creativity. Such a turn reflects a connection to a wider trend in fiction in general, which Eva-Sabine Zehlein argues is occurring in recent works of British and American fiction and theatre:

The number of novels and plays published and produced over the last two decades, which somehow or other engage with the natural sciences, appears substantial enough to suggest a recent trend . . . [and] “somehow or other” is not a stylistic glitch occurring right in the first sentence, but rather a cautious way of designating the diversity of modes in which novelists and playwrights have attempted to incorporate the natural sciences into their work. (1)

Zehelein argues that the turn to science in contemporary literature crosses both generic and national boundaries, and can also be found in poetry, painting, photography, and the cinema. Nevertheless, little work has yet been done on the growing body of fiction in Canadian literature that encompasses this subgenre. The trend of literature/science consilience has taken a number of forms and traverses a number of disciplines within the concept of “science” as a whole. Moore’s novel, in particular, focuses on human memory and its role in the creative and epistemological processes related to consciousness, as well as memory set within scientific, social, and political readings of perception, disease, aging, and the medical industry. Art, memory, and science are interwoven in an approach that disrupts linear readings of progress through paratextual and narrative devices, forcing the reader to move amongst disjointed and fragmented characterizations, periods of time, and space, and, by doing so, (re)construct events out of multiple possible readings. Moore’s focus on how memory works to create an understanding of both the past and the present functions as a critique of ontological and epistemological issues of truth, event, body, and mind. This exploration of memory details the difficulty of producing knowledge from human language, as shown by the text’s use of multiple narrative voices and layered narrative perceptions of events across a sliding scale of difference.

The text uses a number of biological conditions as counterpoints to the understanding of memory: synaesthesia and hypermnnesia, as well as Alzheimer’s disease and amnesia. The binary opposition between hyper-memory and memory loss in the novel is expressed through the medical industry and the politics of science, medicine, and care. This opposition also encompasses a philosophical understanding of human existence and ethical questions concerning consciousness and the construction of the self through memory, on which this paper will focus in order to show how the consilience between science and literature can be better understood from a theoretical approach that encompasses both the literary and philosophical elements of Moore’s interpretation of science, and the larger debate concerning interdisciplinary work between the sciences and humanities. Moore’s novel ultimately represents both the historical questioning of the “truth” of science, and a postsecular integration of science and literature as a way of questioning the aporia of faith produced from late-twentieth century poststructuralist interpretations of language, knowledge, and power.

The Memory Artists represents this aporia of truth and faith through a pastiche of various narrative devices, genres, and media that create a seemingly fluid, yet fully disconnected, understanding of events that take place in Montreal at the turn of the twenty-first century. This patchwork construct is ostensibly the memoirs of the “Neuropsychologist and Professor Emeritus [in the] Department of Experimental Psychology [at the] University of Quebec” (Moore 2), Dr. Émile Vorta, who has hired a ghostwriter: “The professional writer-translator assigned to recount [this] story has combined ‘dramatic reconstructions’ with interviews, laboratory notes and diary entries” (1). Vorta explains, in the foreword to his memoirs, that the events are based on “a true story” (1), in a typically postmodern play on authority, authorial intention, and factuality. However, because the novel focuses on questions of truth and fiction within an understanding of human memory as a spectrum of possible interpretations, it also brings together these supposed binary oppositions by showing how scientific truths are bound up *with* authority. Because of Vorta’s making claims to factuality, his knowledge of the events that shape the text can be said to be scientific, in that the text comes from the authorial and authorized position of the scientist whose work reaches above and beyond the stories of the characters themselves. Vorta’s text, despite its fragmented perspective, is ultimately the master narrative of the multiple interpretations of the characters’ actions, feelings, memories, and motivations — a narrative that represents scientific authority and questions its very ability to speak about human existence. Although the text uses diary entries and other personal documents written by the characters themselves, there is a suggestion that Vorta is the man behind the curtain, witness to and author of the events themselves, despite, and because of, the way in which the text continually creates layers of authorship for the reader to uncover and disentangle. It is in this authorial construct that science and art, or science and literature, intertwine within the novel to question how “truth” is constructed and thus problematize the notion of authorial control and the legitimating functions of power that come from such knowledge.

Noel Burun represents augmented memory, or hyper-memory, in *The Memory Artists*. Noel’s parents discover his talent for memorization as a child, and take him to see Dr. Vorta, who discovers that he has synaesthesia. Noel’s gift both enables and impedes him, making it “difficult

for Noel to take any course, or hold onto any job” (12). According to the memoir, “if it weren’t for a certain saviour in his life — someone who guided him, wrote letters of recommendation, hired him as a lab assistant, treated him as a son — Noel may have ended up in an asylum. This saviour was Dr. Émile Vorta” (12). Synaesthesia is “a sensation in one area from a sensation applied to another part” or “a subjective sensation of a sense other than the one being stimulated. Hearing a sound may also produce the sensation of smell” (“Synesthesia”). *The Memory Artists* details one of the most common synaesthetic experiences, which is to experience colours associated with words. Katherine E. Kickel explains that “Synaesthesia is a Greek word meaning literally ‘union of the senses,’ derived from *syn* meaning ‘union’ and *aesthesis* meaning ‘sensation’” (93). The important distinction to understand here is that one sensation does not replace another sensation for synaesthetes but is added to the existing sense, producing a multi-sensory experience. Noel’s synaesthesia is directly related to his hypermnesia, which is defined as “a great ability to remember names, dates, and details [and] [a]n exaggeration of memory involving minute details of a past experience” (“Hypermnesia”). Together, hypermnesia and synaesthesia enable Noel to experience the world through a sensory system that suggests great possibility for enhanced creativity and knowledge, a possibility that the text uses to consider epistemological structures and perceptions of reality.

The representation of memory loss, on the other hand, occurs through Noel’s mother, Stella Burun, and her slow deterioration from Alzheimer’s disease. Alzheimer’s involves the degeneration of memory, disabling the sufferer to the point of loss of individuality. Stella is told by her doctor to keep a journal to record how her memory is functioning on a day-to-day basis in order to gauge the effects of Alzheimer’s on her body. As the journal slowly unfolds along with the increasing effects of the disease, the typewriter ribbon she uses to write with slowly begins to fade. She is, of course, unable to recognize the significance of the fading ribbon. Toward the end of the journal, the text, having moved from a solid black, to grey, to the eventual near-white of the page, becomes barely legible to the reader, intimating the loss of memory. This loss of colour is clearly in opposition to the brilliant colour panel used to describe Noel’s synaesthesia in the paratextual notes at the back of the novel. The intensity and loss of memory, respectively, are represented

as typographic (and thus imagistic) and linguistic representations of how memory is constructed. The journal, as a medical “device,” and its ability to chart the flow of the disease, become entangled in the very nature of the literary narrative. The written word is represented as a literal and literary memory device from which one can reference the past. The fading text signals not only the unfolding of the disease in Stella but also the symbolic erasing of the past as a way of knowing the present. This symbolic loss of the past is represented in the novel as the search for a medical answer to Stella’s condition, bridging the practices of science with the written literary tradition.

Stella’s journal is just one device among the many in Moore’s text that function in a similar fashion to express the scientific understanding of memory and its connection to literature. These include footnotes, newspaper articles, colour illustrations of Noel’s synaesthesia chart, chemical compound diagrams, Noel’s diary, and a rewritten chapter from Noel’s friend Norval Blaquièrre’s award-winning novel “*Unmotivated Steps*” — all of which are subsumed under Vorta’s “memoir.” The memoir is obviously crowded and confused by these multiple perspectives, essentially playing on the impossibility of memory to completely reconstruct events. Vorta’s notes are often attacks on the very narrative he has helped produce, as he challenges other people’s perspectives that he has allowed to exist supposedly unedited in his memoir. When one of Vorta’s patients describes the doctor’s physical stature, for instance, Vorta aggressively counters the individual’s perception in an endnote: “Can 5’8½” be considered ‘dwarfish?’” (314). Some of Vorta’s other attempts to produce a truthful explanation of events, against the narrative “truth” expressed by other characters, include his arguing that “I have never used chimpanzees in my research” (300), “I have never ‘chemically whitened’ my beard” (304), and “I am not using chloral or chloral hydrate in any of my studies, either for amnesia or brain cancer” (308). The tone of the notes produces a Nabokovian response to the narrative itself, and indeed Vorta notes that Nabokov was himself a synaesthete and that “Nabokov’s parents, wife and son, interestingly enough, were all synaesthetes” (311). Vorta’s editorial stance ultimately problematizes the reader’s knowledge of events and, thus, opens up questions of history, memory, and truth as well as their potential erasure within the unfolding of time.

Moore’s play with binary oppositions of objectivity and subjectiv-

ity, as expressed through the idea of memory in the novel, shows the problems of understanding of what exactly memory consists, and what role it plays in our understanding of biological and social human nature. Elizabeth Grosz argues in *Time Travels* that memory and matter (here she is dealing exclusively with Henri Bergson) are certainly not exclusive forms of human perception:

Mind or life are not special — or vital — substances, different in nature to matter. Rather, mind or life partake of and live in and as matter. Matter is organized differently in its inorganic and organic forms: this organization is dependent on the degree of indeterminacy, the degree of freedom, that life exhibits relative to the inertia of matter. It may be for this reason that Bergson develops one of his most striking hypotheses: the brain does not make humans more intelligent than animals; the brain is not the repository of ideas, mind, freedom, or creativity. It stores nothing, it produces nothing, and organizes nothing. Yet it is still part of the reason for the possibility of innovation, creativity, and freedom insofar as it is the means for the interposition of a delay between stimulus and response, perception and action, the explanation for a capacity for rerouting and reorganization which characterizes innovation. (98-99)

The Memory Artists uses oppositions between amnesia and hypermnesia to create a space in which artistic creation and science unfold in varying degrees of interrelatedness. Memory becomes the focal point of experimentation, which is so vitally linked to creation, expression, knowledge, and possibility. Noel, Norval, their friend Jean-Jacques Yelle (known as JJ), and Vorta all actively seek out material ingredients in order to alter the chemical processes of the brain. Memory is thus marked as a material object, a physical presence that can be altered through chemical means. Within this reading of memory, the novel conflates and questions the production of art and the possibilities of science by the presence or absence of memory. Vorta himself states that his scientific experiments and his self-published writings are based on both science and art:

By now the reader will have noted my interest in the arts. My publishing house, although specialising in scientific texts, also publishes poetry, novels and short stories dealing with scientific themes. For one of the chief purposes of art lies in its cognitive function: as

a means to acquiring truth. [Noel Burun's] father, Henry Burun, went farther: he considered art the avenue to the highest knowledge available to man, to a kind of knowledge impossible to attain by any other means. (304)

In Vorta's assessment, art performs a vital function alongside scientific knowledge, not only because it allows for memorization to take place but also because of its intrinsic capability to express concepts about the world that science simply cannot explain.

For Noel, who attempts to produce a drug that will alleviate his mother's Alzheimer's disease, the connection between art and science is a direct correlation that comes from the use of language to express conceptual truths about the world. As he speaks with JJ about potential cures for the disease, his mind begins to trace a path through his memory of literary texts:

When [Noel] was tired his mind could wander badly; a single word could propel him into another time, into the back pages of his youth. With the word *rosemary*, Noel's cortex lit up like a Christmas tree. After mad Ophelia ("There's rosemary, that's for remembrance") came *The Three Musketeers* . . . Then Don Quixote . . . And finally Jules Verne's *The Mysterious Island*. (133-34)

Noel's hypermnesia allows him to make connections between texts that he has read, although rarely does this ability to memorize allow him to produce something new from the fragments of memory. The literary text is, for Noel, not a creative product of an artistic tradition but a memory device for finding patterns. Where Norval sees in Noel the makings of a great artist, Noel himself sees only an ability to remember, without being able to create. Norval explains Noel's condition to their friend Samira:

[Noel has a] photographic memory, preternaturally vivid and persistent. With self-generating links and catalytic images that spawn other memories, right back to his suckling hours. He's a *hypermnesiac* — he doesn't forget a goddamn thing. He's like Proust, like Proust squared. He's got a million megabytes of memory, a million emotions and sensations and images and God knows what else to draw on. He's not there yet, but he'll be a great writer one day, greater than Proust. Or perhaps a visionary artist-poet like Rossetti or Blake. Mark my words. (92)

When Samira later asks Noel why he does not simply memorize everything there is to know, he answers: “There’s no room left. My brain’s crammed to the bursting point. And besides, my problem has always been *using* the stuff I remember, making a synthesis, something new” (180). Despite Noel’s inability to create something new under his own terms, Noel does use his memory to create links between literary texts in order to discover a cure for Alzheimer’s, which suggests Vorta is correct in his argument for art as a form of truth in Noel’s use of literature as a site of scientific knowledge about the world. In this case, truth arises from making connections between past knowledge and its representation in art, and the hermeneutic act is not one of literary analysis but of discovering links connected to the practices of science.

Henri Bergson argues in *Matter and Memory* that “to *picture* is not to *remember*” (173). His claim is that to truly remember is to bring the past into the present through a physical memory such as bodily pain. To picture, on the other hand, is only related to the past in that one needs to find an image from a past experience without producing sensations associated with a particular event from the past. In other words, true memory is to re-experience the past in the present, not simply to re-imagine the past. According to Bergson’s terms, Noel’s inability to create original ideas from his hypermnesia means that his mental map is not based on memories proper but rather on images that can be brought back more quickly than others can. In this regard, Noel as the figure of the potential artist (a new Nabokov or Proust) is replaced by the representation of past knowledge as a material object from which one derives information: “How did he do it? Noel had two methods, one involving ‘photographs’ of coloured letters, the other involving ‘maps’” (10). Noel is represented as the pure scientist seeking answers through past understandings, or images, of factual data and observed events.

The textual relationship between Noel and Norval is a complex representation of both their physical similarity and intellectual differences. Norval, who has published a successful novel and starred in a film, is represented as a Byronic hero. Noel is also associated with Byron through his ancestry, his last name, Burun, being the “ancient Scottish form of Byron” (9), according to his parents. Noel and Norval’s physical similarity is described in their first encounter: “It was not a wary, mutual sizing-up; it was more bewilderment at how much they resembled each other. Like standing before a mirror almost” (29). This mirror

image reflects their physical, material similarities while underscoring their psychological and mental differences: “Norval exuded confidence and cleverness, Noel diffidence and dimness” (30). Where Noel has the potential to be an artist, Norval already is one, and where Noel uses his ability to make scientific advances, Norval uses the language of science to participate in an ethically dubious art project in the “erotological tradition,” titled “*The Alpha Bet*” (120). Through this project, Norval’s views on the romantic tradition are underlined by materialist, scientific leanings. In a conversation with Noel, concerning his view on love, Norval observes that “Love exists for only one reason — to spread the genes of the person doing the loving. It may boil down to a chemical called oxytocin” (220). The artist here sees love as a neuromodulator aligned with a Darwinian influence, while Noel, as a figure of science, seeks answers in the pages of the world’s literature. This contradictory play on art and science suggests that Moore’s postmodernist approach to the problem of epistemology within different disciplines expresses the ambiguous line drawn between truth and fiction as a form of memory work.

In a passage from *Creative Evolution*, Bergson argues that physico-chemical understandings of the world will never offer us the “key to life” (33). He argues that “a very small element of a curve is very near being a straight line. And the smaller it is, the nearer. In the limit, it may be termed a part of the curve or a part of the straight line, as you please, for in each of its points a curve coincides with its tangent. . . . In reality, life is no more made of physico-chemical elements than a curve is composed of straight lines” (33). Here, we can see how the relative nature of truth and the Bergsonian influence on postmodern discourse coincide with a scientific perspective on the nature of life itself. In *The Memory Artists*, the idea of perception as relative to the subject position is extended to the collaboration, or what I call relationality, between multiple individuals working within the traditions of science and art to create new understandings of the world. Of course, this relationality is disrupted by the very physicochemical makeup of the individuals involved, as their abilities to remember fluctuate throughout the narrative.

Yet the novel as a whole reveals a possible misunderstanding of the function of memory, and, most importantly, the problem of basing ethical values on a reading of the human as a collection of material objects

and processes. In his work on synaesthesia, a work that Moore acknowledges as a source of information for his novel, Richard E. Cytowic points out problems that arise from science having superseded other moral codes:

I realize that science has done much for humanity and that we largely owe to it the state of the world today, good as well as ill. While often munificent, science can also be addictive and corrosive. Because people hold exaggerated expectations of technologies they can only superficially comprehend, science has replaced other means by which individuals could make judgments with its own narrow standards. Eons before modern science spawned the pervasive trust in objective certainty that now dominates our thinking, humanity was guided by other kinds of knowledge such as moral, aesthetic, and judicial values that outlined one's relationship to nature and to fellow humans. (202)

Science, for Cytowic, is not a neutral endeavour because it has become a dominant ethical model alongside its growth as an epistemological system of truth telling. In *The Memory Artists*, science without ethics is shown to be flawed and potentially fatal for those in need of medicine that is regulated by corporate interests and research institutions. The recent turn toward science as both a moral and epistemological system is recognized in the novel, but whether either system is ethically sound is most certainly questioned.

Ethical questions arise in the novel through the problems of understanding and misunderstanding that occur in the practices of reading. Brian Massumi argues that perception and action are intertwined in a Bergsonian understanding of epistemology and that the act of reading is akin to a synaesthetic experience of the world:

The acts of attention performed during reading are forms of incipient action. It was asserted [previously] that action and perception are reciprocals of each other. If as Bergson argued a perception is an incipient action, then reciprocally an action is an incipient perception. Enfolded in the muscular, tactile, and visceral sensations of attention are incipient perceptions. When we read, we do not see the individual letters and words. That is what learning to read is all about: learning to stop seeing the letters so you can see *through* them. Through the letters, we directly experience fleeting vision-like sensations, inklings of sound, faint brushes of movement. The

turning in on itself of the body, its self-referential short-circuiting of outward-projected activity, gives free rein to these incipient perceptions. In the experience of reading, conscious thought, sensation, and all the modalities of perception fold into and out of each other. Attention most twisted. (139)

Massumi's philosophy connects with Moore's work precisely because the novel is bounded by the practices of reading; both in terms of structure — as seen in the paratextual apparatus — and theme. Noel is read to by his father, which allows him to remember important texts later in life. Noel then reads to his mother when she begins to suffer the effects of Alzheimer's, often from memories of texts read to him. Such reading practices are meant to be converted into actions; Noel's father reads to him in order to turn him into an artist, and Noel reads to his mother to restore her ability to remember. Reading becomes an action that is linked to memory through both visual and auditory perception.

These connections between memory, reading, and action are linked to the material world, especially the world of the artist. In *Beyond the Word*, Donald F. Theall argues that there have been different types of “memory systems” throughout human existence:

In the classical period, an elaborate memory system was worked out that persisted throughout the Middle Ages and the early Renaissance. This memory system associated topics (*topos*, place) with actual physical locations, selected from within specific buildings or along roadways, or from works of art, architecture, and visual design, and with the specific real or imaginary images which were situated in the chosen physical locations. (194-95)

This passage is a perfect description of Noel's hypermnestic memory system, suggesting a link between art and memory that culminates in practices of movement, action, or creation. Noel offers the following description of how he memorizes words:

It's like you're taking a walk inside your head, like in a dream. You see yourself going on a trip, right? And you drop the words or sometimes big chunks of words at different spots. Like down the hall you come to a vent, right? So you put some words down the vent and then you come under a picture, so you put some words there, and then you come to the door, or the stairs or maybe a room. . . . Or you could use the attic or crawlspace too, or you could go

outside, on the sidewalk, or through fields or parks or parking lots, or gardens, and you could put words at certain trees or flowers, or down manholes, or at traffic lights or stores or churches. . . . Every memory trip is different. (10)

The visual and physical nature of Noel's memory practices turns reading into an alternate form of sense perception, similar to the classical memorization technique known as the method of *Loci* as explained by Frances A. Yates in *The Art of Memory* (1966). Words become connected to physical spaces rather than to associated objects. Noel's memorization technique becomes its own form of artwork, although it is visible only to him. Theall argues that such a memory system moves beyond simple memorization: "An art of memory based on the visualization of images is not the same as the visibility of writing trying to provide a mnemonic substitute through recording" (195). Theall further states that the "art of memory" he describes led to the practice of "Renaissance alchemy" and "had a central impact . . . on the history of the rise of science in the sixteenth and seventeenth centuries" (195). *The Memory Artists* incorporates the "art of memory," as described by Theall, in representing both science and alchemy as producing ways of knowing through the reading of literature and the search for the drug that will restore Stella's memory. JJ, in particular, stands out as an alchemist perched between the arts and sciences, incorporating both into a form of mad creation brought together in "The Alchemical Poets of Persia Society" (118), made up of Noel, Norval, Samira, and JJ.

In opposition to Noel's memory practices of reading, Norval's art project emerges as a form of reductive simplification of language and art. *The Alpha Bet* is a twenty-six-week-long project in which Norval attempts to have sex with twenty-six different women, all with names that begin with a different letter of the alphabet — beginning with A and moving toward the end point Z (which suggests a parody of art, the social construction of language, and the supposedly teleological linear processes of reason and evolution). This particular artwork allows us to consider the relations of science and art, as well as make a more focused interpretation of the epistemological implications of creativity and knowledge. Reading is the act of looking at not simply the forms of letters and words, but at material objects that become symbolic within a certain society. In opposition to Norval's linear alphabet stands Stella's fading journal, the end of which turns into typed gibberish after mak-

ing an attempted reference to “the quick brown fox” (56), the famous English-language pangram sentence that includes every letter of the alphabet. The construction of a sentence from the alphabet rearranges the social practice of reading in a linear fashion. Nevertheless, Norval’s description of his “performance art” articulates a similarly ironic reading of linearity:

In the erotological tradition extending from Apuleius to *The Thousand and One Nights*, from Boccaccio to Byron and Baudelaire, this abecedarian series of intromittent acts heuristically deconstructs the teleological codes of courtship and monogamy, the illusory Modernist pursuit of objective truths by linear paths, and the mythological ideal of Romantic love promulgated in such decentred phenomena as cyber-matchmakers, the unstable sign-referent engine of which is calibrated to confuse the simulations with the simulacra of pursuit and seduction. (120)

The Alpha Bet, as a linear practice that overturns notions of linearity, and Stella’s pangram are analogous to the binary division set up in the text between the totalitarian pharmaceutical companies and the underground alchemical attempts by Noel and JJ to produce a cure for Stella. In this way, science and literature are linked by the undermining of social constructions, attempts at objectivity, and normative truth. As Massumi puts it, as question and answer, “What else does a human see in a flower? Besides pharmaceuticals? Poetry, for one thing” (95). In Norval’s performance art, reading encapsulates the differences between erotic subjects faced with a choice between the medical and poetic or between the ridiculous and the truly original.

Vorta’s psychological and medical control over Noel allows him to access Noel’s father’s notebook, which contains the recipe for A-1001, a drug which helps stop the deterioration of the brain from Alzheimer’s disease. The theft is a clear example of scientific malpractice, which is further suggested by Vorta’s erasure of Noel’s hypermnesic state through a course of medical experimentation. Violence, untruths, ulterior motives — the ethical implications of both art and science are intertwined in a play with the boundaries between truth and fiction in the novel. The difference between the drugs that either help or hinder the user in the text (from a date rape drug to the homemade cures that JJ produces) is also connected to the possibility of creative work or violence toward the other. Noel’s father’s notebook and Norval’s art

project are engaged in the practice of writing and reading; that is, both are part of a signifying process in which each step along the line leads to an ultimate conclusion — for Norval, the end of the project and his potential death, and for Noel and, more importantly, Dr. Vorta, the cure for Alzheimer's disease.

Silvan Tomkins argues that our experiences in the physical world are founded on both perceptive ability and cognitive error, which eventually lead to growth, learning, and change:

The selective sensitization of the human being's memory, reason, and perception by very intense affect, which guarantees that objects are found or constructed, does not necessarily create error. In a moment of anger, characteristics of the love object which have been suppressed can come clearly into view. In a moment of sympathy, the positive qualities of the rejected object may be equally illuminated. There is a real question whether anyone may fully grasp the nature of any object when that object has not been perceived, wished for, missed, and thought about in love and in hate, in excitement and in apathy, in distress and in joy. This is as true of our relationship with nature, as with the artifacts created by man, as with other human beings and with the collectivities which he both inherits and transforms. There are many ways of "knowing" anything. Only an animal who was as capable as man could have convinced himself that the scientific mode of acquaintance is the only "real" mode through which he contacts reality. (55)

For Tomkins, affect is the fundamental experiential component of our cognitive being, but we can never gauge absolute truth from our affective system. Affect, according to Tomkins, is what allows for cognitive error, or the acceptance of false beliefs, in order for the human being to achieve freedom from misunderstanding. Although this sounds contradictory, what Tomkins points out is the impossibility of ever truly knowing an object, person, or event without seeing it from multiple perspectives. Thus, the affect system produces cognitive error in the very first attempt to understand an object, person, or event. In the case of Moore's novel, the obvious example of cognitive error would be the novel itself as memoir, translated and pasted together from multiple perspectives, but still not offering the totality of information needed to make definitive statements about the order and causality of events in the lives of the characters.

In the sense that affect is related to both the emotional and cognitive representations of human existence, affect is also directly related to the ability to both reason and create. Noel sees art as the link between the creativity of human life and the possibility of understanding the natural world. In a section of his journal, Noel describes the effect of a joke told to him by his friend Norval:

None of [Norval's] jokes, I grant, are particularly funny (except in their unfunny or delivery), and this one is no exception. But for some reason, after laughing politely this morning, I've been thinking about it all day. Perhaps because it points to a main difference, or divide, between science and art. Our "rational" side sees the humour of the punchline because it's self-contradictory, absurd, at variance with common sense. Our "artistic" side, however, sees a vein of truth within it — regarding imaginary fears or invisible barriers — because paradox is the currency of poetry. But science has room for paradox as well, as Einstein will tell you. "Don't be in thrall of reason," my father once said, "or you'll never invent anything, never be a great scientist. The pursuit of sanity can be a form of madness too, don't forget.["] (198)

As Tomkins argues, the contradictory nature of the human affective system can actually produce opposing reactions to the objects and people we interact with. The "paradox" of this system is what Norval considers the truth behind art — a truth he seems to suggest cannot be found in the rationalized attempt at objective reality through the scientific method.

This is not to claim, of course, that poetry is superior to science; hierarchical rankings of epistemological conditions simply reinforce imagined binary divisions. There is an ethical imperative in making truth claims that may be, at the foundation of the human condition, contradictory in nature. In other words, truth may actually be closer to fiction, and extreme objectivism nothing more than a subjective belief about the world that is conditional only on the knowledge we have at the moment of its conception. History has shown how science has mistakenly made truth claims about the world that are now rejected but which were nevertheless important to our social, cultural, and political conception of the world. On the other hand, extreme social constructionism, in which science is simply another cultural object devoid of truth, problematizes poststructuralist understandings of science and culture. Art and science, as Moore's text bridges them, align to create

greater epistemological arguments than if one looks at only one side of the supposed binary for answers about the world.

The problem of the sciences and the arts making claims to truth is not simply a binary opposition of objectivity and subjectivity, but also the false binary between individualism and universalism. What may seem important to the individual becomes less so when brought to bear on the species. Like Bergson's analogue of the straight/curved line, the historical understanding of human consciousness is based on what we know of it, meaning that only human consciousness can explain human consciousness. Tomkins and Bergson together produce an argument for the materiality of memory and the importance of affect in the role of memory and show how affect can either produce epistemological bias or produce new ways of knowing the world.

Jean-Paul Sartre investigates a similar perspective through the phenomenology of Maurice Merleau-Ponty. Sartre points out a fundamental contradiction about creative work much like the one I have attempted to show in Moore's *The Memory Artists*:

It is true that one might, by convention, confer the value of signs upon [colours, sounds, objects]. Thus, we talk of the language of flowers. But if, after the agreement, white roses signify "fidelity" to me, the fact is I have stopped seeing them as roses. My attention cuts through them to aim beyond them at this abstract virtue. I forget them. I no longer pay attention to their mossy abundance, to their sweet stagnant odor. I have not even perceived them. That means that I have not behaved like an artist. For the artist, the color, the bouquet, the tinkling of the spoon on the saucer, are *things*, in the highest degree. (8)

Sartre reverses the subjective nature of art to show how objective perception, rather than conventional abstraction, is the foundation of artistic creation. This is in line with Bergson's idea of pure perception. But what is truly interesting about Sartre's argument is his idea that moving into abstract signification creates a state of forgetfulness. Not only does one, in Sartre's view, forget but one also does not even perceive the object in the first place. In Sartre's arrangement, the artist must be able to perceive the "thingness" of the object before it can be used as art. Seeing the object first as an abstract signification would produce false associations between the object and its sign. If we extend Sartre's analysis beyond the purview of art, the artist and the scientist are both, at the

same time, seeking the “truth” of the world by studying as closely as possible the makeup of objects, events, and individuals. In this view, to argue that artists are the opposite of scientists is to miss the fundamental similarity between their methods of information gathering.

In *The Memory Artists*, the similarity between artists and scientists is represented in the novel’s multi-dimensional perspective on knowledge through Noel and Stella’s respective conditions. Noel writes:

On a Sunday in winter when I was not yet 5, during a game of Remembrance, I told my father about the colliding colours I had in my brain and how hard it was to escape them. He called it a “col-lideorscape.” I liked the sound of this, and we used the code name for years. (It was from Finnegans Wake, I learned later.) I think of this now because I have begun to see my mother’s mind as a kind of kaleidoscope as well: the slanted mirrors inside her are reflecting pieces of her past and present — names, faces, events, dreams, — which are rotated by some mysterious hand to make new patterns, new connections: her husband’s face appears with my name; our neighbour’s breast cancer becomes hers; her father returns to life; a dream is confused with reality. . . . And then the kaleidoscope turns again, and the mirrors create yet another warped view of reality, yet another helter-skelter mosaic. (192)

The shifting of reality under the opposite conditions of hypermnnesia and amnesia represents the extremes of science and literature. Massumi argues that “the distinction between kinds of things and levels of reality is a question of degree: of the way in which modes of organization (such as reflection) are differentially present on every level, barring the extremes” (38). For Massumi, there are two extremes from which reality can be seen: “Neither extreme can be said to exist, although each could be said to be real in entirely different ways: the quantum is productive of effective reality, and the divine is effectively produced as a fiction” (38). There is a similar problem that underlies the question of multiple epistemologies and the differences between art and science in relation to ethics. The degrees of memory-ability within Moore’s text are analogous to degrees of ethics that are produced from different perspectives on truth and fiction. If God, or the divine creator, is an extreme fiction that humans use as a framework for evaluating moral conduct, then so, too, must science and literature play a role in the spectrum of moral possibility.

In *The Memory Artists*, art and science represent two opposing epis-

temologies. However, there is a relative scale that can be symbolically linked to the fact that every synaesthete may see letters as colours but also has different colour patterns for each letter. Differences of degree rather than kind begin to emerge in the representation of memory and knowledge in the text. Perspective, rather than objective claims to truth, comes to define what is real and what is fictional. But the idea of opposition between internal and external reality, subjective and objective reality, is also questioned in the novel through the characters' use of curative and recreational drugs, with each character offering different interpretations on how drugs affect human memory and behaviour. Memory-enhancing drugs, psychedelic drugs, drugs that could induce Alzheimer's, each of these is produced from external material resources that, once ingested, change the nature, or behaviour, of the individual. As the drugs in the novel are aligned with one form or another of the "natural" chemical and biological state of individuals, there is a suggestion that the dividing lines between nature and reason, an external nature and an internal nature, subjectivity and objectivity, are themselves simply matters of degree rather than kind. To return to Bergson, the curve is always a curve, but the closer one approaches it, the more likely one is to also see a straight line.

Jean-François Lyotard argues that postmodern science is itself a form of "imaginative invention" (60) that has shifted from the "grand narrative" of power to the "little narrative" of imagination: "We no longer have recourse to the grand narratives — we can resort neither to the dialectic of Spirit nor even to the emancipation of humanity as a validation for postmodern scientific discourse. But as we have just seen, the little narrative . . . remains the quintessential form of imaginative invention, most particularly in science" (60). Lyotard's idea of the little narrative is founded on the paradoxical nature of scientific discourse, which has moved from universal laws to the unpredictable chaotic nature of life itself. If science now focuses on the limitations of its ability to predict, then it, too, is producing "fictions" about the world.

Despite Lyotard framing his optimistic view of science within a cultural discourse that can be critiqued from the outside, science could still be considered one of the dominant political discourses of the twenty-first century in relation to social, medical, and institutional models within Western society. Moore's novel plays on the postmodern aspects of science while investigating the politics of science as the dominant

mode of truth. This is not to argue that Moore's novel discounts the scientific method, or science's ability to predict, shape, and change human existence. On the contrary, *The Memory Artists* shows the indebtedness of science to the arts as a form of knowledge production. Literary history and scientific knowledge are seen as components in a larger process of human enlightenment rather than as opposed discourses that struggle for domination in a hierarchical binary opposition. The novel aligns science with what Jacques Derrida would call the *pharmakon*, in that the cure is also that which harms the individual (70). The idea of the *pharmakon* is expressed explicitly through a number of potentially deadly ingredients that JJ and Noel consider as possible cures for Stella's Alzheimer's. It is also expressed in a more subtle discourse on binary oppositions that speaks from the double voice of allegory, such as in the idea of the labyrinth, in which, "when you find the exit, death is waiting. You're dead on arrival" (180). The labyrinth becomes an allegory for life itself, and can be interpreted also as a binary structure that produces a *pharmakon* in that the development of life leads toward death — just as the more memories one has, the more memories one has to lose in the end.

Moore's novel disturbs conventional notions of scientific practice and ideas of intelligence, creativity, and truth. In using the genre of the memoir, Moore reconsiders the role of human memory, writing, and influence on our biological and material conditions. In doing so, Moore also considers how closely ethics is related to perspective, in the philosophical tradition of Bergson, Tomkins, and Sartre. The shift from religion-based to secular ethical positions arises from changing perspectives about the material makeup of the individual and the world. The process of knowledge acquisition through affective experiences allows for perception to shift between different epistemological paradigms. Science and fiction are simply two modes of producing discourses about the human experience within a material world, and neither one can be privileged because both require fundamentally similar processes of *seeing* the world. Both art and science are based on the ability to perceive the world as it exists in one's own mind and then to cognitively analyze it. In *The Memory Artists*, Moore creates a similarity between the arts and sciences to show how the biological human being is influenced by memory and matter.

But it is not simply the similarities between the arts and sciences

that are depicted in the novel under the umbrella of memory. Moore also produces a larger structure of similitude between amnesia and hypermnesia that extends to ideas of differences of degree of human perception. *The Memory Artists* demonstrates how individual human beings and larger social groupings are defined by conceptions of the other that are premised on one-sided accounts of difference. Two individuals may seem very different if looked at closely (like Norval and Noel), but as one moves back toward a larger perspective of human life, the similarities begin to take on greater significance. At the extreme of human knowledge concerning existence lies the realm of science: universal laws described by hypotheses of physical, chemical, and biological processes. But as science turns toward questions about relativity, chaos, and uncertainty, it also creates a loop back to its own inability to fully explain truth and begins to re-express itself as only one epistemology among many.

Using Sartre's explanation of literature as a form of seeing based on fundamental aspects of the external world, one can see how science and the arts speak the same language within Moore's novel. Apparently, oppositional discourses begin to bleed into one another when one considers the metaphysical basis of both fiction and science. Differences among objects, people, and ideas begin to fade as more knowledge is attained. Grosz, using a Bergsonian conception of difference between matter and memory, argues:

Matter and Memory, the present and the past, space and duration, the inorganic world analyzed by physics, and the physical world of lived experience are all different names for or angles on this fundamental opposition between quantitative and qualitative multiplicities, differences of degree and differences in kind. . . . Matter will turn out (in Bergson's more mature work) to be memory in its most dilated form; memory will be understood as the contracted expression of matter; space in its global or cosmological form becomes, ages, has a history, is subjected to duration; and time itself is the condition of the simultaneities that contract to constitute space. The difference between differences of degree and differences in kind itself becomes a difference of degree. (*Nick of Time* 163)

Once again, the questions of perception, belief, and difference come together to produce a complex and contradictory understanding of epistemology and the human ability to know what truth is. One of Noel's

final entries in his diary points out that his power of memorization was not peculiar to him as an individual: “*Like the ancient Greeks I simply combined, in a novel way, work that others had done before me. I saw previously overlooked patterns, made ‘irrational’ connections, saw beauty, nothing more*” (293). In showing how the chemical makeup of an individual produces different ways of knowing the world, and what can arise from different perspectives, Moore’s novel forces us to question what separates human knowledge from the material body in which it arises. Memory and knowledge become processes that are linked to both a scientific interpretation and the power of art to aid us in producing “novel” ways of expressing our individual perspectives. Memory and matter, science and art, the fictional and the factual, all cross the boundaries of individual perspective to create a sliding scale of different degrees within the postmodern construction of *The Memory Artists*.

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