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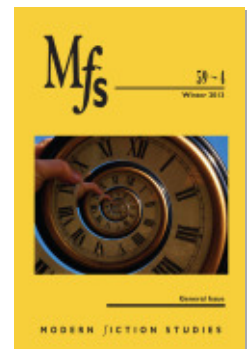
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REASSESSING THE TWO-CULTURE DEBATE: POPULAR SCIENCE IN IAN MCEWAN'S *THE CHILD IN TIME AND ENDURING LOVE*

Emily Horton

In 2002, John Brockman, the literary agent of numerous popular scientists, edited a collection of essays entitled *The Next Fifty Years: Science in the First Half of the Twenty-First Century*. Here, the intellectual importance of science is strongly stated; rather than seeing it as an alternative to advancements in the humanities, it is pitted as superior in both knowledge and creativity: "Science is the big news, and it is scientists who are asking the big questions. Through their books and articles they have become the new public intellectuals, leaders of a new kind of public culture" ("Introduction" xiii). Unlike the old-style "intellectual culture" of elitism in the arts, the new culture of science is "transform[ing] its own premises as fast as our technologies are transforming us" (xv).¹

Of course, such forceful statements of scientific superiority are not unfamiliar within modern intellectual history, where figures such as T. H. Huxley and C. P. Snow represent recognizable periodic attacks on the humanities' claims to critical authority.² The episodic quality of these pronouncements, regularly repositioning science as the preeminent foundation for technological development, makes them a fixture within academic criticism, reinstating in different terms a well-known theoretical position. Patricia Waugh argues, "the two

culture controversy . . . goes back much further than the end of the nineteenth century," to an ancient debate about "exact" and "inexact" knowledge beginning with Aristotle ("Revising" 33–34). Nevertheless, whatever similarity Brockman may have to Huxley or Snow in his evident scientific bias, his response is unique in seeing science itself as capable of proclaiming its own value, independently of literature. Thus, Brockman insists, rather than waiting for a "proud (and perversely) ignorant" ("Introduction: The Emerging" 17) humanities to appreciate it, modern science goes to the public itself, through new, more stylized and accessible texts that popularize its message and renovate science.

In fact, at the start of a new millennium, Brockman is not the only one to reassert science's disciplinary independence; the numerous essays compiled within his collection, written by such prominent public intellectuals as Richard Dawkins, Nancy Etcoff, and Ian Stewart, reflect a growing trend in popular science taking place through the 1980s and 1990s. Offering one significant example of this, Dawkins writes of contemporary molecular biology: "while the ethicists, moralists, and theologians. . . are busy agonising over Project Lucy [with its pro-life/pro-choice issues] biologists could . . . be cutting their teeth on something much more ambitious: Project Dinosaur" (157). The clear confidence (if also perhaps crudity) of this expression, in a time of marked competition between the disciplines for status and funding, suggests a new level of popular scientific autonomy, going beyond the self-defensiveness of the earlier debates.

Notably, this confidence seems to have caught on within contemporary literature, where various contemporary authors—including Jeanette Winterson, A. S. Byatt, Graham Swift, Zadie Smith, David Lodge, and Ian McEwan—all in different ways engage with popular science, adopting its causes and debates as relevant literary concerns. Leading this movement, through his regular pronouncement both in the media and his fiction, McEwan self-consciously affirms the importance of popular science against the dominant literary prejudice. Promoting modern popular science's "sublime achievement," which, by making science accessible, opens society to a whole new realm of "accumulated creativity," McEwan excoriates literary inattention, confronting artists with the topicality of modern scientific discovery ("A Parallel Tradition").

In this essay, I explore McEwan's interest more closely, offering *The Child in Time* and *Enduring Love* as informed popular-science-driven reassessments of the ancient two-culture debate. Set in the contexts of Thatcherite and Blairite Britain respectively, where prominent experiences of cultural depression and disparity demand new forms of creative thinking, the unique combination of scientific and

literary values these novels convey reflect a new cultural outlook, creatively reimagining the modern and the postmodern ideas of truth and progress, while at the same time learning from these. The urgency of this enactment, within a precedent of disciplinary isolation and noncommunication, mirrors McEwan's pioneering significance as an author.

My argument makes high claims for these novels' contemporary cultural value: in effect, I see them as models for an alternate, scientifically motivated literary renovation. Before proceeding to elaborate this however, the dialogic quality of this position, involving a Bakhtinian balancing of scientific and theoretical postulates, calls for some explanation. Thus, accompanying the increasing cultural authority of science within modernity as the standard for techno-global advancement, the development of critical theory within the humanities has adopted a somewhat opposing position, calling into question science's designated factual authority. Central to this debate is the figure of Michel Foucault, whose scepticism about science's modern influence is outspoken. He writes:

[I am concerned with] what *governs* statements, and the way in which they *govern* each other so as to constitute a set of propositions which are scientifically acceptable. . . . In short, there is a problem of the regime, the politics of the scientific statement. At this level it's not so much a matter of knowing what external power imposes itself on science, as of what effects of power circulate among scientific statements, what constitutes, as it were, their internal regime of power, and how and why at certain moments that regime undergoes a global modification. (112–13)

Through the notion of discursive critique, seeking out the unspoken regimes underlying scientific statement, Foucault outlines a project of critical precaution that has become exemplary of postmodern theory. Refuting the idea of an absolute, non-situated truth and invoking instead a reality of power and selection, this argument challenges science's accepted cultural eminence, demanding instead a critical awareness of underlying social orderings.

This challenge is reiterated in different forms by various critical theorists, representing in turn what have become known as weak and strong sociologies of knowledge. Among the former, critics such as Thomas Kuhn and Imre Lakatos defend a constructivist view of scientific knowledge that comprehends changes in this discipline in terms of paradigm shifts, which radically reimagine the way knowledge and research are understood. Thus, Kuhn explains, science does not "evolve gradually towards truth," but rather proceeds through

"successive transition from one paradigm to another via revolution" (12). Through its attack on the progressive Enlightenment ideal as well as on scientific method more largely, this argument upends traditional philosophy of science, prioritizing social foundations over empirical ones.

On a similar note, theorists such as Michel Serres and N. Katherine Hayles also recognize science's historical foundations, offering this as a defense not of sociology but rather interdisciplinary thinking. Thus, arguing that "There is no pure myth except the idea of a science that is pure of all myth" (162), Serres defends a principle of betweenness and hybridity—represented by the figure of Hermes—which undermines the authority of totalizing ideologies. He writes: "We must conceive or imagine how Hermes flies and gets about when he carries messages from the gods, or how angels travel. . . . *Between* has always struck me as a preposition of prime importance" (64; emphasis added). Likewise, Hayles summons the value of chaos as a clue to science's changing postmodern meaning, not for having revolutionized older principles but rather for having integrated these. She writes: "The science of chaos is not new in the sense of having no antecedents in the scientific tradition, but of having only recently coalesced sufficiently to articulate a vision of the world" (5). Thus, by bringing science into a larger postmodern cultural moment, chaos invokes intersection: it articulates "a crossroads where various paths within the culture converge" (4).

Proponents of the strong sociology, such as Bruno Latour, David Bloor, Barry Barnes, and Harry Collins, develop these arguments methodologically, affirming the way in which even "normal science," the established scientific given, can be made susceptible to sociological investigation.³ Latour's definition of science as "a continuous passage, a commerce, an interchange, between what humans inscribe in it and what it prescribes to humans" (*Aramis* 213) typifies this perspective, interpreting reality as "the consequence rather than the cause of the social construction of fact" even while empirical reality itself still exists (*Laboratory Life* 237). Likewise, Collins's argument that "the natural world has a small or non-existent role in the construction of scientific knowledge" makes blatant its scepticism about science's traditional truth claims (3). In this way, the strong school endorses an extensive disbelief, seeing all science as dependent largely on arbitrary human systems of order.⁴

Responding to this trend within the humanities, a host of popular scientific manifestos emerging throughout the 1990s began to contest the authority of contemporary critical theory, questioning the pertinence and value of sociological thinking about science. Principal among these is the Sokal hoax of 1996, in which physicist Alan Sokal

published a spoof scientific defense of cognitive relativism in the highly esteemed literary journal *Social Text*. The motivation driving Sokal to submit this pseudo-scientific paper—elaborately entitled "Transforming the Boundaries: Towards a Transformative Hermeneutics of Quantum Gravity"—leads back to Foucault's and Latour's work and more generally to a sense of frustration with postmodernism's apparent disinterest in science's empirical value. As Sokal explains, his intention is to defend "the normative conception of scientific inquiry" against postmodernism's notion of it as "just another social practice, which produces 'narrations' and 'myths' that are no more valid than those produced by other practices" ("What the Social" 5). The intellectual "greediness" of this gesture, he claims, colonizes science's professional terrain, egregiously flouting disciplinary decorum (5).

For whatever reason, presumably on the back of Sokal's strong reputation, the journal editors published the article without submitting it to established peer review processes, thus proving Sokal's expectations.⁵ Critics debate the significance of the event, often challenging its intellectual pertinence as anything more than a prank: for example, *Social Text*'s editors Bruce Robbins and Andrew Ross write of the article's "deceptive" quality, which far from "acting as proof of the bankruptcy of cultural studies" instead attests to Sokal's own "breach of ethics" as a contributor ("Response"). Nevertheless, its effect in tarnishing critical theory's reputation within the media and society more generally is evident: more than anything, concurrent responses suggest, it is the article's liberal, relativist platform that assured its publication.⁶

In this way, the hoax plays an influential role in reestablishing a scientific bias within contemporary culture, contributing (along with the popular scientific publications mentioned above) to a growing feeling of disgruntlement with postmodernism and of deference toward scientific rationalism. Even so, for modern literary authors and literary critics at least, critical theory is not so easily dismissed, providing as it does an irreplaceable insight into the discursive practices underlying claims of knowledge. Patricia Waugh's 2005 essay "Science and Fiction in the 1990s" offers an important example of this, explaining how in stylistic terms popular science's own application of narrative techniques such as a first-person narrative voice, free indirect speech, and a plotted narrative structure potentially weaken its claims to critical authority. She explains, "The enormous market in popular science is partly created as the gap between theory and data grows ever wider and the need for plausible bridging narratives correspondingly more acute" (69). In the context of Science War antagonism, the weight of Waugh's argument is its ability to destabilize popular science's affirmed advantage, highlighting the many ways in which its style defines and defies its objectivism.

Perhaps more significantly, as Stanley Aronowitz makes clear, it is not merely popular science that necessitates critical theory but also established science itself, whose evident role in Western political hegemony inevitably complicates its intellectual significance. He explains:

While the project of Enlightenment science was to free itself from the thrall of religious belief and to know the world through fresh eyes, it was also implicated, and in its turn implicated science, in the bourgeois project of nature's domination, the effects of which we are currently facing in forms such as the ecological crisis . . . [as well as in] the astounding revival of all manner of genetic determinism. (21-22)

The necessity of confronting these crises, and of holding in check the destructive potential of Enlightenment logos, affirms the indispensability of theoretical practice. The value of a strong sociological criticism lies, as Sandra Harding reiterates, in its challenge to the "institutionalised, normalised policies of male supremacy, class exploitation, racism, and imperialism" underlying modern science's sometimes "depoliticized" institutional status (576).

In the context of the developing literary-scientific awareness I discuss here, the practical importance of this realization is to moderate the two-culture debate, replacing popular science's unquestioning enthusiasm with an imperative of negotiation among science, literature, and theory. Following Mikhail Bakhtin, the real intellectual opportunity here might be understood in terms of cross-disciplinary dialogue, wherein the truly critical novel positions itself "on the border between two languages, one literary, the other extraliterary, each of which now knows heteroglossia" (67). On a similar note, N. Katherine Hayles writes of the "convergence" (11) and mutual productivity of scientific and literary thinking, so that "forms of rationality opened up by the postmodern sciences" (51) allow us "to understand the texts and criticism of postmodernism in the only context that really matters: our material, organic, and social world" (51). And Rob Pope invokes "communication" and "exchange" between literary and scientific languages, whereby instead of trying to "speak the same languages," in a naive and impossible way, disciplines instead attempt "translation between languages, including varieties of what are nominally called 'the same language'" (190). In these ways, through a philosophy of give and take or translation and comparison, the possibility of a more complex, multidimensional intellectual standard is established.

In *The Child in Time* and *Enduring Love*, this conception is clearly visible, working as a central foundation for McEwan's two-cultures out-

look. In opposition to established anti-science readings of McEwan as a critic of traditional science, I argue instead that he enacts a double-sided idea of knowledge, which simultaneously celebrates science and questions its more popular and uncritical articulations. In terms of themes, this involves a self-conscious invocation of multiple scientific arguments, including ideas about time, relativity, and evolutionary psychology integral to contemporary popular science. Nevertheless, as I also hope to make clear, McEwan's technique complicates science in important ways, issuing subtle applications of unreliability and fictional self-consciousness that enforce a postmodern ideological critique. In this way, by qualifying scientific enthusiasm with critical awareness, McEwan reimagines modern literature, providing a new analysis for a deeply divided society.

***The Child in Time*: "Plundering Science for its Imagery"**

In a scene of unexpected catastrophe that has become characteristic of McEwan's work, *The Child in Time* begins with the protagonist's memory of his three-year-old daughter Kate's abduction in a local supermarket three years prior. As Stephen contemplates the event, his frustration and bitterness over the apparent inalterability of linear time is evident:

He had been back a thousand times, seen his own hand, a shelf, the goods accumulate, heard Kate chattering on, and tried to move his eyes, lift them against the weight of time, to find that shrouded figure at the periphery of vision, the one who was always to the side and slightly behind. . . . But time held his sight forever on his mundane errands, and all about him shapes without definition drifted and dissolved, lost to categories. (11)

Refusing to grant him the necessary perspective outside the perimeters of his daily routine, time appears to Stephen to take on a cruel agency of its own, "monomaniacally forbid[ding] second chances" (9). Set in a dystopian future Britain, in which the self-interested and competitive values of Thatcherism have led not only to an increase in internal socio-economic divisions but also to the exacerbation of Cold War tensions and ecological disaster, this cruelty is public as well as private: indifferent to human sentiment, time appears to be steadily pushing Britain, as well as Stephen, toward a violent end.

Carefully juxtaposing these concerns and moving between moods of satire and seriousness, the novel can perhaps best be seen as an inquiry into the nature of time and the possibility of redemption in the face of seemingly insurmountable crisis. As the plot unfolds, a

series of unexpected (and in some cases, undetected) events work to challenge Stephen's initial grief-stricken assumptions about time and to introduce the promise of a previously unrecognized purpose underlying his apparently disconnected experience.

For the great majority of McEwan's critics, *The Child in Time* represents a new authorial maturity. It is politically aware and often bitterly skeptical, while at the same time reaching beyond earlier works in its attempt to uncover a solid epistemological and ethical foundation on which to confront existing social crises. Taking due consideration of both these elements, Kiernan Ryan summarizes the novel as a combination of "visionary lyricism" and "disenchanted realism" (48). McEwan himself categorizes it as a "novel of ideas" (qtd. in Reynolds and Noakes 23). Building on this description, one element of the novel that proves integral to its ideological makeup is its engagement with contemporary science. While largely absent from past novels, this subject does appear briefly in McEwan's 1981 oratorio, *Or Shall We Die?*

Here, as in *The Child in Time*, a combination of political skepticism and moral hopefulness is readily apparent: contemplating the destruction that modern technology and commerce has wreaked on the environment, the prophetic narrator insists on the promise science holds for the future:

Our science mocks magic and the human heart,
Our knowledge is the brutal mastery of the known,
But science could become a force for good:
The planet does not turn for us alone.
Science is a form of wonder, knowledge a form of love.
Are we too late to love ourselves?
Shall we change or shall we die? (23–24)

Challenging the established patriarchal use of science as a source of control and progress (an instrument for "brutal mastery"), this passage instead sets out a more positive understanding, inciting "wonder" and "love" as science's more hopeful "feminine" components. Commenting on this alternative vision, Dominic Head sees the oratorio as a first step in a process of developing enthusiasm for science, one that quickly moves "beyond the cautionary note of the libretto" to acknowledge science's social and spiritual importance (72–73). In effect, while the libretto defers from making any more specific scientific claims—as for example on alternative uses of nuclear power—its respect for the importance of science, as a social phenomenon, initiates an intriguing debate.

In *The Child in Time*, this debate is both expanded and complicated. Here, science comes in the form of contemporary physics,

represented through the voice of Stephen's close friend Thelma, a physics lecturer at Birkbeck University. Traumatized by the loss of his daughter, Stephen finds some hope in the redemptive possibilities offered by Thelma's physics, a perspective that rejects the traditional linear idea of time in favor of a more multiple, uncertain vision. As Thelma puts it, "Whatever time is, the common-sense, everyday version of it as linear, regular, absolute, marching from left to right, from the past through the present to the future, is either nonsense or a tiny fraction of the truth" (127). Correspondingly, Thelma enjoins a tacitly Heisenbergian or Bohrsian idea of science, enjoining ideas of quantum uncertainty, complementarity, and (as I shall show) integration, as a means of promoting a more "womanly," open-ended temporal conception.⁷

Notably, this gesture potentially clashes with modern science's own self-perception, which (following writers like Sokal) tends to contest postmodern literary and critical appropriations of quantum science, seeing these as empirically unfounded. Thus, for example, Larry Laudan complains of postmodernism's "repeated acts of wish fulfilment," which wrongly "[displaces] the idea that facts and evidence matter by the idea that everything boils down to subjective interests and perspectives" (x). On a similar note, Jean Bricmont and Sokal lament postmodernism's "*sloppy thinking*," "*poor philosophy*," and "*glib relativism*," which "[tends] to confuse the technical meanings of words such as 'uncertainty' or 'discontinuity' with their everyday meanings" (*Intellectual Impostures* 242).⁸ Correspondingly, as a writer interested in modern science's cultural relevance, McEwan's (and indeed postmodernism's) immunity against this claim would seem to demand a critical defense.

For some readers, this comes in the form of science's apparent irrelevance to (and misappropriation by) the character of Stephen in the novel. Thus, for example, Claudia Schemberg argues that while Thelma's physical theorizing may seem relevant to Stephen's situation because of its thematic centrality, ultimately this perception is deceptive, contradicted by a continued discrepancy between Stephen's personal experience and his scientific aspirations. Schemberg explains:

Thelma's quantum magic fails to come off for Stephen; the explanatory patterns provided by new physics turn out to be irrelevant in the process of accepting and overcoming the loss of his daughter. The simple, idealised transference of the quantum into the realm of artistic imagination proves futile, illusory and, in Stephen's case, even counter-productive: The faith in Thelma's quantum magic keeps him running after his daughter in his mind, believing her to grow older in some parallel universe to which he is denied access. (54)

Repeating this argument in similar terms, Derek Wright sees Stephen's conceptions "as delusions, not as quantum leaps of the visionary imagination" (232). The novel becomes a "record of the doomed attempts of the dreaming artistic imagination . . . to translate the abstruse theoretical concepts of the New Physics across the culture gap into everyday phenomenal experience" (223). Driven by his fixated grief, Stephen's obsession undermines his scientific revelations, demonstrating only the practical irrelevancy of Thelma's theories.

On at least one level, these readings are valid. Certainly Stephen is prone to prolonged daydreaming, and, at one point, his delusional faith in a parallel universe even impels a kidnapping of his own, of an unknown school girl who looks like Kate might have looked. The implication in this scene of a fantastic displacement invokes a Freudian (or perhaps better, Caruthian) critical reading of science as a psychological response to traumatic experience. Thus, in his doubling quantum imaginary, Stephen transfers his original loss, "mingling real objects with imaginary ones" (Freud 4), and so "resituating" history where this is otherwise unknowable (Caruth 17). Even granting this unreliable element, however, the crucial complication these critics omit is that while Stephen in his grief misunderstands or misapplies Thelma's theories, the novel itself enacts a comprehensive defense of their pertinence. To this extent, central to the text's structure is a process of growth by which Stephen's unexpected encounters with a subjective time-world challenge his initially traumatized conception, replacing this with a more conciliatory model of physical wholeness. Rather than proving irrelevant, science becomes a vehicle for psychological rehabilitation, expanding Stephen's repressed emotional vision.

The most crucial of these encounters involves a bizarre experience in which, on a trip to visit his estranged wife, Julie, Stephen encounters a pub that is intimately familiar in spite of his inability to remember ever having visited it. Looking in the window, he sees a couple in conversation and recognizes the speakers as his parents in their youth, from before he was born. As he watches them, Stephen feels himself regressing into a fetal state:

His eyes grew large and round and lidless with desperate, protesting innocence, his knees rose under him and touched his chin, his fingers were scaly flippers, gills beat time, urgent, hopeless strokes through the salty ocean that engulfed the treetops and surged between their roots; and for all the crying, calling sounds he thought were his own, he formed a single thought: he had nowhere to go, no moment which could embody him, he was not expected, no destination or time could be named. (63)

While Stephen remains ignorant of the meaning of this experience as it happens, a later consultation with his mother clarifies its profound importance. The conversation, his mother explains, concerns his own existence: the pregnancy was unexpected, and his father's panic at coming to hear of it had made her consider abortion. Ultimately, it is the glimpse of Stephen outside the window that convinces her otherwise, reviving her motherly instinct against her initial self-pity.

Countering Stephen's linear preconceptions, the critical impact of this event is to reimagine time for Stephen, presenting it as linked and purposeful, achieving a sort of Proustian wholeness. As he puts it to himself, time entails a palpable "connectedness": "what was happening now, and what would happen as a consequence of now, was not separate from what he had experienced earlier that day" (67). This temporal optimism is confirmed when, nine months later, he finds Julie in labor—his sense of time's consequence is unmistakable: "It was then that he understood that his experience there had not only been reciprocal with his parents', it had been a continuation, a kind of repetition. He had a premonition followed instantly by a certainty . . . all the sorrow, all the empty waiting had been enclosed within meaningful time, within the richest unfolding conceivable" (235). For the majority of critics, the moment of paternal awakening described in this passage offers a powerful defense of life's meaningfulness in the face of contingency.⁹ Not only does the novel refuse to accept the appropriateness of Stephen's initial despair, but also it rigorously defends Julie's "feminine" hopefulness by placing this within a larger context of a newly validated quantum science. As Paul Edwards explains, "Reality itself, in the novel, follows the 'feminine' patterns of cyclical time, time in which alternative ghostly events many seem causative, or time which may reverse itself. It may, through childhood, overcome the seemingly inevitable progression of determined, (masculine) clock time" (47). On a similar note, Jago Morrison also highlights the novel's attempt to counter the "repressive time regime enforced by the establishment and its institutions" with "the more fractured and unstable time frames suggested by Quantum Theory" (*Contemporary Fiction* 71). In effect, in the context of post-consensus British conservatism, quantum physics appears to legitimate difference, femininity, and rebellion.

To some extent, both of these descriptions accurately recognize the novel's scientific interests. Certainly the division Thelma makes between traditional Newtonian physics and contemporary quantum theory is linked in this section to an opposition of patriarchal and feminine values; it is only by overcoming his rigid "masculine" perception of time and by adopting Julie's more "feminine" perception that Stephen begins truly to confront his loss of Kate. Likewise, the

consequences of a more persistent emotional repression are made evident in Stephen's friend Charles, whose careerism leads progressively to regression, schizophrenia, and eventually suicide. In Charles's fantastic death by freezing, his self-estrangement takes on a physical literality. Thelma elucidates the larger social implications of this storyline when she compares Charles's attitude to that of science professionalism itself: "When I think of my colleagues at work and the scientific establishment and the men who run it . . . I have to say that Charles's case was just an extreme form of a general problem" (226).

While recognizing this feminist, post-consensus message, however, there is also another aspect to Thelma's physics and to Stephen's experience, which is not fully explained by this radical politicized vision. In particular, the stress that Morrison lays on the notion of "fractured time," and similarly of a "fractured" narrative structure, fails to appreciate the strong thematic attention the novel gives to the idea of temporal "wholeness" as a socially applicable element of contemporary science. One passage that directly foregrounds this concern comes in Thelma's response to Stephen's apparently hallucinatory experience of time reversal:

She wanted him to share her excitement as she anticipated that in a hundred or fifty years' time, or even less, there might evolve a theory, or a set of theories, of which relativity and quantum theories would be special, limiting cases. The new theory would refer to a higher order of reality, a higher ground, the ground of all that is, an undivided whole of which matter, space, time, even consciousness itself, would be complicatedly related embodiments, intrusions which made up the reality we understood. It was not entirely fanciful to imagine that one day there could be mathematical and physical descriptions of the type of experience Stephen had recounted. (129–30)

In this passage, Stephen's ostensibly fantastic experience would seem to take on a solid scientific footing, if not in existing discoveries, at least in a prominent theory. Central here is the concept of a higher order in which the apparently disconnected phenomena of time and space, thought and matter, and relativity and quantum physics might become conceptually reconciled. One inspiration for this vision comes from the work of the physicist David Bohm, actually referenced in the novel as Thelma's colleague, and particularly his 1980 study *Wholeness and the Implicate Order*. Foregrounding the possibility of scientific wholeness and connection as against contemporary fracture and uncertainty, this work reconceptualizes modern physics, reaf-

firming the value of scientific knowledge as a source of spiritual and community integration.

One important sidenote on Bohm necessary to contextualize his significance is that the often mystical tone of his work—interested as much in language, psychology, and philosophy as in science—has made his writing unpopular among a large portion of the scientific community. A persistent emphasis throughout *Wholeness and the Implicate Order* on the need for an altered worldview and the importance of linguistic accuracy and meditation clashes with the objectivist methodology of academic physics. Indeed, Bohm himself explicitly separates his work from that of his contemporaries, lamenting the widespread belief in physics "that our overall views concerning the nature of reality are of little or no importance" (xv) and that "All that counts in physical theory is supposed to be the development of mathematical equations that permit us to predict and control the behaviour of large statistical aggregates of particle" (xv–xvi). In Bohm's view, such calculations necessitate a more general notion of reality, one that connects the apparently contradictory principles of relativity and quantum theory.

Even recognizing Bohm's slightly eccentric standing within the scientific academy however, his reputation is substantial, and perhaps more importantly for this essay, his interest in the psychological and social implications of an otherwise abstract science makes him a valuable locus of literary inspiration. Perhaps the most essential element of Bohm's 1980 study involves his attempt through the notion of a higher order of thought to overcome the disconnected understanding of reality imposed by atomic theory, "the notion that the whole of reality is actually constituted of nothing but 'atomic building blocks'" (11). "The prevailing tendency in science," Bohm explains, "to think and perceive in terms of a fragmentary self-world view is part of a larger movement that has been developing over the ages and that pervades almost the whole of our society today" (19): namely, the idea that reality is atomized. The consequence of this understanding, according to Bohm, is the legitimization of contemporary "disunity" (20): "people are led to feel that fragmentation is nothing but an expression of 'the way everything really is' and that nothing else is possible. . . . men who are guided by such a fragmentary self-world view cannot, in the long run, do other than to try in their actions to break themselves and the world into pieces" (19–20). This predicament, he believes, has led to a host of modern-day crises, including "social, political, economic, ecological, [and] psychological" (21) both "in the individual and society as a whole" (21).

Bohm's response to this social dilemma is to reinstate the coherence within the physical world, whereby apparently separate

and autonomous experiences are seen as ultimately linked within a larger, "undivided whole," understood principally through the concept of "flow." He explains:

This view implies that flow is, in some sense, prior to that of the "things" that can be seen to form and dissolve in this flow. One can perhaps illustrate what is meant here by considering the "stream of consciousness." This flux of awareness is not precisely definable, and yet it is evidently prior to the definable forms of thoughts and ideas which can be seen to form and dissolve in the flux, like ripples, waves and vortices in a flowing stream. (14)

One ramification of this theory significant to *The Child in Time* relates to its fundamentally dynamic understanding of human consciousness, whereby experience is always evolving. Thus, rather than being considered as a mere static "*representation* of the manifest world" (261), consciousness is understood here as a "series of moments" that "cannot be fixed exactly in relation to time (e. g., by the clock) but rather, that covers some vaguely defined and somewhat variable extended period of duration." As perception moves back and forth between Bohm's "implicate" and "explicate" orders, combining immediate experience with associations and impressions, time is removed from its traditionally "primary" understanding to be seen instead as "secondary," "a projection of a multidimensional reality into a sequences of moments" (269).

Here, in the split between consciousness and time, Stephen's own experiences of time travel and relative time find an intriguing theoretical foundation. While on a first impression Stephen seems to have hallucinated his time travel experience, perhaps on account of parental guilt, in the face of Bohm's work, these experiences become conceptually intelligible, facilitating an imaginative leap. Stephen's fantastic temporality encodes the radical possibilities of contemporary physics, where dynamism and flow replace traditional Newtonian categories.¹⁰ The social implications of this, in a novel confronting loss and crisis on both a personal and public level, are substantial: they introduce an alternative socio-political framework based on wholeness rather than (neo-liberal) individualism.

Looking back to the issue of McEwan's potential misappropriation of scientific discovery, under the banner of cognitive relativism, this suggests an important realization. By contrast to the unreliable narrator reading that Schemberg and Wright defend, which denies science's relevance to the novel in favor of a reassertion of its practical abstraction, some critics have acknowledged McEwan's scientific interests in the novel, seeing these as the tacit foundation for his

apparent aberration from realism. Thus, for example, Head applauds the novel's complex "scientific underpinning," which ostensibly validates the "extraordinary level of credulity that McEwan seems to establish" in the pub scene (78). Likewise, Morrison notes McEwan's intriguing ability to politicize modern science, balancing, as I stated above, the "repressive time regime enforced by the establishment" with "the more fractured and unstable time frames suggested by Quantum Theory" (*Contemporary Fiction* 71). In both these readings there is a clear appreciation of McEwan's investment in science, which demands recognition.

Even so, given the focus on temporal fracture and instability these analyses propose, there seems to me a potential reduction here, which threatens to encourage scientific contention. For example, looking back to Morrison's aforesaid opposition between the "repressive time enforced by the establishment" (*Contemporary Fiction* 71) and "the more fractured and unstable time frames suggested by Quantum Theory," in the light of Bohm's influence, both of these paradigms begin to look equally unacceptable. Thus, the difficulty with Stephen's temporal understanding, as explained above, is not simply that it is emotionally repressed but also, equally decisively, that it is fractured, unable and unwilling to recognize any larger pattern of experience. As with many of McEwan's traumatized narrators, Stephen becomes confined to the repetition of a singular lost moment, which is seen as irreparably separated from his present experience.

Given this crisis-bound narrative framework, what the time travel scene ultimately offers is an aspiration for wholeness of vision that complicates relativist principles. Thus, while Morrison emphasizes the supposed disconnectedness of history in the novel, and the impossibility of "narrative (and psychic) resolution" (74), Bohm's influence instead suggests a deep investment in scientific narratives and a concern for an invisible connectivity between events. This conception is foregrounded in Stephen's conciliatory decision—based on his awareness of a higher order—to put aside his inhibitions and buy his lost child a birthday present:

He would purchase his gift in joy rather than sorrow, in the spirit of loving extravagance. . . . Since he had exhausted all possibilities . . . then it only made sense to deal on the level of the symbolic and the numinous, to conjoin with those unknowable forces which dealt in probability, which both distributed atoms to make solid objects solid, and unfolded all physical events, ultimately all personal destinies. And what had he to lose? (137)

The difficult concession Stephen makes here to an unknown but comprehensive physical order predicates his first step toward emotional recovery, allowing him for the first time to forget the cruelty of passing time and to indulge his grief. Likewise, while fate does not bring Kate back, Stephen's inspired view of Julie's pregnancy as an emblem of "meaningful time, the richest unfolding conceivable" (235) tenders a direct and celebratory recognition of physical wholeness. If science is not a miracle worker, it is nevertheless a significant source for intellectual creativity and emotional recovery, which Stephen profitably acknowledges.

By recognizing this creative potential, McEwan effectively clarifies the contemporary importance of literary scientific thinking, rejecting the reductively relativist outlook ascribed to it by some scientists and instead revealing a more deep-seated intellectual investment, alive to the complexity and integration of temporal experience. Indeed, given that popular science itself tends to conflate postmodernism with cultural relativism, as per Laudan and Sokal, this enactment can also be seen to qualify this reduction, rejecting theory's culturalist label and instead designating a distinctly critical vision. Fredric Jameson's idea of critical "totalization" seems especially pertinent here, affirming, alongside McEwan and Bohm, "the need to transcend individualistic categories and modes of interpretation" in favor of more properly "collective or associative" thinking, alive to dialectic complexity (Jameson 53). Jameson explains: "the authentic function of the cultural text is staged as an interference between levels. . . . The current poststructural celebration of discontinuity and heterogeneity is therefore only an initial moment in the Althusserian exegesis, which then requires the fragments, the incommensurable levels, the heterogeneous impulses, of the text to be once again related" (41). In other words, dialectics demands a connecting of autonomous cultural discourses in such a way as to qualify post-structuralism's initial breakdown. As N. Katherine Hayles explains: "Poststructuralism and the communicative disorder it celebrates thus appear as a negative moment in the dialectical task of saving the interpretation of culture from disciplinary reification and transforming it into a mode of understanding the relatedness of cultural texts to the 'great collective story' of human history" (50). In its recognition of a founding "political unconscious," a "pre-existing molar or unifying impulse against which [molecular] truth is read" (Jameson 38), this affirmation reasserts contemporary science's integrating demand, directly echoing its invocation of physical wholeness.

In relation to the individualist contours of the contemporary post-consensus Britain in which the novel is set, this connection carries an important message. Challenging Thatcher's strident individualism and pragmatism, which designates "no such thing as

society" and which proposes to prioritize science over cultural values, Stephen's dynamic temporality becomes a figure for alternative, community-centered thinking, rejecting neo-liberal isolationism in favor of improved social, political, and environmental awareness. In this case, science becomes neither an abstract aesthetic principle, detached from everyday realities, nor an unwitting defence of cultural relativism, but rather an accessible source of renewed inspiration, combining with literature and theory to endorse a change to the neoliberal status quo.

Enduring Love: "The Rationalist Finally Cracks"

In McEwan's sixth novel, his interest in science is apparent from the start in his choice of narrative voice: here it is not a children's book writer who focalizes the perspective but rather an author of popular science books, Joe Rose. Meanwhile, the voice of literature is displaced to that of a secondary character: Joe's wife Clarissa, a lecturer in Romantic poetry. This framework ensures a continued interest in modern debates between literary and scientific methods and values. Nevertheless, corresponding to its 1997 publication, the novel also moves on from *The Child in Time's* theoretical physics, a debate that peaked in the 1980s, to the genetic controversies of the 1990s and more particularly to popular studies in evolutionary psychology. In a plot in which the narrator falls victim to another man's delusional obsession, his life becoming increasingly unpredictable and threatening, the novel explores how contemporary popular science might (or might not) provide an explanation for modern contingency and thus restore order to chaos.

The endeavor to adequately formulate this intellectual framework, and to balance it against Clarissa's literary paradigm, provides much of the novel's suspense, making it, in David Malcolm's apt description, an "epistemological thriller" (157). McEwan takes ample advantage of this conception, arming Joe with a host of popular scientific voices, including that of E. O. Wilson, Robert Wright, Paul Ekman, Steven Pinker, Steven Weinberg, Walter Bodmer, and Robert McKie, whose various biological perceptions complicate his worldview, engaging topical popular debates. Significantly, not all of these writers lay equal claim to respect within the scientific academy: as Waugh notes, their popularity depends in part on narrative modes of representation, which potentially compromise their professional neutrality ("Science and Fiction" 59). Nevertheless, to reject the novel on this basis is to underestimate the central importance of popular science in contemporary culture, where the writings of those cited above have dominated the publishing market since the 1970s.¹¹ In

this sense, the novel's participation in these popular debates seems laudable, expanding the foundations for literature's cultural inquiry.¹²

This essay agrees with Waugh in defending McEwan's engagement with popular science in *Enduring Love* as both perceptive and pertinent. Developing her brief analysis, I provide a closer examination of this theme, elaborating as I do so my argument about McEwan's cross-disciplinary interest. Before beginning this, however, in light of the novel's complex narrative structure, a distinction needs to be made between the voice of the narrator and that of the text itself. Thus, while McEwan is undeniably enthusiastic in his exploration of contemporary popular science, and while this does prove central to the novel's resolution, nevertheless, the existence of other more self-conscious devices—including an unreliable narrator and a continued opposition between scientific and literary outlooks—suggests a challenge to Joe's rationalism, questioning its critical pertinence as a basis for social understanding in the novel. Ultimately, however animated the text is by science in some ways—in particular in relation to professional (non-evolutionary) psychology—it remains stylistically wary of rationalism's totalizing claims, eager to reinforce literature's significance as a means toward understanding difference. The aim of this section is to recognize this message and to reaffirm with it McEwan's ongoing interest in negotiating a middle ground between scientific and literary concerns.

Joe's interest in the social implications of popular science are explicitly set out at the novel's beginning where, in a scene replete with psychological and moral tension, he and four other men rush to rescue a child from a free-floating helium balloon. The scene begins with a puzzle-like aesthetic, in which the men consider how to best animate the boy without further increasing his anxiety. They argue with each other about this, demonstrating briefly the difficulty of successful group reasoning. When an unexpected gust of wind lifts the balloon into the air, this problem of working as a group becomes suddenly more acute—the men must decide how to secure their own lives, while also endeavouring to save the child, balancing an awareness of the balloon's rising height against a knowledge of their own common responsibility to each other. When one man then holds on too long and eventually falls to his death, the horror of this event reinforces their tragic predicament. As Joe puts it: "No forgiveness, no special dispensation for flesh, or bravery, or kindness. Only ruthless gravity. . . . I've never seen such a terrible thing as that falling man" (16).

These words clearly register Joe's trauma, predicated on a sense of the cruel contingency of the natural order. His expression of shock concedes tacitly the inexplicability of his experience, as something that he could neither have predicted nor prevented. Nevertheless, in

defiance, Joe's subsequent adoption of scientific rationalism (balancing self-interest against socially cooperative instincts) demonstrates his effort to grant order to chaos, in this way assuaging his repressed guilt:

So can we accept that it was right, every man for himself? Were we all happy afterwards that this was a reasonable course? We never had that comfort, for there was a deeper covenant, ancient and automatic, written in our nature. Co-operation—the basis of our earliest hunting successes, the force behind our evolving capacity for language, the glue of our social cohesion. Our misery in the aftermath was proof that we knew we had failed ourselves. But letting go was in our nature too. Selfishness is also written on our hearts. (14)

McEwan here engages, in a very direct way, with E. O. Wilson and Robert Wright's theories of evolutionary psychology. Wilson's 1978 *On Human Nature* and Wright's 1994 *The Moral Animal*, both mentioned in the final acknowledgements, represent two of the most important and also the most controversial manifestos of this paradigm. Both works explicitly reject prominent religious and humanist understandings of human sociability as pertaining to some transcendental moral imperative, defending in place of this a neo-Darwinian evolutionary model of human nature as engaged in an ongoing struggle for reproductive fitness: "Each living form can be viewed as an evolutionary experiment, a product of millions of years of interaction between genes and environment. By examining many such experiments closely, we have begun to construct and test the first general principles of genetic social evolution. It is now within our reach to apply this broad knowledge to the study of human beings" (Wilson 17). Like Joe, Wilson believes in an unspoken and often unconscious genetic contract binding the species together and manifesting itself in terms of religious, social, and moral codes: "The highest forms of religious practice," he claims, "when examined more closely, can be seen to confer biological advantage" (188). Correspondingly, the evolutionary psychologist works to inductively unravel the possible genetic foundations of these ahistorical belief systems, combining research on other animal species with empirical evidence of human social behavior and allowing for the possibility of variation due to environmental factors.

The far-reaching social motivations fueling this supposedly scientific theory are addressed in Wilson's more recent 1998 study, *Consilience*. According to this study, the evolutionary psychological attempt to unite the disciplines within an overarching genetic "synthesis" provides an otherwise unavailable explanation to the most

pressing contemporary issues: "ethical conflict, arms escalation, overpopulation, abortion, environment, endemic poverty" (12): "A united system of knowledge is the surest means of identifying the still unexplored domains of reality. It provides a clear map of what is known, and it frames the most productive questions for further inquiry" (333). Somewhat more to the point, in a postmodern world defined by religious, sexual, economic, and environmental uncertainty, this all-encompassing evolutionary framework claims to offer a source of hope supposedly unavailable within critical theory:

To Foucault I would say . . . it's not so bad. Once we get over the shock of discovering that the universe was not made with us in mind, all the meaning the brain can master . . . can be found by deciphering the hereditary orderliness that has borne our species through geological time and stamped it with the residues of deep history. Reason will be advanced to new levels . . . and we will understand one another very well, the more quickly because we are all of the same species and possess biologically similar brains. (46)

Keen to appreciate the possibly radical social potential of this project, McEwan has become one of Wilson's principal proponents, outspokenly celebrating his cross-disciplinary aims as a necessary means toward social reconciliation and environmental recovery. As he puts it in a 2001 article in the *Guardian*, "That which binds us, our human nature, is what literature has always, knowingly and helplessly, given voice to. And it is this universality which science, now entering another of its exhilarating phases is now set to explore" (3). Indeed, McEwan goes further than this to suggest that literature itself might be read under an evolutionary critique as an expression of inherent and universal human traits: "At its best," he writes, "literature is universal, illuminating human nature at precisely the point at which it is most parochial and specific" (1). Founded on an idea of universal scientific truth, this understanding implies a direct defense of genetic normativity, thus reinforcing McEwan's pro-science protocol. Nevertheless, in recognition of the complexity of this novel, which is more hesitant in its appraisal and distinguishes carefully between popular scientism and academic science, a distinction should be made between McEwan's personal enthusiasm for evolutionary psychology and his fiction itself: the two are not equivalent.¹³

To some extent, the problems with Wilson's argument are handled in the novel from within the framework of popular science itself. For example, Joe's inquiry into the warring imperatives of self and others may be seen, in accordance with his evolutionary psychological interests, as a direct reference to Wright's book *The Moral Animal*,

where the latter complicates Wilson's arguments by recognizing the darker side of evolutionary science. Thus, just as Joe qualifies his evolutionary analysis with the thought that "Selfishness is also written on our hearts" (14), so Wright laments that "moral sentiments are used with brutal flexibility, switched on and off in keeping with self-interest; and how naturally oblivious we often are to this switching" (13). For Joe, as for Wright, what this innate selfishness implies is the need for pragmatic reasoning, judiciously balancing private and communal concerns: "Treading that line, keeping the others in check, and being kept in check by them, is what we call morality" (14).

Similarly, in a later chapter, Joe again contemplates the possible naivety of Wilson's evolutionary platform in relation to the question of religion: "Might there be a genetic basis to religious belief, or was it merely refreshing to think so? If faith conferred selective advantage, there were any number of possible means, and nothing could be proven. . . . Uplifted by a crazed unity, armed with horrible certainty, you descend on the neighbouring tribe, beat and rape it senseless and come away burning with righteousness" (159). Here again, McEwan invokes the darker side of post-Darwinian science, implicitly recalling Wright's warning that the advantages conferred by existing social contracts may be "those of its sellers, not its buyers" (366). Reasserting humankind's brutal history, his emphasis here is on the selfishness of human behavior, which even in its most spiritual and supposedly religious enterprises is not beyond using "form[s] of exploitation" to establish and maintain power (366).¹⁴

These pragmatic moral preoccupations with evolutionary psychology reappear in various places throughout the novel as Joe reviews his popular scientific beliefs and attempts to apply them to his own daily experience. Even so, other elements of the text move the novel away from this epistemological framework, offering a more extreme external critique, in accordance with postmodern critical theory. Perhaps the most explicit example of this comes in chapter eight, in which Joe directly cites Wilson's beliefs on the common genetic basis for human emotional expression: "the way we wear our emotions on our face is pretty much the same in all cultures, and the infant smile is one social signal that is particularly easy to isolate and study. . . . In the words of Edward O. Wilson's cool phrase, it 'triggers a more abundant share of parental affection'" (70). Again, Joe's concern for a scientific solution to contemporary social fragmentation is evident: while the babies of the Kalahari and of Manhattan may appear in some ways undeniably different, he suggests, their shared smiles give away their underlying genetic similarity. Nevertheless, as Clarissa's response makes clear, this argument, reducing a child's smile to a mere strategy for survival, unjustly ignores the deeper

emotional understanding between parent and child: "The truth of that smile was in the eye and heart of the parent, and in the unfolding love which only had meaning through time" (70).

The novel offers two reactions to this sentiment. First, in a strategic attempt to reaffirm evolutionary psychology's authority against Clarissa's emotionalism, Joe recalls Clarissa's own embarrassed infertility as a counter to her emotional logic: "What we were really talking about this time was the absence of babies from our lives" (71). In this shrewd psychological insight, Clarissa's emotionalism becomes (ironically) a counter to itself: it is she who is denying reason here, not Joe. Nevertheless, in Joe's aggressive defensiveness, where his staunch pragmatism does little to recognize his own ongoing sense of horror and guilt at Logan's death, the text makes clear the underlying relevance of this argument to his situation. As Clarissa explains, Joe's genetic preoccupation makes him "lose sight of the whole" (71), reducing all experience to mere biological struggle.

Importantly, in a novel in which the complexity of human subjectivity is directly at issue, Joe himself is not entirely unaware of the limits of his argument. To the contrary, his narrative tone is characterized by a disturbed self-consciousness that repeatedly (unintentionally) admits to error. One key instance of this, relating back to the balloon accident, shows Joe's lamenting self-effacement as he attempts to rationalize the uncontrolled hysteria of the child's grandfather: "Such was his genetic investment, I remember thinking stupidly" (19). The qualification of "stupidly" here recognizes the banality of this synopsis, which shows no sympathy with the grandfather's personal tragedy in the moment.

One other notable example comes in chapter 9, when Joe attempts to adopt Clarissa's voice in order to see things from her perspective. Here again, he appears ashamed of his emotional narrow-mindedness, which reaffirms his scientific obsession: "The trouble with Joe's precise and careful mind is that it takes no account of its own emotional field. He seems unaware that his arguments are no more than ravings, they are an aberration and they have a cause. . . . Like her, he has reached the senseless core of Logan's tragedy, but he has reached it unaware" (83). In the face of David Malcolm's analysis of the novel as a "virtually didactic" defense of scientific rationalism (15)—a critique that removes McEwan from all self-consciousness—such moments of introspective backtracking add a crucial element of hesitancy to the narrative. As Kathleen Wall explains, the purpose of unreliable narration is not simply to establish "the implied author as social, moral, or aesthetic arbiter" (20) but rather "to foreground certain elements of the narrator's psychology—he or she cannot merely be the writer's pawn but must reflect

some reasonable model of human fallibility" (21). This consideration also speaks against Amanda Craig and James Wood's more cutting attacks on the novel as "schematic" (Craig 43) and "calculated" (Wood 9), McEwan "trap[ping his] subjects in prim webs of information and argumentation" (10). If *Enduring Love* is direct in its enthusiasm for contemporary popular scientific debates, as suggested here, it is also careful to respect the psychological complexity of its narrative voice. Even so, there is a definite irony to Joe's character, and his quest for professional and sexual legitimacy often compromises his self-awareness and immerses him within dogmatic rationalism.

Two scenes in particular highlight this ironic dimension. One involves Joe's decision to ransack Clarissa's desk for proof of her infidelity. Here, Clarissa's presumed tendency toward "self-preservation" becomes a weak excuse for a flagrant invasion of privacy: "I would save Clarissa from herself; and myself from Parry. . . . I had a right to know what was distorting Clarissa's responses to Parry. What was stopping her being on my side?" (105). The paranoid demand for control in this expression betrays a patriarchal rubric: Joe adopts the position of the father or savior as a tacit justification for his unwarranted infringement, symbolically uniting desire (or egotism) and the law. Similarly, in an even more explicit paternalist gesture, Joe's decision to purchase a gun as a means of defending Clarissa's safety invokes a recognizable fantasy of masculine dominance; rejected by his wife and the police, and threatened by Jed Parry's homosexuality, Joe indulges his wish for power: "I began to fantasise about what I might need for my own defence. Mace? A knuckle duster? A knife? I daydreamed violent confrontations that always fell out in my favour, but I knew in my logical heart—that organ of dull common sense—that he was unlikely to come at me head-on" (144). As Joe indulges this defunct adventure narrative, the underlying bathos of his rationalist pretensions becomes clear. In his attempt to regain his lost command of his life, he adopts a particularly transparent form of the male logic he has supported all along.

Eventually, in a scene whose garden setting embeds it with religious symbolism as the birthplace of fallen man, Joe confesses his unreliability, recognizing the irrelevancy of his rationalist viewpoint as a vehicle for emotional absolution. Squatting in the dirt with the gun in his hand and attempting to sooth himself with the thought that his defecation is "enriching the forest floor," Joe admits the futility of this scientific narrative: "We were no longer in the great chain. It was our own complexity that had expelled us from the Garden" (207). Here humility takes the place of rationalist confidence, reaffirming the text's ultimately critical view of evolutionary psychological reasoning.

Importantly, in a novel preoccupied with the importance of cross-disciplinary negotiation, this conclusion should not be over-emphasized. As I shall show below, professional psychology remains a crucial framework in the novel for deciphering Jed's behavior, thus qualifying any simple prioritization of literature over science. Nevertheless, with respect to Joe himself, the ethical pertinence of this discourse is strongly qualified by his psychological blindness as a narrator. As Clarissa expresses, Joe may be right in one sense, but "being right is not a simple matter" (216). In its implicit defense of a more dialectical form of thinking, affirming what Jameson refers to as a necessary "historical or ideological *subtext*" (66) to all truth claims, this analysis again underwrites a postmodern, Jamesonian textual logic. In effect, Jameson's idea of a political unconscious that underpins psychological relations, explaining individualism and postmodern social fragmentation in the context of contemporary consumer capitalism, helps to situate Joe's behavior by connecting it to a neo-liberal protocol of individualist self-promotion. As Jameson puts it, "a ruling class ideology will explore various strategies of the *legitimation* of its own power position" (69). Joe's obsession with being right offers an instance of this.

To some extent, this critical theoretical solution has already been recognized by some of *Enduring Love*'s critics. Thus, in Morrison's words, the novel "discloses" a "crisis . . . in the relationship between its privileged male subject and the public narratives of science, medicine, and law that are supposed to constitute . . . his embattled masculinity" ("Narration" 255). On a similar note, Sean Matthews also highlights the text's ostensibly Foucauldian logic, which uses Joe's unreliable voice in order to "expose the limits of [his] rational, scientific self-confidence, the limits of Reason itself" (106). As a response to Joe's unfastening psychology in the novel, not unlike James Hogg's notorious justified sinner, these readings underline my above analysis, reconfirming the instability of evolutionary psychology as a credible mode of personal and social analysis. Obsessed with Jed's persona, Joe's reason embodies a paranoid form of sensibility, repeatedly succumbing to over-analysis, over-certainty.¹⁵

Nevertheless, given the novel's clear enthusiasm for science in other respects—especially in its language and research—it is worth questioning just how extensive this critical skepticism finally is. As David Malcolm explains, reason may be unstable here, constituting "an uncertain thing, difficult to achieve [and] subject to revision" (178–9), yet Jed's deranged behavior and language undeniably supports its value as a means of social regulation. Threatening to kill Clarissa in order to be with Joe and stalking Joe three years down the line—"When you are His, you also become mine" (245)—Jed

represents an arguably even more extreme paternalism than Joe, where erratic possessive tendencies reinforce a demand for critical psychological diagnosis.

Similarly, the substory of Jean Logan, the widow of the balloon accident, also potentially supports this pro-science analysis, her experience of temporary dementia following her husband's death offering a condensed paranoia narrative that again reasserts reason's organizing value. Here, in her grief, Jean misinterprets Logan's death, seeing this as undeniable proof of his marital infidelity, his intention to show off to a lover becoming for her the only conceivable explanation for his extended grip on the rope: "There was someone in the car with John when he stopped. Someone got out when he did" (113). In the face of this traumatized logic, Joe's rationalism again represents a more sedated critical understanding, one based on inquiry rather than anguish.

Connecting this message back to the narrative of Clarissa and Joe, this suggests a vital qualification to the above reading. Like Joe with Jean, Clarissa's outsider perspective demonstrates an invaluable insight into Joe's own reductive situation, aptly registering his inability to appreciate his own fear and guilt. Nevertheless, like Jean herself, Clarissa's refusal to take Jed's danger seriously also potentially betrays a reductivism of its own, uncritically denying any credit to professional psychiatry's diagnostic procedures. Rejecting the possibility that Jed "[was] mad in ways I could never have guessed at" (217–8), her insistent sympathy with Joe's persecutor arguably compromises her marriage, as well as contributing to her own situational vulnerability.

In the larger context of the novel, no definitive solution is given to this narrative authorizing or condemning Clarissa's outlook against Joe's. Rather, in a distinctly postmodern way, McEwan leaves the ending open, positioning the narratives against each other and showing how each invokes a different (and differently problematic) form of reason. The final cooperative status of the two characters, as epistolary correspondents and common interpreters of Jed's manic behavior, reiterates this message, placing the onus on conversation, rather than finality and offering a specifically dialogic textual design. Indeed, the spoof psychiatry case study in the first appendix—which McEwan authors with an anagram of his own name, "Wenn" and "Camia"—features this dialogism explicitly: here it is science's extreme didacticism rather than the humanities' relativism that undermines the authority of this document, effecting a kind of Sokal hoax in reverse. In this way, the novel functions in "the spirit of investigation," contrasting literary and scientific perspectives to explore "the interface" between the cultures and to recognize the benefits and obstacles on both sides (qtd. in Gardner).

The capacity for wonder that this inquiry entails reflects this fiction's enduring postmillennial value as a text aptly registering the continued and changing importance of the two-culture debate. In the framework of post-9/11 changes to both fiction and popular science, and in particular in the context of atheism's resurgence, this message is important. Thus, as Arthur Bradley and Andrew Tate argue, post-9/11 writing, both in popular science and fiction, evidences an increasing push toward "militant atheism" in a way that makes questionable prominent authorial claims toward interdisciplinary open-mindedness: "the New Atheist novelists [McEwan, Martin Amis, Philip Pullman] affirm what we have seen to be the secular pieties of Dawkins et. al.: evolutionary biology, scientific enlightenment and the neo-romantic celebration of aesthetic imagination" (11). In short, they celebrate popular science as a proto-scientific justification for condemning faith. In the framework of the above analysis, this reading (at least in relation to pre-9/11 novels such as *The Child in Time* and *Enduring Love*) is shown as misleading, substituting the author's own popular scientific enthusiasm for that of the text. Nevertheless, it remains to be seen to what extent McEwan's post-9/11 fiction does reflect this militant atheist position, thus substituting wonder, in the above texts, for scientistic dogma. This I leave for future essays to explore.

Notes

1. This is also mentioned by Rob Pope, who sees Brockman's book as "both invigorating and irritating," at once "offering lots of fascinating and more or less plausible visions of the imminent future" on the one hand and on the other hand treating key issues "partially or not at all" (188). In particular, Pope worries over the text's failure to comment on "the matter of cultural value and social responsibility: the scientific vistas and technical applications are awesome, but the potentially awful social consequences and political implications are either not thought through or treated cursorily." As I shall explain in what follows, this is a common omission in popular scientific publications, which McEwan's novels also recognize.
2. Leavis was appalled by Snow's defense of scientific progress, seeing this as radically undervaluing the moral importance of literary aesthetic awareness. He argues that Snow's viewpoint merely furthers an increasingly "technologico-Benthamite civilization," characterized by an ignorance of the "creative human reality of significances, values, and non-measurable ends" (110).
3. This is Kuhn's term. See 23–25.

4. As Stanelly Aronowitz points out, even this strong form of the sociology of knowledge can be seen to refrain from complete relativism. Thus, he explains, "many ethnographers like Latour remain within the micro-institutional framework of scientific discovery and in this sense have not broken with the tradition of the sociology of science established more than a half century ago by Robert Merton. Far from opposing epistemological investigations, they have in Steve Fuller's terms produced a social epistemology that, in most respects, is framed in the Cartesian premise of subject/object relations, each term taken as an actor in the unfolding of discovery" (20).
5. This in any case was Bruce Robbin's explanation, stating his mistake candidly in terms of a "conveniently credentialed ally" (28).
6. For a detailed elaboration of the implications of the hoax, see Jean Bricmont and Alan Sokal. For a collection of internet media responses, see Sokal's online CV.
7. For an accessible summary of Werner Heisenberg and Niels Bohrs' principles and their place within contemporary critical theory, see Waugh, "Science and Fiction" 41–42.
8. See also Sokal, "What the Social Text affair does and does not prove" 6. For Bricmont and Sokal's specific response to Lyotard see 125–8.
9. One important exception here is Adam Mars-Jones's "Venus Envy," which views McEwan's choice of male protagonist as engendering a narrative "couvade": an attempt "to upstage or appropriate potent moments in the lives of women" (152). This argument is unconvincing to me, problematically ignoring the irony with which the text depicts patriarchal institutions.
10. Note also the connection to Michel Serres's work here, which likewise describes time in terms of a "multiple, foldable diversity" (59) and which connects this to an improved critical clarity: "Sometimes things that seem incomprehensible have causes and sources that are completely limpid" (65).
11. One critic who does reject the novel on this basis is Cressida Connolly, who laments the text's "logical positivism" and invokes "an immediate worldwide moratorium on novelists reading works of science" ("Literary Review").
12. Indeed, it does not seem much of a stretch to suggest that it is precisely this cultural engagement that explains the widespread popular success of McEwan's novels even while he maintains a status of intellectual seriousness.
13. Head also notes this. See *Ian McEwan* 124.
14. Wright elaborates on this suggestion, arguing that "Religious leaders tend to have high status, and it is not beyond the pale to see their preachings as a form of exploitation, a subtle bending of the listener's will to the speaker's goals" (366).

15. McEwan reinforces this impression when he writes that Joe's situation is "a real trial for his rationality and also for his marriage. . . . I want Joe to be doubted by everybody, not just his wife [or] the police but the reader too" (qtd. in Naughtie).

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