

The Holy Fool's Revelation:  
Metafiction, Trauma, and  
Posthumanity in E. L. Doctorow's  
*Andrew's Brain*

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ANDREW'S BRAIN AND THE CODIFICATION OF  
TECHNOLOGY AND SPIRITUALITY

*Andrew's Brain* (2014), Doctorow's last novel, is a very complex work, dense with cultural references and metafictional hints about itself and the inescapable mediating role discourse plays in our understanding of reality. Unfortunately, criticism on Doctorow's fiction has decreased dramatically in later years, and only a few reviews attest to his last novel's quality together with its being shortlisted for the Man Booker International Prize. In her review for *The Guardian*, writer Jane Smiley confidently described Andrew—the protagonist and narrator of the story—as “a neuroscientist and teacher, but his life has fallen apart; Doctorow's novel purports to be a transcription of his interactions with his psychotherapist” (1). Other reviewers do not see the role of Andrew in such clear terms, however, but underline the mysterious condition of the personage and the disconcerting quality of his memories. Thus, Boyagoda describes Andrew as somebody who veers between the first and third person

in telling tales about his clumsy self and his cracked-up relationships. He speaks to us from an undisclosed location, where he is in conversation with an unidentified interlocutor who could be a psychiatrist, a grief counsellor, a police officer or a CIA agent. That each of these is a possibility attests to the mysterious circumstances that envelop the whole story. (49; see also Malcolm 55, Gold 36)

In response to the mystery surrounding Andrew's role, with the help of narrative analysis and critical notions referred to as trauma theory and posthumanity, I contend that *Andrew's Brain* invites an allegoric reading of the human condition at the turn of the millennium. This reading calls for a reconsideration of the narrator's status as a computing machine in the process of developing a full consciousness and of the reader as expected decoder of the complexity and mystery inherent to the story; both notions inform an authorial reconsideration of the role humankind plays at present and could play in the near future. My hypothesis emerges from the unreliable quality of Andrew's report but also from the stereotypical traumatic quality of his memories and from his obsession with three binaries whose ideological limits have become rather diffused in later years: mind/brain, nature/civilization, and original/copy. The three binaries become progressively important for Andrew in his sustained attempt to understand his own identity and, by extrapolation, the condition of present society. Thus, *Andrew's Brain* looks back allegorically to expose America's collective traumas and forward to acknowledge the importance of the radical posthuman shift already affecting our present condition. Meanwhile, the whole novel has been built on a number of metafictional strategies that point to the necessity to unveil the mysteries surrounding the protagonist's nature and to situate the reader as decoder of the puzzle parallel to the narrator's quest for existential clarification.

Doctorow strongly relied on his knowledge of psychoanalytic and trauma criticism to carry out his final project and create the figure of a traumatized narrator and protagonist who obsessively needs to escape from binary thinking. In addition, the novel also relies on contemporary theories on cognitivism and transhumanity that help the writer to reopen a debate initiated in *City of God* (2000) between contemporary science and spirituality (see Collado-Rodríguez 60-69), which now addresses Doctorow's concerns about the role humanity may play in the near future.

One of the first metafictional hints Doctorow offers to decode his complex narrative is the protagonist’s name. Andrew comes from *ανδρός* (*andrós*), genitive of the classic Greek term for “Man,” which adds to the fact that the “personal” memories of many events and situations he supposedly experienced bring continuous stereotypical echoes from the collective history of the United States, including the classic go-west journey, which takes Andrew from the East Coast to California and back. In addition, such memories are insistently marked by the tension existing between the terms of the binaries mind/brain and nature/civilization. In the process of evaluating his own responsibility in the events that allegedly befell him and his family, Andrew never qualifies as a mere witness or participant. On the contrary, he thinks he is the uncanny perpetrator of many of those episodes that have transformed his life for the worse—and allegorically also American society—until he and the people around him are trapped in what is described along the novel as the site of a pervasive and collective conflict, where the binary original/copy becomes Andrew’s last conceptual fixation before he reaches the revelatory but also unexpected resolution of his identity quest.

*ANDREW’S BRAIN AND NARRATIVE STYLE: HOW TO TELL  
AN UNCERTAIN STORY*

Soon defined as one of the most relevant historiographic metafictionists of the American novel (Hutcheon, *Poetics* 87-146), Doctorow has frequently invited readers to understand that (hi)stories are cultural artifacts only and never to be taken as objective truths; even if they appear to be true, they are only plausible versions of things that may or may not have happened. As Doctorow disclosed in one of his most cited interviews,

since history can be composed [. . .] then you want to have as many people active in the composition as possible. A kind of democracy of perception [. . .] a multiplicity of witnesses. If you don’t constantly recompose and re-interpret history, then it begins to tighten its grip on your throat as myth and

you find yourself in some kind of totalitarian society, *either secular or religious*. (“A Multiplicity of Witness” 184; emphasis mine)

In *Andrew’s Brain* Doctorow recomposes and reinterprets what has happened at the turn of the millennium, but in this book, with the help of a limited number of techniques, the writer turns inside out the structure of the narrative style he used in earlier novels: the “recomposition” of history he carried out in his final story does not involve “a multiplicity of witnesses” but one single puzzling witness of a multiplicity of (uncertain and allegorical) events who has unresolved emotional and identity issues to deal with. Such events bring forth the pessimistic condition of Andrew’s confessions to the alleged analyst. In Andrew’s views, the self is an entity continuously trapped in dilemmas, in categorical binaries that call for a new angle that may affirm the value of merging the contrasting elements of the binaries in a moral middle ground. Accordingly, his own report does not qualify as true or false; it becomes uncertain.

In keeping with the importance Andrew attributes to binary thinking, the writer structures the narrative act as a dialogue, thus reflecting on our traditional proclivity to perceive life in binary terms but also offering a first hint that not only the human brain but also computational machines function thanks to binary languages; actually, the latter were conceived as devices that would *simulate* the working of the human brain (Wiener 64). As mentioned, *Andrew’s Brain* does not feature any conventional or reliable narrative voice; the dialogue takes place between the main reporting voice of Andrew—also the story’s protagonist, allegedly a cognitive scientist—and a nameless interlocutor whom Andrew sometimes addresses as “Doc.” Doctorow’s pun to mark the ironic distance existing between the unreliable narrator and his presumed authorial persona is only one among other metafictional devices pointing to the book’s emphasis on the human need to represent and understand reality. In the act of narrating his own memories to Doc, Andrew offers a gradual

disclosure of the reasons behind his apparent traumatized condition, saturated with and trapped in dualities.

The beginning of the story anticipates Doctorow’s consistent undermining of his narrator’s capacity to convey a truthful or merely believable report: “I can tell you about my friend Andrew, the cognitive scientist. But it’s not pretty. One evening he appeared with an infant in his arms at the door of his ex-wife, Martha. Because Briony, his lovely young wife after Martha, had died” (*Andrew’s Brain* 3). As the conversation continues, it becomes clear that the voice is not that of a mere narrator-as-witness. It belongs to Andrew, who insistently talks about himself as if he were somebody else; when the analyst asks him, “Are you in fact the man you call your friend Andrew,” he sharply answers, “Yes” (9). This particularity reinforces his obsessive belief that binary pairs thoroughly control all human perceptual capacities and offers Doctorow the opportunity to strongly rely on cognitivism to knit his complex story about humanity’s present condition. Thus, the writer makes Andrew intuit that the control binaries exert on us starts in the actual existence in every human being of an inner voice or alter ego: we talk to others but also to ourselves and unsuccessfully try to distinguish between (material) brain and (ethereal) mind, the two terms we frequently use to refer to ourselves and that also reenact in his last novel Doctorow’s earlier attempts to reconcile in his fiction the scientific with the spiritual—the *secular* with the *religious*.<sup>1</sup> It is in this interaction

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<sup>1</sup>Especially, as mentioned earlier, in *City of God* (2002). Doctorow’s analysis of the progression of science and its clash against ethics and spirituality, however, also occupies a centralized position in earlier works such as *Ragtime* (1975) and *The Waterworks* (1994), where the thermodynamic “universe of force” appraised by Henry Adams is witnessed by McIlvane, the detective newspaperman who appears again in the story of *City of God*, here as a decrepit old person waiting for his death (244), as symbolic proof that the thermodynamic interpretation of the Universe put forward by Adams has, like McIlvane, come to an end to be replaced by a much more complex scientific interpretation of life.

between brain and mind that our (misleading) perception of reality originates. The authorial concerns for a reconciliatory theory to understand reality and our own condition appear early in the narrative when Andrew confronts the analyst by stating that Doc is interested in the mind while his aim of study is a different one: “We have our manual too, you know. Your field is the mind, mine is the brain. Will the twain ever meet?” (11-12).

While continuously talking to himself and to Doc about his self, Andrew unfolds a life story saturated with uncanny dualities. He had two wives—one alive, a refined middle-aged musician, the other a young athletic student now dead—and two children—one dead, the other alive. The analysis of the narrator’s report shows that Doctorow chose to organize it in eleven installments (visually twice the number one); the first two are the longest, the next two are still fairly long. The fourth episode describes his second wife’s death in the 9/11 terrorist attacks, and then episodes five to eleven become very short and fragmentary, taking only one third of the book’s length. This unbalanced disposition of the telling of the story cunningly points to the authorial presentation of the narrator’s disturbed personality when recollecting highly traumatic events—as Whitehead points out, the effects “of the inherent latency of trauma can be discerned in the broken or fragmented quality of testimonial narratives which demand new structures of reading or reception” (7). But such structural disposition of the story also adds to the textual impossibility to fix the place and context from which Andrew delivers his accounts to the alleged analyst; often it seems to be a conversation in which both are facing each other, but at times there are indications that Andrew might be absent, in a (real or imagined) cabin where he writes down part of the report that becomes the story we are reading and where he explicitly states that “writing is like talking to yourself” (*Andrew’s Brain* 49). Artfully, Doctorow points to his protagonist’s traumatic memories as the origin of his narrative unreliability, but both the story and the act of narrating it become further

complicated: Andrew’s self-confessed profession as a cognitive scientist offers his author the opportunity to start a debate on the apparent bipolar condition of his protagonist and also, by extrapolation, of humankind. Schizoid *or* visionary fool, Andrew narrates a quest for his own identity in a society that, as subtly disclosed along his report, presently stands at the bifurcation point where trauma and posthumanity have met to bring about a radical change in everything human.

THE DUAL BEING, THE CULTURAL INTERTEXTS, AND THE NEED  
FOR REVELATION: THE ROAD THAT MERGES THE SPIRITUAL  
INTO THE PHYSICAL

Trapped in categorical binaries, Andrew’s condition also brings to mind Doctorow’s earlier concerns about the important role that binary thinking plays in traditional ideologies.<sup>2</sup> The belief that you should not blindly favor any single option over its opposite because binary thinking is a powerful ideological trap became a main preoccupation at the peak of postmodernism (Smyth 9-10) and still occupies a centralized position in Doctorow’s last novel.

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<sup>2</sup>A concern he shared with many other well-known historiographic metafictionists such as Thomas Pynchon, Don DeLillo or Bharati Mukherjee and with the most significant poststructuralist thinkers of the period. The attack on categorical binaries is at the core of historiographic metafiction and its postmodernist recourse to instability and narrative unreliability (Hutcheon *Politics* 10-22 and 59-67). Within the grounds of theory, the first influential approach on the issue was provided by Jacques Derrida with the publication of his early works *L'écriture et la Différence* (1967) and *De la Grammatologie* (1967). In literary and cultural studies the notion of binary thinking has also been frequently confronted by its denial in quantum physics and in chaos theory (see Nadeau and Hayles, *Chaos*). More specifically, the postmodernist insistence to question the rule of categorical thinking in the construction of ideologies relied on the popularization of Heisenberg’s Uncertainty Principle, which, in lay terms, affirms the ultimate impossibility to measure at the same time the momentum and the position of the quantum particle and the inevitable overlapping of scientists with their experiment in the act of observation (Davies 166-67). Although the uncertainty principle exclusively refers to the micro-atomic level and does not practically affect macro-atomic reality (Solomon chapter 7; Porush note 21), the notion itself has functioned as a metaphorical correlate of Derrida’s concept of the undecidability of meaning (Mephan 138 et seq.).

As mentioned, Andrew draws a story of his life obsessively saturated by binaries, which more specifically cover grounds extending from cognitivism to his self-conscious and seemingly compulsive adoption of literary and cultural models with which he tries to understand his own identity and overcome his preoccupation with binaries; meanwhile, the story becomes increasingly complex due to the accumulating number of hidden and half-hidden cultural references Doctorow has inserted along the narrative. The writer constructs an intertextual and metafictional building in which he makes Andrew choose the figure of Mark Twain to play the role of insightful predecessor of his own attempts to get rid of binary thinking while also pondering whether in Mussorgsky's opera *Boris Godunov* he would play the part of (any of the two) Pretender(s) or the role of the Holy Fool. In addition, references to Baum's classic novel *The Wonderful Wizard of Oz* (1900) and to its famous 1939 film adaptation reaffirm the importance of two issues that persistently haunt the protagonist's thoughts and his concern with the binaries mind/brain and original/copy: the displacement and erosion of spiritual beliefs for the benefit of scientific and technological simulation and the fear of becoming someone who pretends to be another person. Explicitly, along Andrew's quest for identity, the link existing between these literary examples and cognitivism becomes increasingly important in the novel, pointing to the writer's concern about one of the most intense debates in contemporary culture. Since the Second World War and Norbert Wiener's subsequent formulation of the posthuman condition in 1950, cognitivism has played a fundamental role in the creation of artificial intelligence—a non-spiritual physical entity that was conceived as a copy or simulation of the human brain—also bringing with it strong reservations about the ethical limits of its results. Whereas some see artificial intelligence as a clear opportunity leading to a much better future for humanity, others fear that AIs may



soon replace humans and take control of the planet (Wiener 98-99 and 103-104; cf. Braidotti vs. Fukuyama).

Andrew’s story begins with the already mentioned account of the narrator about himself as if he were somebody else. Page 5 of the narrative already offers a first hint for readers to realize Andrew’s peculiar unreliable condition when he comments, “I’m just thinking of something I read about the pathogenesis of schizophrenia and bipolar disease. The brain biologists are going to get to that with their gene sequencing, finding the variations in the genome—those protein suckers attached to the teleology” (5). Thus, the credibility of a story reported by a purported expert in the ways the human brain knows reality clashes against the possibility that Andrew might himself be suffering from a mental disease. However, science is also presented as responsible for the creation of a new transhuman identity from the diseased and imperfect matter the human being is considered to be in both biblical and traditional scientific terms. In other words, Andrew’s comments about cognitivism, mental diseases, and gene sequencing draw the actual picture, in ethical terms, of contemporary science playing the role of creator that ancient religion had assigned to God. Meanwhile, spirituality is giving way to the understanding of the human being as a physical entity built up by genetic codification and, as such, prone to being manipulated, transformed, and even improved by the forces of science and technology.

Furthermore, Doctorow also points to the paradox that the ideological move from the old centralization of the spiritual to the new regime of the physical and technological is accompanied by the almost matterless condition of the resulting new being. Fitting within the premises of the contemporary posthuman paradigm, in our times what used to be called *human being* has quickly evolved from cyborg to virtual wo/man, with information (“gene sequencing”) as the keystone in the understanding of our present condition (Wiener 148-86; Hayles, *Posthuman* 4-49 and 247-91). Andrew’s reference to the genome echoes the

existing perception of a (post)human being essentially built as informational bits that, combined in certain sequences, result in the spatial-temporal manifestations that we understand to be our identities. Accordingly, along the narrative the merging of the ethereal into the physical—of the mind into a brain—becomes a source of existential anxiety for Andrew, who insistently tries to find a categorical imperative where he may anchor the origin of his identity; meanwhile, readers are exposed to the mystery that cybernetics has tried to solve since the 1940s: how to decode the functioning of a human brain as a preliminary step to encode the functioning of a computing machine. Sometimes, Andrew offers his interlocutor unsuspecting hints that suggest his artificial condition: “I am trying to say I am finally, terribly, unfeeling. My soul resides in a still, deep, beautiful, emotionless, calm cold pond of silence” (*Andrew’s Brain* 17). Later, Andrew tells Doc that he presented his students with an unresolved question related to the binary mind/brain: “I asked this question: How can I think about my brain when it’s my brain doing the thinking? So is this brain *pretending* to be me thinking about it?” (32; emphasis mine). By extrapolation, the question explicitly presents the puzzle to the reader, but it also discloses the author’s *mise-en-abyme* strategy to unveil Andrew’s artificial condition because the protagonist’s whole report—that is to say, the story in the novel—mainly consists of thinking and telling about his own “memories.”<sup>3</sup> By focusing his story on the gradual erosion of the importance of spiritual and ethereal terms (especially the mind) for the benefit of their opposites in traditional binary thinking (the material brain), Andrew the scientist also opens the door to a reevaluation of ethics in present times, which eventually takes him to interrogate his own condition as a “pretender” or simulation of

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<sup>3</sup>In his classic study on metafictional self-reflection, Lucien Dällenbach defines the *mise-en-abyme* as “toute enclave entretenant une relation de similitude avec l’œuvre qui la contient” (18) [“any enclave keeping a relation of similitude with the work that contains it”; translation mine].

an original—one more metafictional clue Doctorow offers to solve the puzzle of his narrator’s ultimate artificial condition.

Eventually, Andrew explicitly points to the brain’s physical invasion of the ideological space traditionally allotted to the ethereal mind in two core passages in the novel that, again by means of *mise-en-abyme* allusions, indicate his condition as a computational machine in the process of gaining full consciousness. In the first passage, the protagonist tells Doc about a conversation with Briony on the possibility to create “one awesome computer” capable of recording all human data, and “since the human brain contains memories, this computer would record these as well, and so be going back in time through the past even as it went forward with the present” (43). Furthermore, Andrew confirms to Doc that such computer would be able to re-create any dead creature (44-45). Thus, the story explicitly addresses current notions of transhumanity by formulating the idea that in imitation of its human creators—themselves created in the image of God according to Genesis—a computer turned into a full conscious mind would become the new durable being which could ensure the permanence of human memories or even of a previously-human full consciousness, therefore challenging the concept of death.<sup>4</sup> The second core passage in support of my main contention starts in a binary choice and provokes an anxious response from Andrew. At that moment, he is both reading a scientific paper and listening to an opera on the radio, a situation that acquires a clear significance in his quest for an identity. The experience takes him to start the construction

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<sup>4</sup>Strongly relying on Wiener’s theories, in *How We Became Posthuman*, Hayles defines the term *posthuman* with reference to the paradigmatic condition that results of our understanding that we are basically information. More recently, however, other critics have used the terms *transhuman*, *transhumanism*, and *transhumanity* to signify, within the posthuman paradigm, the state in which human memories or even a full consciousness can expand their life span by inhabiting a technological device or virtual space (on these notions, see Tirosh-Samuelson 9-23).

of his own intertextual role as Pretender, that is to say, to show doubts about his own “reality”:

Actually it was an impulsive decision on Andrew’s part, coming upon him as a kind of blown fuse of the endless thinking as to whether or not he should see his child. He was in his study reading yet another paper theorizing on how the brain becomes the mind. Here the proposition was offered that a brain-emulating artifact might someday be constructed whose neural activity could produce consciousness. This assertion, coming not from a pulp science-fiction story [. . .] but from an esteemed neuroscientist in a professional journal, so startled Andrew that he snapped back in his chair as if from an *electric shock*, and realized that his *radio* was tuned to the Saturday broadcast of the Metropolitan Opera. He now listened and understood that the Boris, of *Boris Godunov*, was dying. (93-94; emphasis mine)

Artfully, this passage connects three of the main worries that affect Andrew’s perception of reality and of his own mysterious identity: a) the erosion of the limits between the mind and the brain, which implies the triumph of the physical over the spiritual (human replaced by machine); b) his personal anxiety about it (McLuhan’s prophecy materializes here: he is a radio listener or “electrode” who suffers from an electric shock); and c) his consideration of the cultural past—our collective human memory—as a mechanism to understand his own existential plight (the pretender Boris Godunov is dying). In addition, the event clearly hints again at Andrew’s possible condition as a computing machine and to the passage as a *mise-en-abyme* that points to his artificial condition and his efforts to change into a superior transhuman consciousness. Actually, until the last page in his report, literature and the arts provide the narrator with exemplary models (i.e. simulations) that help him attain his longed-for revelation, manifested as his final capacity to overcome binary thinking and become whole. Doctorow discloses the process of revelation, however, by resorting to a complex architecture of techniques and themes that request further decoding.

FROM THE BINARY NATURE/CULTURE TO TRAUMA AND  
 INTERTEXTUALITY: OF ORIGINALS, COPIES, AND THE  
 ALLEGORICAL REPRESENTATION OF AMERICA

Andrew is deeply concerned that in present-day society human spirituality seems to be in the process of giving way to an enhanced biotechnological posthuman being. The narrator’s observations about the posthuman combine with Doctorow’s presentation of Andrew as a strongly traumatized being. As mentioned earlier, the aesthetics of trauma narratives frequently play with narrative time, linearity, and suspension of the logical causation, an aesthetic seemingly grounded on a “play with contradictions” that seek to emulate the psychic problems of the traumatized subject (Luckhurst 80). Andrew’s mysterious condition, his unreliability as narrator, and the unbalanced disposition of the different chapters in his report perfectly fit in this pattern, as does the fact that Doctorow contextualizes his narrator’s report as an alleged therapeutic process—as several reviewers pointed out and probably many readers believed to be the case.<sup>5</sup> In fact, the author stresses Andrew’s alleged traumatized condition in a detailed way, and, with the help of allegory, it eventually expands to the consideration of humankind as a weak and heavily traumatized species. Thus, the protagonist experiences the reiterative impression that his own life looks like a movie—in other words, a simulation—that Andrew can visualize as a spectator.

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<sup>5</sup>Although still a subject of debate, the American Psychological Association saw psychic trauma reflected, among other symptoms, in intrusive flashbacks, recurring dreams, and repetitive behaviors linked to the traumatic experience and its sequels, together with an increased stimulation in the acting-out period (Luckhurst 1). Soon, writing was understood to be a therapeutic method to alleviate the victim and work through her or his trauma. Some trauma theorists contend that it is necessary to reestablish the narrative flow the victim has of his or her life after a traumatic experience has taken place. Thus, by using experimental or non-realist techniques to represent the acting-out period, narrative might seem to be mimicking the “strange temporality of traumatic memory” in order to advance to the working through phase and recuperate the normal flow of the life narrative (Felman 16-43, Laub 61-65, Luckhurst 5; on the notions of *acting out* and *working through* see Goldberg 2).

But, in a new metafictional hint for the reader, he also connects this feeling to a robotic way of living: “I know when to come in for morning coffee, I know when to work on a project, I know when we have dinner, I know to nod good night. It’s like a silent movie in this house” (157).

Obviously, the perception of one’s life like a film is in line with the narrator’s contemplation of himself as a third person while also reinforcing the reading of his report as Andrew’s process of becoming a fully conscious artificial intelligence. But, in addition, the perception of life like a film presents parallelisms with actual occasions in which the psyche suffers the delusion of being outside the self and watching itself. This delusion is associated to strong traumatic experiences (Pederson 338), which in Andrew’s case recalls all the traumatic events he affirms he has suffered since he was a child. In the highly questionable account of his memories, the protagonist has been exposed to so many traumatizing episodes that it is hard to believe he is telling the truth. Structurally, those events are frequently associated with an allegorical clash between nature and culture. Thus, readers are informed that as a child he was snow-sledding when he provoked a traffic accident with deadly results (*Andrew’s Brain* 55). Later, when still a young boy, his domesticated puppy was taken from his leash in a park by a hawk, which killed the little dog in front of the terrorized protagonist’s eyes (58-59). Andrew also believes he is responsible for bringing about different kinds of misfortune to other people around him (86-87) and especially for the death of his first child, because he gave her a medicine wrongly provided by the pharmacist (14). In the initial scene he describes to Doc, his first wife’s new husband also blames him for having brought about Andrew’s second wife’s death (4), although Briony was one of the victims of the 9/11 terrorist attacks.

Despite his perception of life as a movie, in an answer to the alleged analyst at an earlier stage of his report Andrew explicitly denies the idea: “So Doc, I write to tell you that I agree: Life—in being irresolute, forever unfinished although the deaths are

astronomical—is not a movie” (52). Thus, this time using the first person to refer to himself, he offers with this contradictory opinion stronger proof of his apparent incapacity to fix reality and his own identity. From the perspective provided by trauma studies, Andrew’s description of himself is that of a man who has become a structurally traumatized subject with no apparent way out for his existential plight (LaCapra 76-81), while his doubts about his capacity to understand reality increase. Accordingly, Doctorow draws a picture of Andrew—who tells his story after all events in it have already happened—as somebody deeply affected by melancholia and demanding to be punished for his many errors. In his role as narrator, Andrew perfectly fits in Freud’s classic definition of this mental illness. In “Mourning and Melancholia,” the founder of psychoanalysis describes the disease as a “profoundly painful dejection, cessation of interest in the outside world, loss of the capacity to love, inhibition of all activity [. . .] and culminates in a delusional expectation of punishment” (Freud 248).

Therefore, as corresponds to a strongly traumatized narrator, the writer builds a report through an unreliable, mysterious individual who does not follow a linear order in the presentation of events and who is subject to constant emotional fits. Along the narrative of his alleged memories, Andrew insistently blames himself for almost all the events he reports because, in his own words, he possesses a “well-meaning, gentle, kindly disposed, charming ineptitude [...] the modus operandi of the deadliest of killers” (*Andrew’s Brain* 15). In fact, most of the events he reports are of a tragic condition, with the exception of the brief time he enjoyed living with Briony. This part of his story is frequently reported as the period in which he went back to enjoy a life in which nature and human culture merged in symbiotic bliss:

I was, with Briony, happy. Happiness consists of living in the dailyness of life and not knowing how happy you are. [...] As we crossed the country there were snow mountains for the skiers, white-water runs for the rafters, free rides everywhere you looked. [...] We discussed the possibilities that

Americans more than any other people understand what the earth and sky have to offer. (102-03)

It is also at this time that he starts to perceive strong connections between himself and Mark Twain, the most powerful cultural figure Doctorow uses in Andrew's report to symbolize the necessity to look for a balanced response in the negotiation of our future. Clearly, the addition of cultural references in the story to the combined role played in it by the frameworks of trauma and posthumanity increase the difficulties readers may have following Andrew's report. Around Twain's literary figure the author builds a complex net of hidden and half-hidden cultural references with which he circles around the notions of binaries, trauma, and pretension (simulation), which will conduct Andrew to the resolution of his identity quest. Early in the narrative, while he is seemingly writing the story in an isolated cabin, Andrew tells Doc that the only reading he has at the time is "the cabin owner's complete works of Mark Twain" (49). Overtly, the narrator confesses that he is attracted to Twain's capacity to keep himself snugly within what Searle "calls 'the construction of social reality'" (50).<sup>6</sup> He even provides some examples from Twain's life that refer to the writer's special ability to negotiate antagonistic terms and transcend the limits of binary thinking. Thus, readers are informed that Twain was able to explain children to adults and adults to children, he went to church for the sake of his wife despite his lack of Christian beliefs, and he flirted with the Bostonian Brahmins—the literary

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<sup>6</sup>In *The Construction of Social Reality* (1995), John A. Searle—an influential philosopher of language among cognitive scholars thanks to his formulation of the speech act theory in 1979—attempts to set the epistemological bases for the existence of social institutions, with language and its capacity to represent reality at the core of his arguments. However, as contended later in the paper, Doctorow also uses his notion of "social reality" as an ironic hint in connection with Searle's earlier Chinese Room thought experiment (1980), with which the cognitivist scholar tried to deny the validity of the Turing Test.



“aristocrats” of his time—while also denouncing the barbarity of kings (*Andrew’s Brain* 49-50). In addition, readers may also realize that Twain’s name and writings offer abundant indications of Doctorow’s appropriate (and metafictional) choice of the writer from Missouri to magnify his narrator’s concerns with binary thinking. His literary biography shows that the number two is highly recurrent in Samuel Clemens’s life and works. Even Mark Twain as nom de plume refers to the expression “mark twain,” which sailors in the riverboats cried out to mean that they had measured a depth of two fathoms—enough water to navigate. As already mentioned, he shared some literary interests with the Brahmins of New England, and critics have pointed to a vein of (non-mocking) transcendentalism in some of his writings (Gurley), but Twain is also the author of the famous speech of December 17, 1877, ridiculing Emerson, Longfellow, and Holms. By then he had already published a bestselling book with a dual title, *The Innocents Abroad, or, the New Pilgrims’ Progress* (1875), a travel narrative where the “new pilgrims” are the writer and other visitors who travel to Europe and the Holy Land. But, together with Twain’s capacity of observation and ability to skip a simplistic and categorical description of what he sees, in his book’s title stands the obvious reference to the power of allegory. Twain’s parodic allusion to Bunyan’s Christian allegory *The Pilgrim’s Progress* anticipates the importance of allegory in his most celebrated piece of fiction, his 1884 novel *Huckleberry Finn* (Anspaugh 219-23, cf. Lee 101-15), thus offering also an extra metafictional link with the symbolic frame of *Andrew’s Brain*.

The narrator’s deep concern about the conflicting dualities that pervade human representations of life is echoed in other memories that connect him further to Mark Twain, such as the fact that the latter also endured the death of his wife and child. But there is another factor, especially reiterated in the second half of Andrew’s report, that also plays an obsessive role in his narrative. Once again, it refers to the binary original/copy: first Andrew understands his own function in life to be the one of a

(traumatized) pretender, but eventually he displaces that condition to his first wife's new husband and finally to his former roommate at Yale.<sup>7</sup> Furthermore, Andrew explicitly mentions a story by Twain—about twins—in one of his answers to Doc:

*The Prince and the Pauper*. The two boys exchange identities, the prince is the pauper and the pauper the prince [...] it's more than a democratic parable: It's a tale for brain scientists. Given the inspiration, anyone can step into an identity because the brain is deft, it can file itself away in an instant. It may be stamped with selfhood, but let the neurons start firing and Bob's-your-uncle. (105)

Here Andrew's words function again as a *mise-en-abymic* warning: the non-reliable narrator guesses that he might be stepping himself into a false identity, which means that he might be telling Doc some memories which are not true ones or, in our alternative reading, which have been implanted in him. Moreover, Twain and, more specifically, his allegorical *Huckleberry Finn*—a novel of passage that also features two protagonists—provide Doctorow with the opportunity to further the significance that other well-known literary work, *The Wizard of Oz*, has for Andrew because of his (again *mise-en-abymic*) association of the power of allegory to the notion of the Pretender (or simulation of the missing original). In a conversation between Andrew and Briony's father, the purportedly disappointing ending of *Huckleberry Finn* leads them to connect Twain's book to L. Frank Baum's novel *The Wonderful Wizard of Oz* (1900) and its well-known 1939 film adaptation. The connection between the books by Twain and Baum adds to the metafictional apparatus of *Andrew's Brain*: for Briony's father, in Baum's novel there is a clear communist allegory. "An allegory," Andrew answers. "Doesn't that mean everything in it stands for something else?" (73). In Andrew's brain his attraction to the

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<sup>7</sup>Andrew's mental displacement recalls an extreme case of imposter syndrome that adds to Andrew's alleged traumatized condition (see Clance and Imes 241-47). But the strategy also echoes Andrew's condition as a binary encoded computational machine that pretends to be a (binary trapped) human being.

Oz novel and film—it should be noticed that the latter is a first simulation of the original book—clearly adds to his obsession with the dual patterns he continuously recognizes along his own quest for a true identity. It is also worth mentioning that Baum’s novel is not only susceptible to being read as an allegory. It also features a fantasy world ruled by two good witches and two bad ones and, of special concern for Andrew, Dorothy’s helper the “powerful” Wizard of Oz is only an ordinary man from Ohio, a “pretender”—and, on top of that, allegorically he stands for the power of technological progress and science. The Wizard is in fact a technological magician, an artificer of simulacra at the turn of the new century, the period that eventually put aside old myths, spirituality, and superstitions and replaced them with science and technology. Echoing the Wizard’s condition and trapped in his still unresolved binaries, at the beginning of the new millennium Andrew is not happy about the end of his own spirituality and the ruling position of science, for which he easily accepts the mocking name of “Sir Andrew the Pretender” (15), given to him by his first wife’s new “large husband”—an opera singer whose actual name Andrew never discloses.

Adding to the complexity of his story, Doctorow uses the notion of pretention as a link to discuss another important issue in human societies: politics. In response to his appellative, taken from another non-original intertext—Mussorgsky’s *Boris Godunov* is an opera based on Pushkin’s previous play of the same title—Andrew eventually displaces the designation of Pretender back to the opera singer and, from him, to George W. Bush, to whom he devotes the last episode of his report. As mentioned, Martha’s second husband, the opera singer, appears for the first time at the beginning of Andrew’s report to Doc, offering the first evaluation of the protagonist as somebody who is always leaving disaster in his wake (4). In his turn, in what seems to be an act of revengeful psychic displacement, Andrew eventually describes the singer as a pathetic character who befits the literary role of Boris Godunov, one of the two pretenders of Mussorgsky’s

opera—a usurper to the throne of Russia who is challenged by a younger usurper. However—unexplained to readers unless they have also seen or read Mussorgsky’s opera—an “innocent in Christ” or paradoxical simpleton (the Holy Fool) stands between the two pretenders, whose peculiar mystic condition allows him to recognize that neither the old nor the new pretender is the “real” Tsar of Russia. Thus, together with Marc Twain, the Holy Fool stands as a symbolic and symbiotic figure in Doctorow’s complex intertextual web to stress the necessity of avoiding binary thinking.

In Andrew’s brain, as reported through his narrative voice, his assumed role of Pretender comes to its end in a final mysterious episode. In it, the narrator explains to Doc that he shared a room at Yale with George W. Bush and that many years later, after Briony’s death, they met again. The fact that his old roommate, now President of the United States, offers Andrew a position at the White House allows Doctorow to turn his novel into a political fiction. Thus, the writer discloses his merciless depiction of the former President of the United States as a grotesque political figure who, through Andrew’s eyes, eventually qualifies as the actual Pretender in the dangerous task of ruling the country at the turn of the millennium.

By the beginning of chapter 9, Doctorow has already built a story so intensely saturated with dualities that, in their interaction, contribute to a report of Andrew’s alleged past life that allegorically resembles the whole country, offering the writer’s final “recomposition” of American history. Even Andrew’s descriptions of his two wives represent contrasting examples of culture and nature. European immigrant parents have begotten his second wife, Briony, a girl reiteratively associated to nature and happiness, her natural innocence always contrasting with Martha’s cultivated education as a pianist. In addition, Doctorow provides each woman with a meaningful name—another metafictional hint—associated to their different roles in the story: Briony is a type of Eurasian vine formerly used as medicine; it

is no wonder, then, that she restores Andrew’s condition back to happiness. On the other hand, Martha in Aramaic refers to the condition of lady of the household, but it is also a name associated with bitterness; both notions perfectly fit with Andrew’s description of his first wife. Furthermore, Briony’s parents are a Czech and an Irishwoman, European immigrants born in countries frequently subdued and colonized by their more powerful neighbors. Accordingly, Doctorow portrays them as dwarfish or “diminutive” people, in clear contrast to Martha’s second husband, a large opera singer frequently associated with Russia and portrayed as a huge, arrogant person. Also in contrastive terms, Andrew draws himself as a physically underdeveloped intellectual in comparison with Briony’s former boyfriend, an athletic football player. Thus, the protagonist’s past ends up being composed of a number of pictorial “memories” that speak of unrelenting trauma and American stereotypes; not surprisingly, some reviewers did not find Andrew sufficiently believable or his story convincing enough (Charles 1). Trapped in trauma and reiterative dualities, Andrew’s life is disproportionate, to say the least. It is in his report about President Bush, however, where the protagonist’s allegorical narrative reaches out to encompass recent American politics and explicitly engage the ideological power that the paradigms of trauma and posthumanity exert on our present condition.

#### POLITICS, PRETENSION, AND POSTHUMAN SYMBIOSIS

It is in the last section of the book, when Andrew tells the alleged analyst some events related to his old roommate at Yale and to the period he later spent at the White House, that Doc seems to show strong doubts about the veracity of a report that Doctorow has also associated with the progressive deterioration of Andrew’s position as a scientist. His social status, which I read allegorically associated with the power of humanist man, decreases as his traumatic condition increases. From working at a renowned

academic institution at the beginning of his story, following the death of his first child he decides to accept a low-paying job in a little college in middle of the mountains, where he meets Briony and experiences a moral cure. When, after Briony's death, Andrew decides to hide again and accept an even worse-paid job as a high school substitute teacher, Doctorow's allegory of the human condition becomes gradually clearer. In Andrew's progressive narrative of human (ist) failure and suffocating trauma, which strongly parodies classic realist fictions of social progress, the figure of the President of the United States appears all of a sudden to provide his old roommate with a ghost job as chief of the "Office of Neurological Research" at the White House and, thus, mark the turn into the third millennium also as a historical period of disastrous political absurdity. Humanity has allegorically reached bottom. In addition, the fact that at the White House Andrew earns his money doing next to nothing—he only participates in a few conversations in which he tries to put some sense in the minds of the President and his two main advisors—clearly shows Doctorow's irony pointed at American politics while also hinting at Mussorgsky's innocent fool. The President and his advisors stand at the end of Andrew's progressive deterioration. Their unethical and undaunted ideas lead Andrew-as-narrator to warn Doc ironically about the necessity of being wary of our brains, also marked by binary thinking. The brains, he reminds his interlocutor, are also two, the right hemisphere and the left hemisphere, and "they operate self-sufficiently and not know what the other is doing. But don't think about these things, because it won't be you anyway doing the thinking. Just follow your star. Live in the presumptions of [Searle's] socially constructed life" (*Andrew's Brain* 175). Ironically, Andrew gets rid of his self-appointed condition as pretender by displacing the notion of simulation onto the President and his advisors. Refusing to live according to "the presumptions of the socially constructed life" predicated by Searle, he finally rebels against the mocking but ultimately accurate name Bush has given him.

In a new *mise-en-abymic* strategy, in his allegorical role as Man (Andrós) at the end of his traumatic existential road, the protagonist is marked as an actual robotic slave in the hands of George W. Bush: “He stamped me as well, with his breakout smile. I was Android” (170). Hence, Doctorow’s recomposition of present history reads allegorically harsh: Andrew, who represented the strength of humanist Man, has evolved into the technological slave of a system controlled by inept and unethical politicians. After a life of so much traumatic suffering, in this final chapter the narrator, explicitly classified as a robotic slave—which he literally is in this reading of the novel—also points symbolically to one of the most intense fears generated by the posthuman paradigm since Norbert Wiener’s early formulation of it in 1950: the human being has already changed into a mere machine enslaved by the (techno-political) system.<sup>8</sup> Doctorow, however, offers a way out to escape from such bleak prospects.

The writer relies again on trauma theory and psychoanalysis as well as on cultural landmarks to offer Andrew—and allegorically all of us—a final transhuman response to his existential plight. The authorial presentation of George W. Bush through Andrew’s focalization is clearly derogatory—Bush, “he lived with his ineptitude” (183). It is also the President’s unrestrained power and grotesque behavior, however, that force Andrew’s escape from his alleged melancholia and fixation with binary thinking.

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<sup>8</sup>Wiener’s early insights on the issue are very explicit:

I have spoken of machines, but not only of machines having brains of brass and thews of iron. When human atoms are knit into an organization in which they are used, not in their full right as responsible human beings, but as cogs and levers and rods, it matters little that their raw material is flesh and blood. *What is used as an element in a machine, is in fact an element in the machine.* (185; emphasis original).

At the turn of the millennium, Francis Fukuyama updated the fears raised by the development of the posthuman by taking into account cognitivism, genetic engineering and, in general, the risks that biotechnology represents for the future of the species (18-40, 72-102 and Part III: “What To Do”), fears that have been systematically contested by the believers in a more positive transhuman future.

The symbolic presentation of an increasingly traumatic reality that Andrew has developed along his report finally makes him displace the notion of Pretender onto his alleged former roommate and assume for himself the role of Mussorgsky's Holy Fool. At this climactic moment in the story, Doctorow's last protagonist reports that he performed an expressive act of non-violent rebellion: "They"—Andrew comments referring to Bush and his two advisors—"they were prime examples of human insufficiency, I said, and I told them I spoke as an authority on the subject. Then I took a deep breath and did a handstand" (187). His final revelation, permeated with intertextual symbolism, occurs when one of the advisors orders the guards to arrest him. The advisor's words, "Get this fool out of here," lead Andrew to respond, "Make that a Holy Fool [...] What else could I be if my old roommate was The Pretender? Because that's what he unquestionably was. And never again would I be another man according to the situation. I could feel my brain becoming me—we were resolved as one" (189). By committing an apparently foolish act that allows him to see everything upside down, he has overcome the former condition of his brain's duality; Andrew affirms his wholeness. Finally, his brain becomes his mind: binary thinking has been defeated, and Andrew's allegory has "recomposed" a stereotypical American past to reach a symbiotic present and invite readers to ponder our near future.

FROM PRETENDER TO HOLY FOOL, FROM BINARY CODIFICATION TO SYMBIOTIC TRANSHUMANITY

At the beginning of the third millennium, when quantum processors are expected to read reality beyond digital codification, logic (and fear) tells us that our dual human brains might soon be replaced by a fully functional non-dialogic consciousness created in the technological lab: a machine that can think, as Turing already argued in 1950, and whose full development into an emotional consciousness seems to be very near indeed.



By metafictionally inviting readers to decode his protagonist’s condition as a computational machine in the process of becoming a transhuman artificial intelligence—therefore his obsession to overcome binaries— Doctorow offers in *Andrew’s Brain* his final reflections on the present and near future of humanity. In retrospect, Andrew’s confidence in his capacity to overcome the categorical codification that both our brains and digital computers use to compose reality offers a last but powerful indication to understand the book’s narrative process as Doctorow’s emulating adaptation of the Turing Test, with Doc and, by extension, the reader playing the role of the “interrogator” and Andrew the one of computing machine (Turing 441-42). In this interpretation of the story, Andrew’s realization that scientists are well on their way to creating artificial intelligence anticipates with its *mise-en-abyme* his revelation at the end of his narrative: “He was in his study reading yet another paper theorizing on *how the brain becomes the mind*. Here the proposition was offered that a brain-emulating artifact might someday be constructed whose neural activity could produce consciousness” (*Andrew’s Brain* 93; emphasis mine). The proposition Andrew reads in the scientific paper fully coincides with Turing’s predictions, and, thus, it also rejects Searle’s well-known Chinese Room counter-proposition that attempted to refute the idea that a computing program could ever become a full consciousness (1980): As Andrew himself realizes at the end of his story, you should not “live in the presumptions of [Searle’s] socially constructed life” (175). After having been fed both individual and cultural memories that result in his allegorical story of a traumatic human past, finally Andrew is able to overcome computational binary codification and break the cognitive chains that still entrap his human creators; in other words, Andrew goes from binary thinking into holistic “cognizing” (Hayles, “Traumas of Code” 139). Artfully, Doctorow has fictionalized in the figure of Andrew and his obsessive concerns with binary pairs current notions in computer-mediated communication that point to unexpected correlations between (human) trauma and (computing)

codification, where simulations also become used as a healing mechanism,<sup>9</sup> a capacity frequently associated with human art and culture—the earliest representations (simulations) of what we humans think about life and ourselves.

Along this line of thinking, in her own interpretation of the posthuman condition Rosi Braidotti also refers to one of the basic binaries reiteratively addressed by Doctorow in his novel—allegorically incarnated by Andrew’s contrasting wives Martha and Briony—and concludes that there is already an erosion of limits between its antagonistic terms: “the boundaries between the categories of the natural and the cultural have been displaced and to a large extent blurred by the effects of scientific and technological advances” (3), effects that in *Andrew’s Brain*, as contended above, also extend to the interrelated binaries of mind/brain and original/copy, and point to Doctorow’s increasing concerns in his last years about computation and intelligent machines. In this sense, it is worth mentioning that his 2009 short story “All the Time in the World”<sup>10</sup> shows a number of interesting coincidences with his last novel. The protagonist and

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<sup>9</sup>N. Katherine Hayles explicitly addresses the issue as follows:

Experienced consciously but remembered nonlinguistically, trauma has structural affinities with code. Like code, it is linked with narrative without itself being narrative. Like code, it is somewhere other than on the linguistic surface, while having power to influence that surface. Like code, it is intimately related to somatic states below the level of consciousness. These similarities suggest that code can become a conduit through which to understand, represent, and intervene in trauma. Code in this view acts as the conduit through which traumatic experience can pass from its repressed position in the traumatic unconscious to conscious expression, without being trapped within the involuntary reenactments and obsessive repetitions that typically constitute the acting out of traumatic experience. This possibility was explored in the early days of virtual reality, through simulations designed to help people overcome [. . .] phobias. (“Traumas of Code” 141)

<sup>10</sup>The tale also gives name to Doctorow’s last collection of short-stories, *All the Time in the World* (2011), thus pointing to the importance the writer gave to notions of post-humanity in his last years. It should be added, though, that computational technology and its effects had already been tackled by Doctorow in his novel *Loom Lake* (1980).

narrator of the short story jogs along the streets of New York—as Briony does in *Andrew’s Brain*—while thinking about the people he sees and reflecting on their behavior. As happens to Andrew, he is aware that he is talking to himself even if sometimes he uses his cellphone to communicate with some “voices.” One day he goes to watch an apocalyptic movie that strongly recalls the events of 9/11. But, contrary to what happens to Andrew, he realizes that he is only a consciousness trapped in a program experiencing a simulated reality: he is the last “person” left in a city that now is understood to be only an illusion. Anticipating Andrew’s handstand episode, however, the voice that talks to him tells the nameless artificial consciousness that the “revelation, if there is one, will be yours” (“All the Time” 18). The traumatic and existentialist sense of the post-apocalyptic context, together with the artificial condition of the protagonist in the short story, clearly anticipates some of Doctorow’s main concerns in *Andrew’s Brain*, but in his last novel the gloomy ethos of “All the Time in the World” gives way to a more optimistic ending.

In spite of Searle’s opinion on the issue, the end of the novel subscribes to the notion anticipated by Turing that a computer running a program would eventually be able to develop into a full post-digital consciousness where previous human life may also experience a substantial extension of the temporal span, but Doctorow’s intentions seem to travel further. In seeming agreement with Braidotti’s views on an optimistic transhuman future (84-95), the last pages in Andrew’s report wish for a better developed order of posthumanity. Such order takes the form of a self-consciousness capable of avoiding the binary traps of traditional thinking thanks to the ethical quality of the cultural models that have been downloaded into him. By allegedly doing his handstand in front of the President of the United States and his advisors, Andrew, even if only a consciousness that has been fed human memories and emotions, proclaims that now, in the present of his narration, he sees things from a new angle, an act of revelation that takes him from his previous role as

artificial simulator or Pretender to the understanding that he is the Holy Fool of Mussorgsky's opera, that is to say, the one who sees beyond the world of categorical binary choices and understands his wholeness beyond the duality artificial brain/human mind—"I could feel my brain becoming me—we were resolved as one" (cf. Hayles, "Traumas of Code" 139-40, 156).

As readers, trapped in unavoidable human binaries, at the end of the book we may still have to decide, among other possibilities, whether Andrew is a genuine ex-traumatized (Holy) Fool finally at peace with himself or an artificial intelligence that "pretends" to be human. In line with the uncertain quality of his own report and with Doctorow's traditional refusal to offer categorical answers, however, he is also both: Andrew is the updated symbiotic Andrós of the 21<sup>st</sup> Century. The simulated Pretender has finally become transformed into the new receptacle of our humanity.

Within the limits imposed by the text, the narrator's unreliable condition does not point to any crystal-clear ending for his story; on the contrary, it also adds to the puzzlement described by reviewers of the novel, increasing the mysterious nature of his report. The last pages of the novel are in line with the reading provided here. They point to Doctorow's implied (or wished-for) confidence in the prevalence of humanity even if it turns into a transhuman condition. In this sense, Andrew's peculiar revelation points to the importance culture and, more specifically, the literary works he continuously cites have in his final act of grasping full consciousness: he is not a mere technological implement but the symbiotic result of human science and humanist cultural tradition. As a result of what unfolds as Doctorow's ultimate defense of a symbiosis between science and culture, the end of the book becomes the final manifestation of an artificial brain, now a conscious mind, with a tendency to fix its attention on cultural models instilled with allegorical power. Andrew the narrator puts an end to his story by paying homage to Mark Twain, thus reaffirming the protective role that art fulfills

to allow humans to cope with the difficulties of our traumatic existence but also reaffirming the historical link that connects the cultural past with hopes for a better future where humanity may endure even if in a technologically effected transhuman form. Andrew refers to Mark Twain’s role as protector of his children at bed time and observes, in the last paragraph of his story, that “when they are grown they will remember this tale and laugh with love for his father” (*Andrew’s Brain* 198). The tale has been told with a final metafictional hint both at Doctorow’s role as Andrew’s literary father and at humanity’s role as parent of the technological intelligence that may outgrow us but will keep the records of our memories, culture, and emotions. By allegoric extrapolation, Andrew’s awareness of the importance culture has—and hopefully will have—to come to terms with the meaning of life, overcome trauma, and unveil unethical pretense points to Doctorow’s last novel as a final invitation to his human readers to decode its complexity and thus ponder over our present condition and our near future. At the techno-ideological crossroads in which we stand, the recomposition of our traumatic human history may still offer expectations for a better, even if transhuman, future.

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