

Borges and Memory: Encounters with the Human Brain. By Rodrigo Quian Quiroga (Cambridge: MIT Press, 2012), ix + 213 pp. \$24.95 hard cover.

I am this brain...

In the course of a life dedicated to belles-lettres and, occasionally, to the perplexities of metaphysics, I have glimpsed or foreseen a refutation of time, one in which I myself do not believe, but which tends to visit me at night and in the hours of weary twilight with the illusory force of a truism. This refutation is to be found, in one form or another, in all my books.¹

Borges and Memory feels like a quest to find out what makes scientists tick... [it] is the perfect way to get inside the mind of a researcher.²

As Maria Kodama, Borges's widow and owner of his estate, writes in her foreword, Rodrigo Quian Quiroga's *Borges and Memory* is mostly a book about how the insights gained in contemporary neuroscience of the human brain and the functions of memory have to a certain extent been anticipated by literature and philosophy. Borges's character "Funes the Memorious" plays a special part in Quiroga's understanding of how "Borges's work... relates to neuroscience and how the one pollinates or foretells the other" (viii). Indeed, for Quiroga, Funes serves mainly as an allegory of all those case studies used by neuroscience to understand the functioning of the human brain through its dysfunctions. Kodama in her foreword also explains what is at stake in this undertaking: "Quian Quiroga fathoms two of the fundamental themes running through 'Funes the Memorious' that are essential for the development of humanity: abstraction and forgetting" (viii). We are thus concerned with the very "humanism" of "our humanity", at a time when "we" are undergoing fundamental transformations in our new abilities and also new inabilities to remember and to forget – a historical and cultural context that Quiroga himself foregrounds, and in which neuroscience and the neuroscientist are playing a major part, both as an "actor" and as an "observer": "the cyberworld in which most people are immersed nowadays is sometimes crammed with undigested information, just like Funes's brain... our world occasionally serves us with a hodgepodge of ideas, images, bits of news, coming at us relentlessly, incoherently, and we end up in a virtual world that alienates us ever more and takes us ever further away from what really makes us human: reflection, the ability to distance ourselves from our surroundings so we can calmly ponder and try to understand even a tiny point, the universe" (ix).

Quiroga, the neuroscientist, thus tells us that we're in danger of becoming Funes. It is worth quoting the following paragraph from Quiroga's concluding chapter at length to spell out the context in which he decides to place his return to Borges:

In this twenty-first-century reality, in which we are constantly bombarded with information, where emails relentlessly alert us to all sorts of messages and we frantically follow the latest Facebook postings day to day, hour to hour, where news channels provide information 24 hours a day, seven days a week, and in mere seconds we switch from someone's tragedy to sports highlights and then to the weather forecast; in this cyberworld in which we must check and answer every text message as it arrives, where it is inconceivable to write a letter in longhand – partly because we barely know how to use a pen any more – where it is easier to meet someone in an online chatroom than in the real world; in this Funes kind of world, where the information overdose overwhelms us and we hardly have any time to think, where we barely perceive the passage of time and fate takes us through our lives and we hardly ever wonder why we do what we do; in the madness of our days, having these imaginary discussions with Borges

and following his thoughts and his readings gave me the break I had long needed to step aside for a while and see things in perspective... in this twenty-first century, amid the madness of an overwhelming reality, of something that goes far beyond our specific treatment of memory, the story of this *compadrito* from Fray Bentos is astonishingly contemporary. (200-1)

Let us spell out the implications of the train of thought at work here and the motivation behind the neuroscientist's outburst or even "moral panic", including his reasons for turning towards literature in general and Borges in particular, as remedies. What is therefore also at stake in this book is the relationship between science and literature at a time when the one – namely, science – has been one of the main driving forces behind the acceleration and "memory" trouble that Quiroga, somewhat ironically, identifies as his motivation for writing this book, while the other – namely, literature – is very much under siege, it seems, precisely because of these scientific developments, and comes to be seen as a kind of refuge or remedy, as a safe-haven and thus the recovery of memory, i.e. the "archive" of true humanity. The rationale behind the neuroscientist's (re)turn towards literature is therefore motivated by a humanist "re-remembering" of the human. It presumes that it was literature that made us human and thus might make us so again.

This is in fact standard humanist "common sense" – and it is also something that has been vigorously challenged in literary and cultural theory for the last four decades at least. It is based on a Romantic and nostalgic notion of music or literature, poetry or art as expressions of true human genius or as articulations of the essence of what it means to be human – an ideology referred to as "liberal humanist common sense":

Common sense proposes a humanism based on an empiricist-idealist interpretation of the world. In other words, common sense urges that 'man' is the origin and source of meaning, of action, and of history (*humanism*). Our concepts and our knowledge are held to be the product of experience (*empiricism*), and this experience is preceded and interpreted by the mind, reason or thought, the property of a transcendent human nature whose essence is the attribute of each individual (*idealism*).³

The theoretical humanities, the new sciences, but also popular discourse and the media have not so much abandoned but problematized, sometimes even by-passed the kind of liberal humanism (or common sense) that Catherine Belsey and, with her, critical and cultural theory more generally, have been unmasking and denaturalizing as a harmful "ideology". For better or for worse, it seems that even though this common sense is still very strong – and it is certainly at work in those passages of Quiroga's book where he looks to Borges as a (re)humanizing force in the face of the general Funesisation of the world – the consensus that has been underlying it (namely the idea of an essential "humanity" and human exceptionalism) has been giving way to what more and more frequently is referred to as "posthumanism".

This means that there is an interesting tension at work in *Borges and Memory*: it is narrated by a scientist researching and discovering the human brain from a neuro-bio-digital perspective – which itself might be understood to be part of a posthumanist undertaking, because of the fact that at various levels it involves an assemblage of humans and machines at work in a scientific, capitalist and technocultural "post-idealist" context. And this scientist has now become disenchanted with the general feeling of global connectedness and presentism of his time – a time that his science continues to be heavily implicated in bringing about. The so-called "neurological turn" or "the century of the brain" is the

making of neuroscience and is at least partly responsible for its cultural and economic implications within society. And the role of the scientist in this process is probably that of one of the most important "nodes" – to use one of the most influential metaphors of our "network society", created and supported by digitalization and new media. The "neuronal" model is an emblem of this global connectivity that shifts information from the science lab to the computer screen via all sorts of media and cultural channels including cinema, science magazines, television documentaries, and also literature (and by no means exclusively the kind of literature that is classified as "science fiction"). And this is where Borges comes in again.

Quiroga indeed foregrounds the legitimating aspect of the book by saying: "Most people, I believe, would find it difficult to guess what a scientist does day to day" (p. 1). He sees an affinity between the scientist "wander[ing] about in a universe of ideas and experimentation" (2) and Borges, "who reached astounding conclusions guided only by his reasoning and his prodigious imagination" (4). "It is not uncommon for a scientist to be interested in Borges..." (4), as Quiroga justifies his attempt to link neuroscience with Borges's "*fantastic realism*" (5), through the idea of a humanist "quest": "the human brain is the most complex and elusive mystery of science, the truth is that the quest to understand the brain is ultimately the quest to understand ourselves" (4).

The neuroscientist thus finds himself in a somewhat special situation, namely as the "*homme neuronal*"⁴ *par excellence*. He *is* the brain trying to understand itself, trying to establish knowledge about knowledge as such – a point of departure that Catherine Malabou uses in her critique of the implication between capitalist "flexibility" and neuronal "plasticity": "nous restons étrangers à nous-mêmes, au seuil de ce 'nouveau monde' dont nous n'avons aucune idée alors qu'il constitue notre *intimité*, du dedans de 'nous'".⁵ The question that Malabou asks is how to turn this knowledge of the brain into a new consciousness *of* the brain and how to use this consciousness *against* neuro-capitalist limitations and cognitive exploitation.⁶ And this is precisely where the neuroscientist becomes much more than just another cogwheel in the history of technoscientific capitalism. He in fact becomes the primary neuronal subject – the first subject *of* neuroscience.

It is therefore interesting that this subject-scientist, "intrigued" but also emboldened by his temporal vantage point – "This is the ideal time to study the brain" (4) – and by the vector of scientific progress: "What was science fiction a few years back is becoming fact at a vertiginous pace" (4) – decides to turn to literature to pay his "debt". One can, however, read the relationship between science and science fiction in more than one way and given today's "acceleration" and ambient "futurism" it, indeed, becomes more and more questionable whether a simple model of "anticipation" of the imagination and "realization" of scientific practice can be upheld. Whether fiction informs science or the other way round and at what level fiction is implicated in science is difficult to disentangle these days. So the triumph of science quickly turns into anxiety: "I am an astonished scientist who wants to know better the man who helped him organize his ideas" (6). This calls for reassurance, which two sentences down comes in the form of a most forceful avowal, and which also serves to reinscribe a clear difference:

Borges was not a scientist, but his passion for literature and philosophy led him to study psychology and the workings of the mind – and here I use "mind" instead of brain to highlight a more philosophical connotation. I took the opposite road: starting from current open questions in neuroscience I was led by Borges's readings to the foundations of psychology and philosophy. (7)

In fact, the marked difference between "mind" and "brain" is supposed to create a link (through "philosophy" and "psychology") while at the same time it guarantees scientific "ownership" of the "brain". Science and literature are certainly affiliated but also infinitely separate, according to this logic. So why be interested in literature at all, then? And this is, of course, where the "fictionality" of literature is reinscribed into the most fundamentally "human" reflexes: "This is neither a book about Borges nor a textbook on memory; rather, it stems from my urge to tell a story that I find fascinating" (7-8). Is it a debt, the scientist wishes to repay to literature? Is it an attempt to recoup the power of fiction and to replenish the exhausted "posthuman(ist) scientific self"? Is it an uncanny familiarity between the author's "imagination" and "anticipation", and the scientific construction of the future? It is probably all of these. Quiroga uses the term "catalyst", but as a metaphor – i.e. in its "non-scientific" use – the notion of catalyst remains by definition very mysterious:

I am not trying to force a link or suggest that Borges foresaw modern neuroscience. Neither am I attempting to overpraise Borges or judge him beyond his perfect prose and his extraordinary intuition in dealing with a topic as engrossing as memory. Borges is perhaps the catalyst that persuaded me to tell a story, a story that must inevitably begin with Funes the memorious... (8)

This is quite an accurate description of what is to come – and Quiroga's story is indeed fascinating – both because it is well written and instructive in an almost intuitive sense. He successfully links the character of Funes with classical medical case studies on "extraordinary memory", while at the same time providing the philosophical background, from Aristotle to William James, with the occasional reference to contemporary popular culture (most prominently, Quiroga's most important contribution to neuroscience itself, namely what he calls the "Jennifer Aniston neuron"). He opens up the big questions that fire the neurons of the neuroscientist as much as those of the philosopher, the psychologist and the fiction writer: what is memory? Where is memory located? What is the relationship between remembering and forgetting?

And it has to be said, of course, that Quiroga is not the only one wishing to repay a debt to Borges. There is indeed something about Borges and prefiguration. In *Prefiguring Cyberculture*, Darren Tofts claims Borges as one of the major literary precursors of virtual reality and thus also of the kind of cyberculture from which Quiroga seeks a release:

The passage from Plato's cave to Borges's cellar is a long one, but the quest to understand and accept the real as a postulate of the virtual, the "as if", is much the same. Borges's Aleph is a vision of the infinite, a way of seeing all things glimpsed in an instant. Such "allatonce-ness" is a reminder of what the real has become in an age dominated by electronic communication and media networks, a real apart from the real, a virtuality reducible to nothing outside itself and as compelling as the voice on the other side of the line...⁷

In our own work we have attempted to draw even closer ties between memory, prefiguration and the "posthuman" in Borges: "For though Borges speaks scantily of technology and hardly at all of the cybercultural futures that it makes possible, his speculative fictions and other prose writings contrive glimpses of posthuman conditions... Much of this has to do with the way in which many of Borges's writings are really experiments in how to make thinkable the impossible and the unconfigurable. The posthuman, as that which reconfigures the actual and the possible once technology reengineers human potential and institutes a new order, is therefore everywhere in Borges."⁸

It is therefore not surprising that, like Quiroga in *Borges and Memory*, central motifs like the infinite labyrinth, the scenario of the forking paths, the aleph and Funes's "cyborg memory" keep resurfacing at a time when a certain (humanist) idea of what it means to be human is under attack. What is easily forgotten, however, is that it already is under threat in Borges, and in literature more widely, throughout the twentieth century. Science and technoculture can thus be seen as mere "actualisations" of literary fictionality (or as "virtuality before the virtual").

What about literature, then, and its relation to science? There is of course not one literature, nor one science – both are the sum of their practices. Borges's "fictions" are the work of a "literary philosopher"⁹, a "writer of the mind", one could say: "We must make manifest the whim transformed into reality that is the mind. We must reveal an individual reflected in the glass who persists in his illusory country... and who feels the shame of being only a simulacrum obliterated by the night, existing only in glimpses".¹⁰ The fictionality of Funes – which does not mean his "unreality" – lies in the fact that every single one of us in reading Borges's story – as an anticipation and prefiguration of "our" contemporary neurological turn – can imagine what it must be like to take our memory "literally", i.e. to have a *nominalist* attitude towards "our" brain. In the light of this knowledge the narrator's characterization of Funes is given a new, maybe even, a new existentialist ring: "He was the solitary and lucid spectator of a multiform, instantaneous and almost intolerably precise world",¹¹ or, in other words, Funes is the prefiguration of "neuronal man", who, at the moment his brain becomes fully conscious, and thus autonomous, is able to articulate: "I am this brain".

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¹ Jorge Luis Borges, "A New Refutation of Time (1944-7)", *The Total Library: Non-Fiction 1922-1986*, London: Penguin, p. 318.

² Pedro Bekinschtein, "Review of *Borges and Memory*", *Times Higher Education* No 2,084 (17 January 2013): 48-9.

³ Catherine Belsey, *Critical Practice*, London: Methuen, 1980, p. 7.

⁴ Cf. Jean-Pierre Changeux, *L'Homme neuronal*, Paris: Hachette, 1998.

⁵ Catherine Malabou, *Que faire de notre cerveau?* Paris: Bayard, 2004, p. 11. Cf. also p. 22: "Nous vivons à l'heure de la *libération neuronale* et nous ne le savons pas".

⁶ Malabou, p. 26-8.

⁷ Darren Tofts, "Virtuality: Webworlds and Cyberspaces", *Prefiguring Cyberculture: An Intellectual History*, ed. Darren Tofts, Cambridge: MIT Press, 2002, p. 109; similar tributes to Borges can be found in *The New Media Reader*, ed. Noah Wardrip-Fruin and Nick Montfort, Cambridge: MIT Press, 2003, pp. 3ff. and 1

3ff., or indeed online (a simple Google search on "Borges and the web" will suffice to bring up all major references). See also Floyd Merrell's *Unthinking Thinking: Jorge Luis Borges, Mathematics, and the New Physics*, West Lafayette,

Indiana: Purdue University Press, 1991, for an early evaluation of Borges's influence on cognitive science.

⁸ Stefan Herbrechter and Ivan Callus, ed., *Cy-Borges: Memories of the Posthuman in the Work of Jorge Luis Borges*, Lewisburg: Bucknell University Press, 2009, p. 7.

⁹ Cf. Jorge J. E. Garcia, Carolyn Korsmeyer and Rodolphe Gasché, eds., *Literary Philosophers: Borges, Calvino, Eco*, London: Routledge, 2002.

¹⁰ Borges, "After Images", *The Total Library*, p. 11.

¹¹ Borges, "Funes the Memorious", *Labyrinths*, London: Penguin, 1970, p. 94.