

BY
WILL
SELF

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WHAT'S IN A BRAIN

Do writers
think
differently
to the rest
of us?

Photography by Carlos De Spinola

Magazine
writer of
the year
2012



C

oming out of a lecture theatre at University College London into rare — for this sodden, sodding year — summer sunshine, I found myself, uncharacteristically, flirting with a young woman who had been sitting in a back row during the proceedings. Sitting there, her pretty, dark, serious face angled down into her lap, her fingers deftly negotiating the loops and strands of her knitting.

“You were knitting,” I said in a slightly accusatory way. “Um, yes,” she flushed, “it helps me to concentrate.”

“I see,” I pressed on, breathing deeply, happy to be free of the fusty atmosphere of hers and all the other attendees’ concentration, “and where’re you off to now?” I gestured to her overnight bag, which faithfully dogged her shiny red high heels. “Oh,” she said gaily, “I’m going to Cheltenham for the science festival...”

For a few moments I considered an alternative future for myself: one in which I followed the attractive tricoteuse to Cheltenham, and seduced her over individual UHT milk cartons in an all-beige Trusthouse Forte hotel room somewhere on the A46 bypass; I pictured us at receptions full of eggheads eating canapés of quails’

ones, and chewing over with them cold fusion and the whereabouts of the Higgs boson; I imagined the faint disgust that we’d encounter wherever we went — she so young and neat, and good at her knitting, me so old, shambolic and unravelling.

“I expect that must have been a pretty weird experience for you in there.” A voice intruded into my reverie, and I realised I’d forgotten all about my lissom fantasy lover, and she had been replaced by a much older woman who regarded me quizzically through thick glasses.

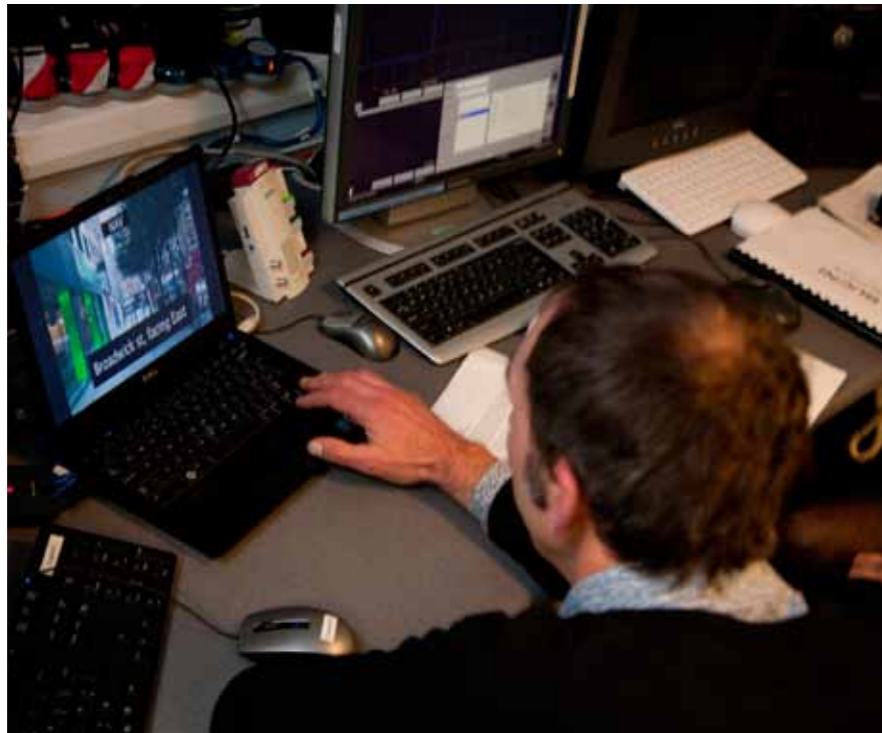
“I’m sorry,” I played for time while casting around for the high heels, which eventually I spotted, clacking away along the alley. “I said,” the older woman reiterated a little testily, “that it must have been a pretty weird experience having the contents of your brain shown to all those people in the lecture theatre.”

I mulled this over for a short while, envisioning the naked bodies on the candlewick bedspread, writhing on top of the crackling and popping UHT milk cartons...

“Well,” I replied judiciously, “it was by no means the *entire* contents of my brain, and frankly, nor was it the weirdest experience I’ve ever had...” And as the older woman continued to scrutinise me from under a slightly threatening grey fringe, the weirdest things that had ever happened to my brain rat-a-tat-tatted through that brain — acid trip peak after alcoholic blackout after concussion after tantric orgasm — each mental state as clearly and sharply delineated as the face of a

Self’s hippocampus fires into action as he’s tested on his knowledge of Soho’s streets

What we end up with is a journey of a journey about journeying itself. Strap yourself in — it’s going to be a wild, brainiacal ride!



playing card riffled by an expert dealer...

When I surfaced from my reverie, the older woman had also gone — possibly to the Cheltenham Science Festival as well, or maybe simply home to a maisonette above a pound shop on Cricklewood Broadway; the possibilities, one might hazard, were close to infinite. It was true that the proceedings in the lecture theatre — where Dr Hugo Spiers, a lecturer in the UCL Department of Cognitive, Perceptual and Brain Sciences, had been exhibiting a MRI (Magnetic Resonance Imaging) generated image of my brain on a large VDU screen, while his colleague, Dr Bas Groes, a lecturer in the University of Roehampton’s English Department, discussed the relationship between

my grey matter and the material of my fictional landscapes — had been fairly strange. But then that was mostly down to them. My role in the gig had been largely passive: I simply sat there while Hugo and Bas, um... lectured; sat there like one of Charcot’s mesmerised subjects at the Salpêtrière in Paris, who remained inert while the founding father of modern neurology held forth to a rapt audience that, at one point, included the young Sigmund Freud.

This is a story about writers, their brains, and what goes on in them. In a way that’s a rather superfluous remark, because when you come to think about it (in your brain, naturally), all stories are about this; or, rather, all stories are born out of what goes on in writers’ brains, whether those goings on be a premature ejaculation of ultra-high-temperature processed milk, or asking the vicar if he’d like some of the ordinary pasteurised stuff in his tea. But where this story differs is that it’s



The MRI scanner, where Self’s brain was “penetrated by magnetic waves”

matter of their grey stuff.

Idiot savants who can instantly pronounce the square root of an irrational number to umpteen decimal places; stroke victims who have lost all long-term memory and are compelled to live in a loop of time two minutes long; Parkinsonian patients who awake from decades-long comas — these, the outer limits of human mental functioning, are meat and bread to Sacks, and over the years I’ve pretty much shamelessly abstracted and simplified his elegant investigations of these phenomena to provide cod-scientific explanations of my own whacky characters’

weird states of mind. What I’ve been markedly less interested in is the state of my own brain, which is odd, when you consider that over the years I’ve exercised it rather extensively in

UCL staff study Self’s cerebrum. Results were “speculative”

the jungle gym erected by mind-altering drugs.

But then, maybe it’s not so strange after all having spent nigh on a quarter century going up, down, sideways, and spiralling into psychic tangles of an Escher-like complexity, when I finally abandoned



intoxication in all its forms — apart from the solid meat-and-potatoes combo of caffeine and nicotine — I found myself happily married to a sense of my own mental clarity, and even stability. True, all that marijuana seemed to have made linking names to faces and vice versa rather tricky, while my long term memory in general was as reliable as skateboard made from rice pudding — but then wasn’t middle age always thus? So I confined my altered states to the printed page, and plotted what I thought of as an increasingly

damaged Red Army soldiers wounded during the Second World War was encapsulated in two astonishing books *The Man with a Shattered World* and *The Mind of a Mnemonist*.

Luria’s neurological thinking proceeded by fairly logical steps: having right in front of him a man with this or that part of his brain shot to pieces, he related this organic deficiency to the functional ones the patient exhibited, and so arrived at insights into the morphology of the human brain. The methodology of the British neurologist Oliver Sacks was slightly different: his books — which have catchy titles like *The Man Who Mistook his Wife for his Hat* and *An Anthropologist on Mars* — and are equally, insanely readable, take the form of the unusual case histories of people who have suffered pathological brain damage of one sort or another, or who are innately different in the

about a scientific attempt to examine specifically the spatial awareness of one writer’s brain — *le mien* — and relate this data to his fictional concerns. Like all narratives, this one can be conceived of as a journey from A to B, with various incidents — C, F, possibly L — along the way. What makes that journey rather bedevilling is that the experiment itself consisted in the taking of a journey — so that what we end up with is a journey of a journey about journeying itself. Strap yourself in — it’s going to be a wild, brainiacal ride!

I’ve been interested in neurology and neuroscience for a long time. My own novels and short stories are often concerned by strange mental — and by inference — brain states: my characters sink into bizarre dream worlds, or enter parallel ones where everyone else is an ape, or they awake to discover that they’ve acquired new primary sexual characteristics. All these oddities either have to be thrust forcibly into my readers’ minds — just as Kafka told his ones straight up that Gregor Samsa had metamorphosed into an enormous bug — or you must attempt to give them some sort of explanation that flatters their sense of themselves as well-informed. A search for a rational underpinning to these fantastical imaginings led me, over the years, to AR Luria, the pioneering Russian neurologist whose work with brain-

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pedestrian - and more comfortable - path through Dante's dark wood. Pedestrian both metaphorically and literally, as in my forties I began to take longer and more convoluted walks through the greyish matter of cities - not only my native London, but also New York, Los Angeles, and even Dubai. The walks were a way of getting out of the house, a method of hunting down and gathering up new material for my writing, and - something I could only latterly admit - a strategy for both coping with the frenetic world zipping past my tired eyes, and achieving a more meditative state in the midst of all the peeping, zooming, iPhoning hurly-burly.

It was into this calm zone that Drs Spiers and Groes disruptively strode - I was taking part in an event with Bas Groes at the Museum of London to support the publication of his book about London writing when he introduced me to Hugo Spiers. Hugo told me that he was doing a project where he took MRI scans of people's brains while they were actually engaged in route-planning, and that he thought writers' brains - and in particular writers who were preoccupied with describing place - would be an interesting addition to the study, so, would I be prepared to let him and his team look inside my brain?

None of this came as a huge surprise to me: when I was researching my novel *The Book of Dave*, the protagonist of which is a maddened London cab driver, I became aware of research that had been carried out which conclusively proved that there was an area of cabbies' brains that - as a result of their astonishing memorisation of *The Knowledge* (a comprehensive mapping of London's roads and buildings) - was considerably enlarged. This was the hippocampus, a very ancient region of the human brain which was probably functioning when our fishy forefathers first sprouted legs and plotted a course on to the land. That the brain should be so plastic as to undergo these changes seemed remarkable - but what was perhaps still more remarkable was that the research also demonstrated that the hippocampuses of cabbies shrank back to normal once they stopped cruising around and asking punters "Where to, guv?" Would my brain, Spiers wondered, exhibit some of the same characteristics, preoccupied as it was by conducting imaginary punters through the streets of a virtually realised London of the mind?

But before Hugo could scan my brain, he needed me to do the route-planning tasks that would form the basis of his enquiry. I was a little surprised to learn that these would take place in London's red light district, Soho, and involve me plotting a series of routes from cafés, to bars, to restaurants to shops. The choice of Soho was because the streets - unusually for London - are laid out in straightforward grid pattern, but I cavilled: Hugo's research students, Bex and Ella-Mai, told me most of the test subjects had little familiarity with this dirty neck of the dark woods, but I had spent decades lurching, staggering and trolling the streets of Soho, surely this made me an unsuitable case for their treatment? No, they said, we thoroughly tutor all the others in the Soho street plan, so we'll simply tutor you less.

Wandering around Soho with young women chivvying me from cafés to bars was a deeply familiar experience... albeit in the past it had mostly taken place at night. After an hour or so of this, Bex and Ella-Mai tested me on my mini version of the cabbie's Knowledge. The key thing was not so much the course I plotted from, say, the Groucho Club in Dean Street to the men's urinal in Broadwick Street, but the activity of my brain when I was asked, halfway through the

I got the definite impression that they believed there was some correlation between my imaginative novelising and my thoughtful trolling around the fleshpots of Soho

trip, to change my destination to, for example, the Janus sex shop on Old Compton Street. Setting firmly to one side, if you can, the rather perverse nature of these particular coordinates; you need to instead picture me, the following day, being assisted to lie down in the strange sarcophagus of the MRI machine at the UCL Centre for Neuroimaging, about a mile away in Bloomsbury.

Again: lying down in clamorous half-light, unable to move, and watching a film isn't that much of a rarity for me - and I don't suppose it is for you either. I was met at the Centre by the lithe, darkly handsome Spiers and the ever-effervescent Groes; and while the atmosphere wasn't exactly seductive - what with the VDU monitors, and the white coats, and the beige linoleum floors - the requirement that I remove

my shoes and lie prone, and the presence of ministering females did make an otherwise dull undertaking seem slightly more seductive. There had been concerns expressed that I would feel claustrophobic in the MRI, or even that the prospect of the convoluted whorls of my gyri and sulci - that's the distinctive ridges and furrows of the cortex - being penetrated by magnetic waves, might give me the heebie-jeebies. But the institutional atmosphere - and the mundane nature of the tasks I was being asked to perform effectively sedated me.

Looking back on it, though, it was fairly weird: the point-of-view of a rather recalculating pedestrian was screened in front of me via a carefully positioned mirror; and by using buttons I could instruct my virtual counterpart to advance, halt, and turn to the right or left, or reverse. Once again, it wasn't so much my forward planning at the start of each task that Hugo Spier's team were interested

in, it was the activity in the hippocampus when, frustratingly, they told me to change my destination and recalculate the route. Whenever, via headphones, the disembodied voice told my disembodied brain to do this, I had the sensation of being in one of those

charged dreams, where you're just about to have sex/fly like a bird/assassinate David Cameron, but are being annoyingly frustrated to the point where you... wake up.

The MRI scanner cuts the human brain into 176 different slices - that's a lot of slices, but then it's also a lot of brain: thousands of kilometres of synaptic nerves, and a so many humps and bumps and ruches of grey gloop, that were they all to be spread out the thinking I would achieve the dimensions of... Soho. The scanner is good on spatial resolution - but pretty poor on temporal. This means that while the overall activity of the hippocampus during the test can be assessed, it's pretty difficult to nail down the exact moment when I was thinking, "Mmm, how do I get to that shop where they sell poppers?" As a result, neuroscientists talk lovingly of other brain-imaging technologies such as EROS (Event-Related Optical Signal), and PET (Positron Emission Tomography), which, probably because of their kinky acronyms as much as anything else, can provide kinds of information about what's going on in the gloop. What's going on - but not our individual thoughts, hopes and desires. Despite centuries now of mechanistic approaches to brain function - and the widespread acceptance that we, more or less, are our brains - scientists are no closer

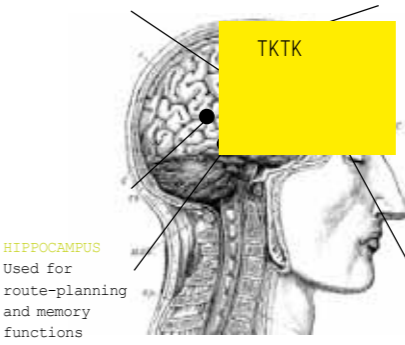
to capturing on camera that evanescent, shape-shifting, poetical phenomenon: self-consciousness.

Months later, sitting in front of that bookish audience in the University College of London lecture theatre, Hugo and Bas tried to big-up my brain - as if it needed any encouragement. Projecting images of my glowing brain together with graphs that plotted its activity as against that of other test subjects', they observed that my hippocampus was significantly more active in the planning stages of the tasks I'd been allocated than those of their other test subjects. The conclusions they reached from this were - even to my way of thinking - speculative, at best: much of what they said was ambiguous, but I got the definite impression that they believed there was some correlation between my imaginative novelising and my thoughtful trolling around the fleshpots of Soho.

I like to think that, too - else why would I hang out there so much? But when, a couple of weeks later, I met up in a Soho coffee shop with Lorelei

Howard, another of Hugo's research students, and she framed the whole project in rather more believably prosaic terms for me. Far from being some unique guru of the spatial, my variation from the statistical mean of their test subjects was not - once various factors had been taken into account - that significant. And besides, the study wasn't really aimed at saying anything much about the individual, and how he or she route-planned, but in trying to identify the role of two parts of the human hippocampus - the anterior and the posterior - in the separate tasks of establishing a pathway to a destination, and employing basic Euclidean geometry to determine - at any given point - how far away that goal was.

Lorelei, who has a rare ability to make very complex ideas easily assimilated by even the most lackadaisical brains, explained that while previous studies had managed to differentiate



This made perfect sense to me, and corresponded to an intuitive understanding of how we get to places: we don't need to maintain a map of the area we're negotiating, only alter our distance and direction in terms of our eventual destination in response to conditions on the ground. And following this thought on, it struck me that the GPS analogy wasn't the only one that worked in terms of Hugo and Lorelei's findings. When I began this piece, I had an idea of where I wanted to get to, and in order to reach that point I planned a sort of pathway from the beginning to the end of the tale I wanted to tell. Of course, as I put down finger upon finger and moved along the twisting lines of my own prose, I made many decisions about where I wanted to go next - yet how far away my eventual concluding sentence was remained fixed in my mind, and this Euclidean insight was ceaselessly being updated.

For a novelist, a 3,000-word feature is something of a stroll in the park - but when you get the long hike involved in 100,000 words or more, the same principle applies. Watching Lorelei move the cursor across the screen of her laptop, bringing different bits of my brain into view, it occurred to me that it wasn't accidental that many of the first narrative fictions took the form of journeys - picaresques, in which their heroes have odd encounters along the way - for perhaps the very structure and functioning of the human brain is implicit in such schemas?

It was a big thought, and I managed to hold on to it while I said goodbye to Lorelei, but then, as I left the café and hit Berwick Street market, something about the smells of the fruit and veg, and the Soho girls strutting along the crowded pavements, and the general swagger of summertime London, sent me into quite another reverie... something to do with Cheltenham and individual UHT milk cartons, I think. But then that's the human brain for you: you can examine it all you like, but you never know what it's going to come up with next. Weird, no? 🐼

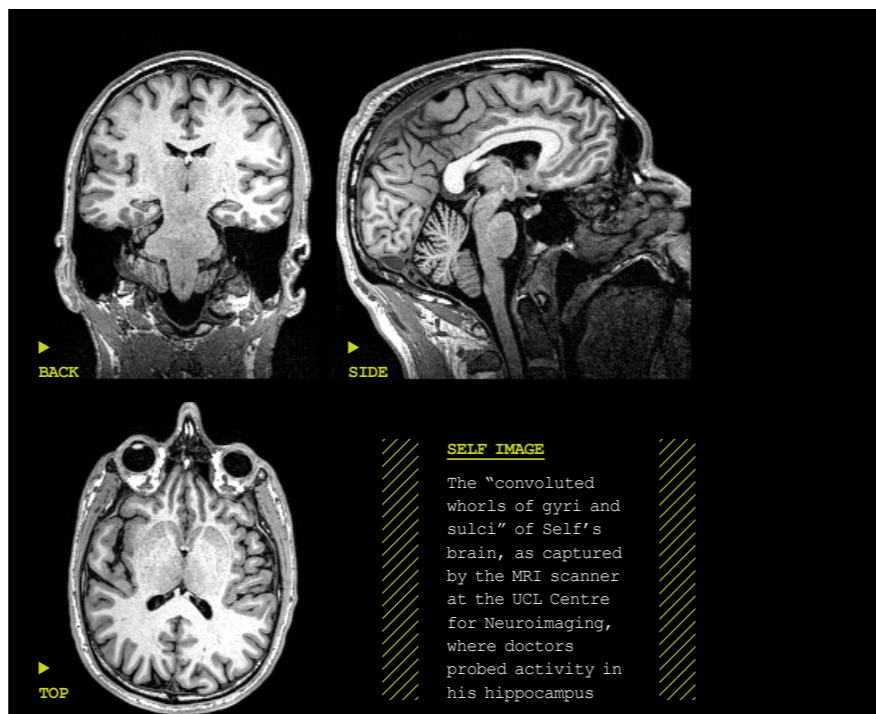


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