

Book

Living with autism: Joe, the extreme systemiser

Michael Blastland has written a beautiful and deeply thoughtful book about his 10-year-old son Joe, who has severe autism and an obsession with watching videos. Not just any videos, but particular Disney videos that, if left to his own devices, he would watch over and over and over again. Joe doesn't just replay the same videos a hundred times, but will replay the same few frames or sequences within the video.

Joe's obsession with videos is so extreme that he will walk into other people's houses to watch their videos, he will climb up on high shelves to reach hidden videos, and he will headbutt the pavement in his frustration when he can't get hold of what he wants. He has knocked out a tooth on more than one occasion. Joe's autism places a huge strain on his parents. Blastland sees his son like a crazed drug addict, who needs to be put in the care of professionals who can stand up to Joe's stop-at-nothing cravings. He sends his son to a residential school in Bristol, UK, where there are no videos, to break his son's addiction. Joe goes cold turkey. Blastland's view is that as a parent, one has to be cruel to be kind, and that Joe is a happier, calmer child when he is freed from his cravings.

The idea that obsessions in autism are a form of addiction is interesting, and raises the question as to whether there is a shared neurobiology underlying both obsessions in autism and drug addiction. But my sense is that there is more to autistic obsessions than is captured by the analogy with addiction.

Take Joe's obsession with videos. Videos are visual, and the way in which Joe watches and needs film gives us a microscope for examining Joe's (visual) perception—a window into his mind. When we watch a video, we understand the plot, the integrated

story. When Joe is replaying sequences, over and over and over again, he appears to focus on the pattern of information, a chain of details within a temporal order. For most of us, the separate sequences of action are part of a bigger framework, in which we attribute states of mind to the characters and so generate a plot. For Joe, the video appears to be a series of

"What if a child with severe classic autism has to systemise in the same sense that a spider has to spin webs?"

fragments glued only by their unchanging temporal order. As Blastland puts it, the meaning has been "rinsed out" by Joe's inability to read the states of minds of the characters. So for him, what binds the frames together are their unvarying sequence, just as green traffic lights follow red and amber—an arbitrary sequence, but one that is reassuringly predictable in its sameness.

But there is more we can glean from Joe's style of watching videos that gives us a clear insight into how his mind (and therefore his brain) works. First, Joe's mind detects many, far smaller details. We may not care that we missed how many trees were in the field in the background. Joe notices such information. We may not be bothered if we watch a different version of the same film. Joe wants to watch the original version, with all the same hisses, crackles, and flickers in the same sequence. The details matter to us, but not in a way that we need to check and recheck them, because they don't add anything to our overall reason for watching the film: to follow the plot and enjoy the story. Second, Joe's mind craves predictability; each time he replays a video, he can satisfy this craving for predictability. Third, with an eye for ever smaller details,

each replay of the video allows Joe to notice even tinier bits of information that he missed on previous viewings.

My own view of autism is that this remarkable attention to detail exists because it is in the service of "systemising". Systemising is the drive to understand a system in terms of its rules and regularities, thereby rendering the system totally predictable. According to this theory, autism involves "hypersystemising". Videos can be systemised, whereas people cannot easily be. Children with severe autism, however, do their utmost to try to systemise and control people in the same way that they systemise and control the video-player. Blastland realises this about his son Joe. "When he wants something from me, I must suppose that I am nature's universal vending machine, the great button to all desire, which if pressed frequently enough will provide."

So, is autism just very strong visual attention to detail? We know that this hypersensitivity is not confined to vision, because Joe's finely tuned attention is apparent in his eating habits too. He will eat Sainsbury's spinach and ricotta tortellini, but not spinach and ricotta tortellini in general. So this tendency for what Blastland calls "splitting" perceptual input into finer and finer categories, rather than "lumping" it into larger and larger categories, to build up a bigger picture, extends to taste as well as vision. From other accounts we know it also extends to touch, smell, and hearing. Details matter to people with autism.

This book is a wonderful account of a father's struggle to put himself into the shoes of his son. Blastland tries to understand a boy who is so different, not just in his obsessive interests, but also in his social detachment from other people—a detachment which is



Joe, the Only Boy in the World
Michael Blastland. Profile Books
2006. Pp 256. £12.99.
ISBN 1-861-97961-4.

compounded by his limited language. Joe's autism leaves him outside of a peer group or, indeed, of any culture. Frank accounts such as this one help readers who have no contact with autism become more aware of the daily struggle that such children place on families.

So was Blastland right to deprive his son Joe of his beloved videos? I don't know. If he is right that a child with autism is a kind of junkie, and that putting your child through cold-turkey makes them calmer, then yes. And I bow to Blastland's daily experience as a father of such a child as a voice of experience. But what if Joe's obsession is not so much an addiction, but is an indicator of his strong drive to systemise? What if this is the only way

his mind can work, craving repetition, predictability, and detail? What if a child with severe classic autism has to systemise in the same sense that a spider has to spin webs? Then to deprive such a child of the materials that lend themselves to systemising, such as videos, may be missing an opportunity to let a child's different kind of mind function in the way it is wired to.

Joe's school report said that "Left to his own devices, his repertoire of activities will quickly become limited and predictable", and Blastland adds "monotonous in the extreme". Maybe watching videos all day would be monotonous and limited to you and me, but is it to Joe? And there is also a danger of double standards: when a

talented musician spends 12 hours a day playing the same piece of music over and over again, until she has systemised every detail and can predict it 100%, we praise her. When a talented film director spends 12 hours a day playing and replaying the same sequence of film until he has systemised it, he wins our acclaim. But when Joe does something similar, we judge that we should take away his raw materials. Could we, perhaps, use the autistic hypersystemising drive to harness the very different learning style of individuals with autism?

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Learning Medicine
Seventeenth Edition
Peter Richards, Simon Stockill,
Rosalind Foster, Elizabeth Ingall.
Cambridge University Press,
2006. Pp 228. £17.99.
ISBN 0-521-67962-1



Favela Rising
A film by Jeff Zimbalist and Matt
Mochary. 2005.
<http://www.favelarising.com>

In brief

Book Decisions, decisions...

"So, tell me the branches of the long saphenous vein. And which surface markings would we use to find the saphenofemoral junction?" "Ahh, hang on, I do know." And so on. With finals just weeks away, some questions still seem painfully unanswerable. Why, I asked myself, in a moment of doubt, would anyone want to subject themselves to 5 years of this? According to the authors of *Learning Medicine*, about 14 000 people apply to UK medical schools every year, so we're not running short of bright young people to fill places. But does the average 16 or 17 year old know what they're signing up for?

After reading *Learning Medicine*, they'll have a much better idea. I'd like to see this book on every sixth-form notice board and on every medical school prospectus. It should be issued automatically to the parents of would-be medical students.

The *raison-d'être* of the book, is to help potential applicants make an "informed decision". At last a book not solely focused on the mechanics

of the application process. Here preclinical, clinical undergraduate, and postgraduate years are mapped out, and all sections are illustrated by realistic, lively accounts from experts.

If I could go back to before I entered medical school, though, I would wish to have been better prepared for the challenges I was to face. We need to ensure that the right people apply to medicine, so they will flourish in what can be an exhilarating but challenging career, where you can never be quite sure of all the answers. I guess I'm in the right job then.

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Film Slum city beats

In their documentary about AfroReggae, a Brazilian hip-hop collective, Jeff Zimbalist and Matt Mochary, tired of depictions of desperation, wanted to show a hopeful impoverished community.

Favela Rising is an insightful film about the struggles of the AfroReggae collective in one of Rio de Janeiro's

shantytowns, or favelas, to replace the lure of a lucrative, but usually short, life as a drug soldier, with chances to contribute culturally to the community. The filmmakers obtained an honest depiction of favela life by asking children to take video cameras and record events as they unfurled. The results reveal a vibrant and violent existence, presided over by a fierce antagonism between the military police and drug cartels.

The collective has replaced gunfire with the politicised polemic of Banda AfroReggae's hip hop. One member of the collective, Anderson Sa, who joined after his brother was killed by military police, is especially captivating. Despite many setbacks—not least Sa's surfing accident during the making of the film, which left him paralysed—the movement has spread to other favelas and around the world. Inspiring, uplifting, and moving, *Favela Rising* shows how cultural empowerment can effect social change.

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Cuttings

Most editors of medical journals have reacted with outrage to the sackings of John Hoey and Anne Marie Todkill, respectively editor and senior deputy editor of the *Canadian Medical Association Journal (CMAJ)*. Fiona Godlee, the editor of the *BMJ*, claimed the journal's reputation has undergone "serious damage". *The Lancet* thundered that the departures of Hoey and Todkill were "deeply troubling".

Such hyperbole is, of course, complete nonsense. Hoey and Todkill were fine editors of a respected journal. The journal still deserves readers' respect, even if it is now being steered without Hoey and Todkill. The Canadian Medical Association may have been utterly inept in its handling of their dismissals, but its officers have the right to employ or fire whichever editors they wish. Editors know this harsh fact when they accept the job. It should come as no surprise when owners exercise that right.

One expects editors to defend fellow editors. The ties of privilege are exceedingly strong. But anybody who spends a moment reflecting on the current Canadian debacle will surely realise that good editors should expect to be sacked. Long-serving editors are either mediocre or manipulative. Mediocre, because if they were truly bad they would have been dumped long ago. If they were good, by which I mean interesting and compelling, they would also have fast used up the credit initially bestowed upon them by their publishers. If they are either bad or good, yet still survive, the only explanation can be an extraordinary talent to deceive.

An editor with genes for longevity has to convince readers that he or she is on their side. The editor recognises the reader's predicament, understands her discontent, and shares her professional pain. The editor is the reader's champion, a crusader. Yet the editor is also a commercial harlot. He or she has to defer to an owner who will want to squeeze every last dollar and cent out of the journal. There is nothing wrong with this business ethic. That is the owner's job, even an owner as seemingly benign as a medical association or society. But it presents an impossible choice for the editor who must somehow persuade the proprietor that he or she shares their taste for gold, while preserving a virginal innocence with readers. It cannot be done. Those who succeed are defying the laws of human nature.

All of which brings us back to the *CMAJ*. We should not mourn the enforced loss of Hoey and Todkill. Their exit merely proves their manifest superiority over those who have occupied the editor's chair for far longer.

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Lifeline

Victoria G Hale, is Founder, Chair, and CEO of the Institute for OneWorld Health, the first non-profit pharmaceutical company in the USA, which focuses on drug development for visceral leishmaniasis, malaria, and diarrhoeal disease. She gained expertise at the US Food and Drug Administration and at Genentech, Inc, and earned her PhD from the University of California, San Francisco.



What do you think is the most over-hyped field of medicine at the moment?

Personalised medicine: it is selfish.

And the most neglected?

Diarrhoea: 2 million children die each year.

What part of your work gives you the most pleasure?

Working with my husband on enormous global health challenges. He is my soul mate.

If you had not entered your current profession, what would you have liked to do?

Forensic toxicology, since I like to solve puzzles.

Who was your most influential teacher, and why?

Margaret Mead for her profound insight: "A small group of thoughtful people could change the world. Indeed, it's the only thing that ever has."

What would be your advice to a newly qualified doctor?

Go global. Spend some time training in a developing country. It's one planet and getting smaller.

What is the best piece of advice you have received, and from whom?

From my paternal grandmother: don't ask for permission.

What apart from your family is the passion of your life?

Development of new medicines, it is like giving birth but with years of labour!

Do you believe there is an afterlife?

Yes, like Hindus, I believe in reincarnation.

What is your greatest fear?

World War III.

What are you currently reading?

The Argumentative Indian by Amartya Sen.

What items do you always carry with you?

Kleenex (personal stories make me cry.) Pictures of my two sons. Melatonin for jet lag.

What is your favourite country?

Costa Rica—it has no military.

Describe your ethical outlook

Walk a mile in another's shoes. Empathy.

What was the most memorable comment you ever received from a referee?

"You inspire me."



Frank Ellis

British oncologist who pioneered treatment of cancer with radiation therapy. He was born in Sheffield, UK, on Aug 22, 1905, and died in Oxford, UK, on Feb 3, 2006, aged 100 years.

At a party to celebrate Frank Ellis' 85th birthday, some 15 years ago, his friend and former graduate student Eric Hall gave a speech in which he described how Ellis had taught him that the only way to have good ideas was to have a lot of ideas and discard those that didn't work out. "At 7 o'clock the next morning, Frank was on the telephone to me", remembers Hall, director of the Center for Radiological Research, at Columbia University, New York, USA. "He wanted me to make a list of those of his ideas that hadn't worked, because he couldn't recall any."

During his long career at the forefront of radiation oncology, Ellis certainly contributed many ideas that changed the face of his specialty. These included the development, in 1935, of wooden wedge-shaped filters that allowed radiation beams to be angled away from sensitive normal structures, an idea that revolutionised external beam treatment. "He was a very inventive man", says Hall. "He was always thinking of something new, and that exasperated his colleagues who were more set in their ways."

Other contributions that can be attributed to Ellis include the pioneering use of interstitial therapy, especially when combined with open surgery. He also devised his Nominal Standard Dose formula that gives radiotherapists a guide to dose-time-fractionation, notes Sir Christopher Paine, who worked as Ellis' registrar in the 1960s. "His mind was constantly restless for change", Paine remembers. "He

always saw every patient as a new challenge. That was very stimulating for a young person working with him."

Ellis was born in Sheffield, UK, and had decided by the age of 5 years that he wanted to become a doctor, Paine says. He completed his degree at Sheffield University medical school, winning prizes and graduating with honours in 1929. By the age of 25 years, he had become a consultant. In 1930, Ellis had been appointed the first radium officer at the Royal Hospital in Sheffield, and given the task of establishing a clinical service from the ground up. 13 years later, he became the first director of the radiotherapy department at the Royal London Hospital, London.

During World War II, Ellis had been concerned about the risk of radioactive contamination, so he hired a furniture van and moved his department, including the radium, to a safer location. "In those days we would drive around with radium in the bottom of the car", Paine explains, "but Frank was a very thoughtful man. He would quite often have radium needles with him when he got home at the end of the day, but would put them out in the gutter outside the window of his house to make sure his young family wasn't exposed."

In 1950, Ellis moved to the Churchill Hospital in Oxford, UK, where he established another radiotherapy department. Ellis held the post of medical director of the radiotherapy department at the hospital until he retired in 1970. In addition to improvements in clinical practice, one of Ellis' most important and lasting contributions to radiation oncology was to include in the clinical department at the Churchill Hospital some cutting edge radiobiological research, says Hall. "Quite a few places had physics research, but he saw that biology was going to be important in the future", Hall told *The Lancet*.

In 1965, Ellis retired from the National Health Service, but he remained in high demand internationally thanks in large part to his development of the idea of the nominal standard dose. As a result, he was offered visiting professorial posts at the University of Southern California, the Memorial Sloan-Kettering Institute in New York, and elsewhere. In 2000, Ellis was awarded Order of the British Empire for his services to radiotherapy. Among other honours, he was awarded the Gold Medal of the Royal College of Radiologists. He was a president of the British Institute of Radiology and was made an honorary Fellow of the American College of Radiology.

Ellis was a lifelong Christian and was active in the Society of Friends and the Oxford United Nations Association. "He was a humanist", adds Hall. "He believed that people are inherently good." Ellis' wife Dorothy predeceased him in 1990. He is survived by four children and 13 grandchildren and great-grandchildren.

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