

'I have a movie in my head of my life that never stops.'



'In the living room in New York, early 1968. I had on my favourite pink slippers'



'In our garden in New York, 1970. I was showing off my baby brother'

'My memory is nonstop, uncontrollable and totally exhausting. I run



'In the front yard of our California home, late 1974. I hated those overalls'

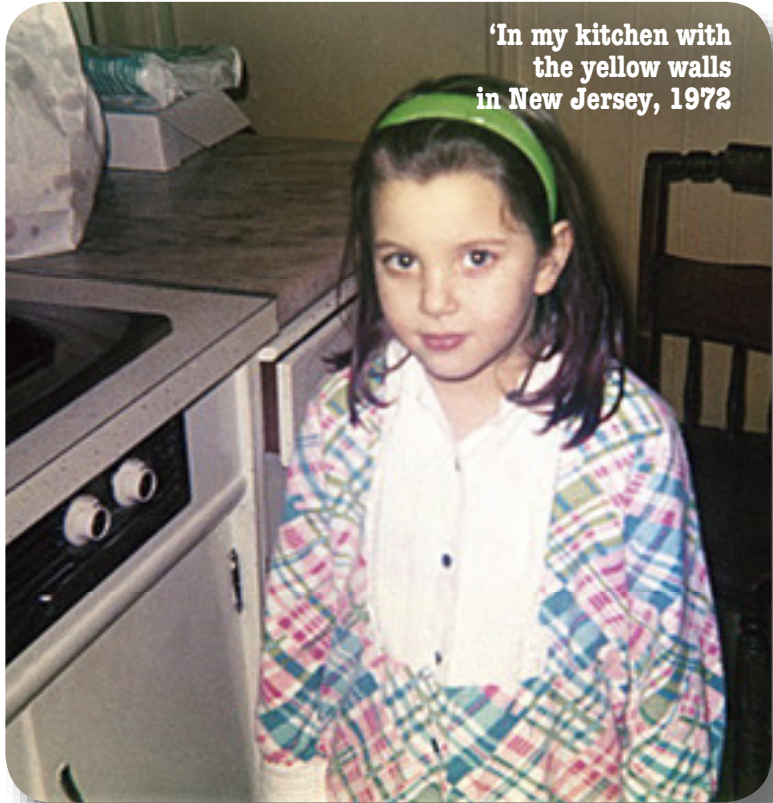


'Me and Michael on August 25, 1979, at Marine World. I'm wearing my swell Atlantic City sweatshirt'

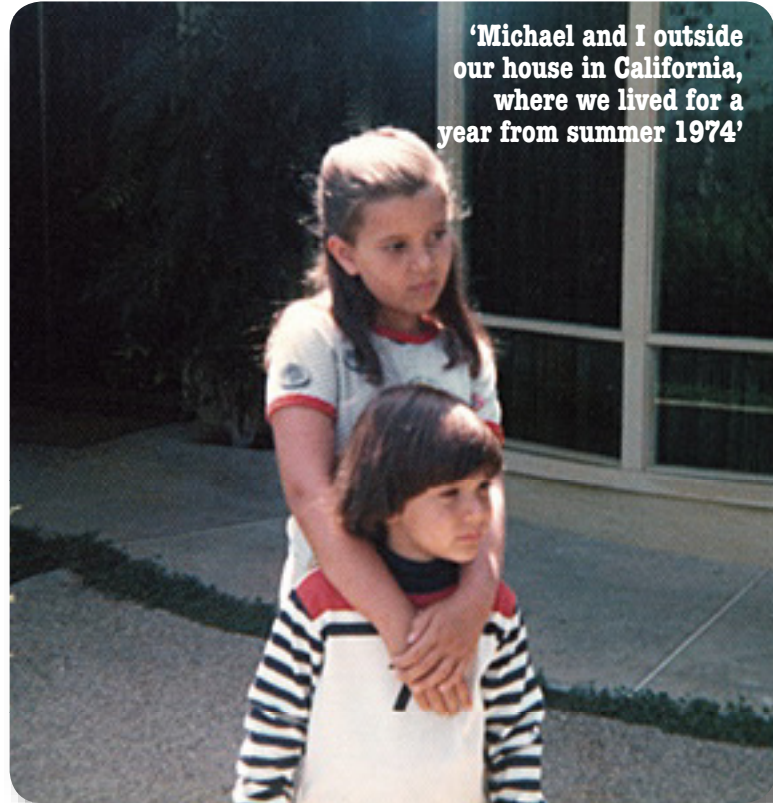
NO THANKS FOR

This girl, now 43, recalls every detail of her life since she was 14. There is no 'off' button. She is one of

It's like there's a split screen. There's always a whisper in my ear'

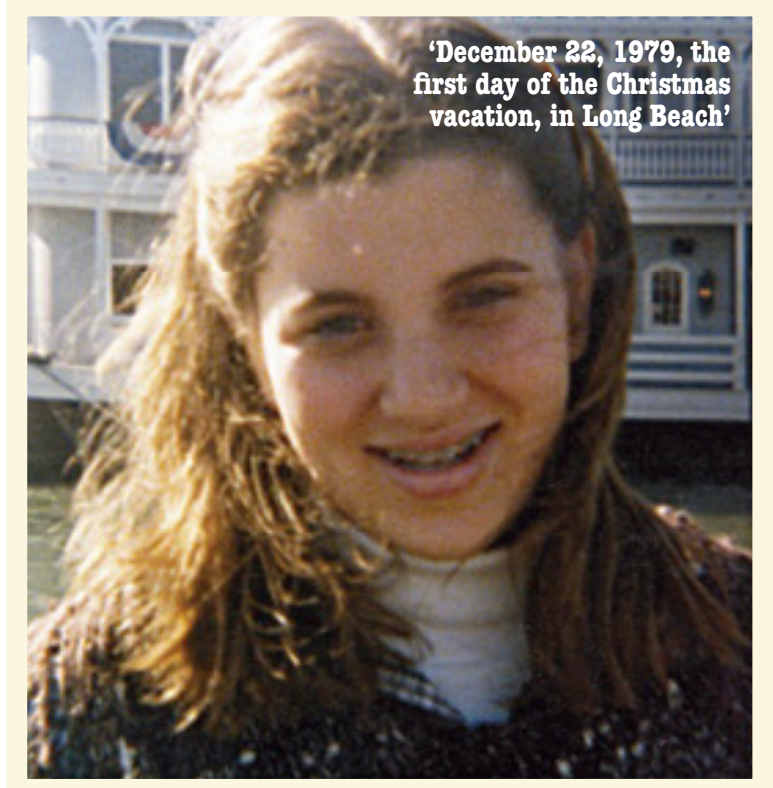


'In my kitchen with the yellow walls in New Jersey, 1972



'Michael and I outside our house in California, where we lived for a year from summer 1974'

my entire life through my head every day and it drives me crazy'



'December 22, 1979, the first day of the Christmas vacation, in Long Beach'



'With my mum, brother and Max on the second night of Passover, April 1, 1980'

THE MEMORIES

four people diagnosed with superior autobiographical memory. And it's a living hell. By Ariel Leve

‘There you are as a 10-year-old in your family room watching *The Brady Bunch*; then you’re whisked off to a scene of you at 17 driving around town with your best friends; and before long you’re on a beach during a family vacation when you were three. That’s how I experience my memories... I can recall memories at will if I’m asked to, but on a regular basis my remembering is automatic... It’s as though I have all my prior selves still inside me, the self I was on every day of my life, like her or not, nested as in a Russian doll – inside today’s Jill are complete replicas of yesterday’s Jill and the Jills for all the days stretching so far back in time...’ Extract from Jill Price’s memoir, *The Woman Who Can’t Forget*



Jill Price asks me my date of birth and I tell her: January 24, 1968. “Okay – 1988, you were 20, 1986 you were 18. I could tell you on January 24, 1986, I was working in an ice-cream shop, it was a Friday. I had turned 20. We were four days away from the Challenger explosion. I was hating my job and Saturday night I went out with Tim and Candace.”

She could probably tell me what she ate, what they ordered, and what time she got home. Can you recall, totally, what you did, who you saw, what you said, on any given day, at any given moment 10, 20 or even 30 years ago? Jill Price can. But is it a gift or a curse?

Most of us can write a narrative of our lives, editing as we go what is too painful or unimportant, choosing what we decide to include and discard. We are shaped by our past, and remembering gives us our sense of self. Memory is notoriously unreliable. Intentional or not, our story of who we are is subjective. But there is a huge difference between remembering and being unable to forget.

Imagine if you could not choose which memories are preserved and which are relinquished. For Jill Price there is no option to edit her memory; the painful and the unpleasant, stretching back through adolescence, are as vivid as if they had just occurred. It’s no surprise that Jill feels she is held hostage by her memory.

She has written: “If someone made videos of you from the time you were a child, following you around all day, day by day, then combined them onto one DVD and you sat in a room and watched that DVD on a machine set to shuffle randomly through all the tracks.” So rare is her condition that doctors have so far

diagnosed it in only a handful of people and have coined a name for it – superior autobiographical memory, or hyperthymestic syndrome – a day-to-day life invaded, and even overwhelmed, by the detail of its past.

We meet for dinner at a restaurant in Beverly Hills; a place she has been coming to for years – familiarity makes her feel safe. Trying to explain the mechanics of what is going on inside her head is like trying to describe a cloud to someone who has never seen the sky.

“As I sit here with you – it’s 6.30 on Wednesday night – I also have a running movie in my head of my life that never stops – there’s

JILL CAN’T EDIT HER MEMORY. THE PAINFUL AND UNPLEASANT, STRETCHING BACK THROUGH ADOLESCENCE, ARE AS VIVID AS IF THEY JUST OCCURRED

always a whisper in my ear.” She says it’s like having a split screen in her head.

Jill lives in a world where no recollection is vague. Her answers to questions are loaded with specific detail, which tumbles out abundantly and without hesitation.

“Today would have been the 22nd wedding anniversary of Prince Andrew and Fergie,” she says. “That was also on a Wednesday. It was a friend’s birthday and I had a big bouquet of balloons that he didn’t want so he gave them to me. 1986. And then I went to see a friend of mine who worked at the Hard Rock Cafe.”

The information she has shared is factual, but is accompanied by the emotions she experienced at the exact moment she is recalling.

“If I’m blow-drying my hair in the morning on July 23rd, I might think of 30 past July 23rds. I like doing that kind of stuff. It’s the painful stuff that’s the burden for me.

“My memory is like breathing and winking for most people.” It is hard to fathom what it must be like to live with that kind of recall.

Disappointments and bad decisions never fading into the background. Jill has so many warm and joyful memories too, but those are not the problem; they don’t impair living.

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Dr James McGaugh has a gentle manner but speaks with the authority of someone who has researched the brain and memory for more than 50 years. He has published hundreds of papers and is the founding director of the Center for the Neurobiology of Learning and Memory at the University of California, Irvine.

Irvine is a two-hour drive south of Los Angeles. On a hazy afternoon in July, McGaugh

and his colleague Dr Larry Cahill, who co-wrote a breakthrough report, *A Case of Unusual Autobiographical Remembering*, explain why Jill has one of the most remarkable memories known to science.

In June 2000, McGaugh began studying Jill’s superior memory after receiving an e-mail from her. In it she described her memory as “nonstop, uncontrollable and totally exhausting”. She also stated: “I run my entire life through my head every day and it drives me crazy!!!”

The doctors were intrigued. Over the next five years they tested and probed her memory. Because her case was something they had never encountered before, the doctors had to come up with a name and chose hyperthymestic syndrome, from the Greek word “thymesis”, which means remembering, and “hyper”, which means excessive. After they published their paper in 2006 on the patient they identified only as AJ, around 200 others came forward.

“In addition to Jill Price,” McGaugh says, “there are three other people we believe are ➤➤➤ 41

bona fide. They are not exactly alike, but have this extraordinary memory ability.”

He is referring to Brad Williams, a radio news reporter in the Midwest, and to Rick Baron, who lives in Ohio. The third is known only to the doctors.

Jill Price feels strongly that her case cannot be compared to the other cases. The trenchant difference is the emotional fallout she has suffered from her irrepensible memory. It has plagued and impacted her life in paralysing ways.

Williams says: “It hasn’t disrupted my life. It’s enhanced it.” He sounds almost apologetic. “I know Jill feels that she is in a class by herself, but I can’t help it that the doctors have put us all in the same category.”

Perhaps Jill’s frustration at being categorised with Williams and Baron is that she feels it somehow minimises her anguish to suggest they have something in common. McGaugh puts it succinctly: “I know she believes she is unique. And, no doubt, in many ways she is. It is now clear to us that there are others who have strong autobiographical memories, but they do not appear to suffer as Jill does.”

There are many types of memory and many mysteries; the neurobiology of how our brains work and process information is complex and fascinating. There is memory inhibition (the ability to ignore irrelevant information), there is motivated forgetting (where the person purposely pushes memories out of their mind), and there is autobiographical memory – our ability to recall specific experiences, and strong and accurate memories of personal or public events.

The tests McGaugh and Cahill devised were detailed and exhaustive. McGaugh points to a box containing random memorabilia supplied by Williams’s brother. They are unconnected items that McGaugh went through to construct Brad’s memory test.

For instance, a programme of a play that Brad had performed in. “I asked him to say all the names of the characters in the play, the names of all the people who played those characters, the dates and the days on which the play was performed. He did all that – went right through it. And at the end said, ‘It was a very forgettable play.’ People have to have a remarkable recollection of their own lives as well as things they have learnt about the world. In the case of Jill, she had a journal of every day.”

Jill began writing in her journal in 1976 when she was 11, but it was the summer of 1981, when she 15, that she began to record every day. Because of this, the doctors could authenticate and verify all of her experiences. “It is their ability to recall verifiable facts that they heard about and cared about,” Cahill points out. “And to recall quickly and with such volume that it defies convention.” “And precise accuracy.”



‘My grandmother and I in my backyard in the spring of 1978. I was 12 years old, and this is what I looked like when I realised that I could remember “a year ago today”. That spring I loved to listen to the song Baker Street by Gerry Rafferty and watch the show Dallas, which began on Sunday, April 2, and ran until Friday, May 3, 1991, when I was 25 years old.’

McGaugh adds. “We have been wrong – and Jill has corrected us. They correct us firmly. They say, ‘You’re wrong. It happened on this day.’”

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From 1980 onward, if you ask Jill Price about a big event, as long as she has heard about it, she will recite the date and day and related information. One of the most astounding features of her memory is how comprehensive it is – from important milestones to ordering scrambled eggs. McGaugh cites an example of when he gave her a date and asked what international event happened on it. She responded with: “Nothing.” But said that three days earlier the Iranians took over the US

SHE FEELS HER CASE CANNOT BE COMPARED TO THE OTHER CASES. HER IRREPRESSIBLE MEMORY HAS PLAGUED HER LIFE IN PARALYSING WAYS

embassy in Tehran. McGaugh had been reading from a book. Jill said the book had got the date wrong. She was right. “It’s important to understand that their memory of time past is much like our memory of yesterday.”

In an effort to make sense of why Jill feels assaulted by the feelings and emotions that occur with her memory, whereas the other people with the condition do not, McGaugh states that emotional arousal of time and experience is not a

sufficient explanation. Jill is able to remember too many things that are emotionally unimportant: “She is not a person without anxiety,” he says. “She’s full of angst. Brad doesn’t appear to have any angst. He’s very matter of fact.”

Cahill adds: “Brad is a mellow guy. I think what you see in these people is different personalities.”

When I mention that we have a tendency to block out traumatic events, McGaugh swiftly corrects me. “That’s a Freudian myth. We try to block it out, but if something emotional happens you’ll remember it better. Emotion at the time of an experience makes strong lasting memories. Take it to the bank. That’s the way it works. For all of us.”

In other words, the act of recalling is not associated with emotion unless the event you’re recalling happened to be an emotional experience. And in Jill’s life, McGaugh points out, there have been more emotional experiences.

He breaks it down. “Number one,” he says, “emotional experiences are selectively preserved better than non-emotional experiences. Sad experience makes you sad. Frightening things make you frightened. The reason that Jill will have more of these is because she is better at recollecting the days.”

Cahill adds: “There is a critical feature of this. While all of them have a memory ability that is tied to a calendar ability, they are not calendar calculators – so they can’t tell you what day June 3

was in the year 1256. But within the context of their lives they reconstruct a calendar very quickly. That’s one common thread throughout all of this. There is also zero evidence that any of these people are doing it intentionally – that they are the kind of people who show up for memory championships and recite pi to 100,000 places.”

McGaugh talks about asking Jill the dates of the last 20 Easters, which she gave. “And as you know, she’s Jewish,” he says, sounding astonished. “So why should she care about Easter anyway?”

“Our first hypothesis was that the reason that she can do this is because we have an emotional experience that makes memory strong – because that’s what we study – but it turns out, you can’t

use our emotional-arousal theory to account for her strong memories because she remembers the banal as well as the other.

“Here we have cases in which there is extra memory as opposed to a deficit of memory. The question is, will this change our thinking about the nature of memory?” He pauses. “Suppose I said to you, ‘Okay, we’ve gone as far as we can go because you’re too stupid to understand what I’m talking about and I’m done with this’ ➤➤➤

interview.' Do you think you'd remember that?' I nod. Who wouldn't?

"What happens when that goes on is you release adrenalin that activates the brain. You also release cortisol from the adrenal gland. A key structure in that is the amygdala [the walnut-sized cluster existing just above the human brainstem that acts as a storehouse of emotional memory and, some scientists believe, is the seat of human consciousness]. That gets turned on. That is connected with many regions in the brain and it sends a signal: hey, something important happened – store this memory. The more adrenalin you release, the stronger the memory will be."

The doctors wondered if Jill had an overactive brain producing too much adrenalin, but the hypothesis didn't explain how she remembered the mundane, like the dates of Easter and what she was doing on these days.

With Jill and the others too, both doctors have been staggered by the uncanny accuracy the subjects have for both public and private events.

"It's so matter of fact when you talk with them," McGaugh says. "When you ask Jill something, it's boom – just like that. It rolls right out. You don't run into that. There's no thinking about it. We've never seen that before."

The next paper they publish will be descriptive. They have analysed the structure of Jill's brain. Through MRI scans they have assessed what it looks like. They also have the MRIs of two other subjects. They want to see if their brains differ or share irregularities most of us don't – but that's in the future. "We hope to find the beginnings of why it happens," Cahill says. "Science comes in small pieces."

One small piece they think they have already identified: "All exhibit OCD-like symptoms. Which is *not* to say they have OCD [obsessive compulsive disorder]. These are not savants – you would not be able to pick these people out in a room," says Cahill. The more they understand, the better the chances of using the

'I'M SO TIRED OF CRYING. I CRY ALL THE TIME. UP TO 10 TIMES A DAY. I CAN FEEL THE PAIN IN MY BONES. SOMETHING COMES OVER ME AND I'M STRUCK'

information to help others, people suffering from Alzheimer's disease, for instance, or post-traumatic stress disorder.

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For Jill, there is no denial. Her memory hasn't allowed her to edit her life, bury pain or discard the trivial. This means a truly authentic self-awareness. It's like looking in a mirror without the benefit of flattering light, where the lines, spots and flaws are always visible. The perception of who she is and the reality are the same.



'This picture was taken in August 2001 at my uncle Norman's house in San Diego; he is not in the picture, but my uncle Dickie and cousin Jack are. My other cousin Brad, Jack's older brother, was at the BBQ cooking chicken and hamburgers. My mom just got a new car that week so this was the first trip outside of LA. Chandra Levy was the big story in the news and we had no idea about September 11. I look back on those days with such innocence. That was also the summer I was into Big Brother 2 on CBS.'

This is the way it has always been. She was born in New Jersey on December 30, 1965. When she was eight, she thinks her brain "snapped" due to the move the family made from New Jersey to California, and she began to remember in great detail. By the time she was 12, she realised she could remember the previous year, to the day. Since 1980, her memory has been near perfect. Any date she is given from that year onward she can instantly recall.

The completeness of her memory means that

awkward moments from school, battles with her weight, hurtful comments that her mother made, never diminish because the memory or the hurt of them is still as fresh as when it was happening. Memories that elicit feelings of guilt and shame and remorse are continually playing out.

She has stored many painful memories, but perhaps worst of all was her husband's sudden death. On March 25, 2005, Jill's husband, who she married two years earlier, on March 1, 2003, had a stroke. Five days later, he was declared dead.

"This Friday it will be 40 months," she says. She has a neutral tone in her voice, refusing to allow herself to respond to the emotions. "I don't know how I've survived. I was 36 when I met him, 37 when I got married, and 39 when I buried him."

We are midway through dinner and she puts down her fork. "I can smell it. It will never go away – it will always be as intense. I couldn't understand, it was like someone hitting me in the head with a hammer."

Whereas most people will feel the pain from a traumatic event upon reflection, for Jill it is the same shock, horror and helplessness that she experienced in the moment it occurred. Time, for her, does not heal the wounds. "Because I can't forget. The pain never lessens."

Crying helps her to cope with the anger and the burden her memory inflicts. "I'm so tired of crying. I cry all the time. Up to 10 times a day. Every day. I cry in the shower every morning."

I ask Jill to try to describe what she is experiencing. "I can feel the pain in my bones because I'm so wracked about something. It literally hurts my bones. It's not like I'm sitting there weeping for hours and hours. Something will come over me and I will be struck."

When I ask her what she'd like to do in the future, her answer is unexpected: "I'd like to use my husband's sperm. It's frozen." Jill and her husband always intended to have children. "While he was lying on life support I looked at him and I went, 'Shit, I'm not pregnant yet. I need to freeze your sperm.'"

Now she is living at home with her mother and father in Los Angeles. It is a safe and comfortable place for her. At times it bothers her – it is not something she anticipated, but then there are people who say she is lucky. And part of the reason it's hard to leave her parents is that she has terrible separation anxiety.

"My brother is so opposite of me. He would get out of the car a mile away from the camp bus. They would have to pull me out of the car and put me on the bus."

Scientists cannot be sure precisely how much of our emotional make-up is influenced by our early development. Jill believes that many of her fears have lingered from childhood – in particular, a fear of death. She tells me about the time she overheard a conversation when she was two. Her mother was speaking about a friend's father who had died on the operating table. The intense feelings from that time have not dissolved. This would contradict what the scientists believe about infantile amnesia. "Infantile amnesia," says Cahill, "is one of the biggest mysteries of memory. If you ask a child of four what happened when they were three, ➤➤➤ 45

SUPER MEMORY: continued

they will blow you away with the amount of information they are storing. Then something remarkable happens around age five. The brain gets cleaned out. It is a fact that a little brain can store tons of information for years – age two to four – and yet that whole thing seems to be washed away at age five. There are many different theories. We just don't know why."

Dinner ends. Jill and I leave the restaurant and sit in a car park, inside her car. It is comforting for her to think that understanding how her memory works might someday help others. "I didn't have the life I thought that I would have. This is why I am here. Why I am really here."

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Jill's brother, Michael Rosenberg, takes a sip of his iced coffee and shrugs. "I don't really talk about the past that much," he says. "Most of it doesn't resonate. I mean, things happened and now they're not happening."

We are having breakfast at a cafe in West Hollywood. Michael is nearly four years younger than his sister, Jill, and they are close, speaking on the phone every day, but Michael does not share his sister's burden. It's easy to see why Jill would envy his freedom. His emotional recall about the past is limited, and in many instances he doesn't remember the past events at all. When he does – such as the time their mother had a tumour and needed surgery – it has nowhere near the same effect.

"My parents are big on *not* talking about things. My father's the kind of guy where if there's a problem he'll say, 'I'll handle it,' so there's no reason for talking about it. So it never came across as that big a deal. In fact, I was at school – summer session of freshman year of university – and my father called me and said, 'Everything's okay, but your mother had a heart attack on the operating table.' I don't think I knew the surgery was going on." Jill was there. Her mother recovered after the surgery, but the ordeal haunted Jill so much that she sat down and wrote out all eight months of the days her mother was ill, from October 1987 to May 1988.

Michael has empathy for his sister when he considers what it must be like not to forget. "It's

interesting to people because they've never heard of it – they just found out about it. But to me, it's the same thing it was a year ago. It's not new to me."

When they were young, all Michael knew was that it took Jill a long time to get over things. "It seems like a silly example, but it was a big issue between us for a long time. Before CDs and iPods my sister made mixed tapes off the radio. I stole a couple of her tapes that I took to summer camp and I lost them. Okay, I broke into her room. But I was 12 years old – yet she couldn't let go. A year and a half later she was still pissed off about those tapes. It wasn't a year and a half later for her. The way her memory works, everything is going on as clear as it was 10 years ago. It triggers the exact same emotions."

Has her interpretation of their shared experiences ever made him think differently of past events? "I didn't have a childhood where anything really traumatic happened – to me. It was normal and happy. For me. But for Jill... she never forgets. She can't let situations go. And it doesn't diminish over time. She had a lot more conflict. And suffering."

Jill has recently published her memoir, *The Woman Who Can't Forget*, but Michael hasn't read it yet because there might be things in it he doesn't want to know. "Ignorance is bliss. There's stuff about my dad in there... I have to prepare. I used to call her Rain Man. Did she tell you that? Until I was, like, 18. She'd get mad at me."

When asked if he feels protective of her, he is silent for a while. "That's a hard question. Sometimes." And if he was the one who had this memory? "I would be counting cards in Vegas." ■

The Woman Who Can't Forget, by Jill Price with Bart Davis (Simon & Schuster, £16.99) is available at the BooksFirst price of £15.29, including postage & packing. Tel: 0870 165

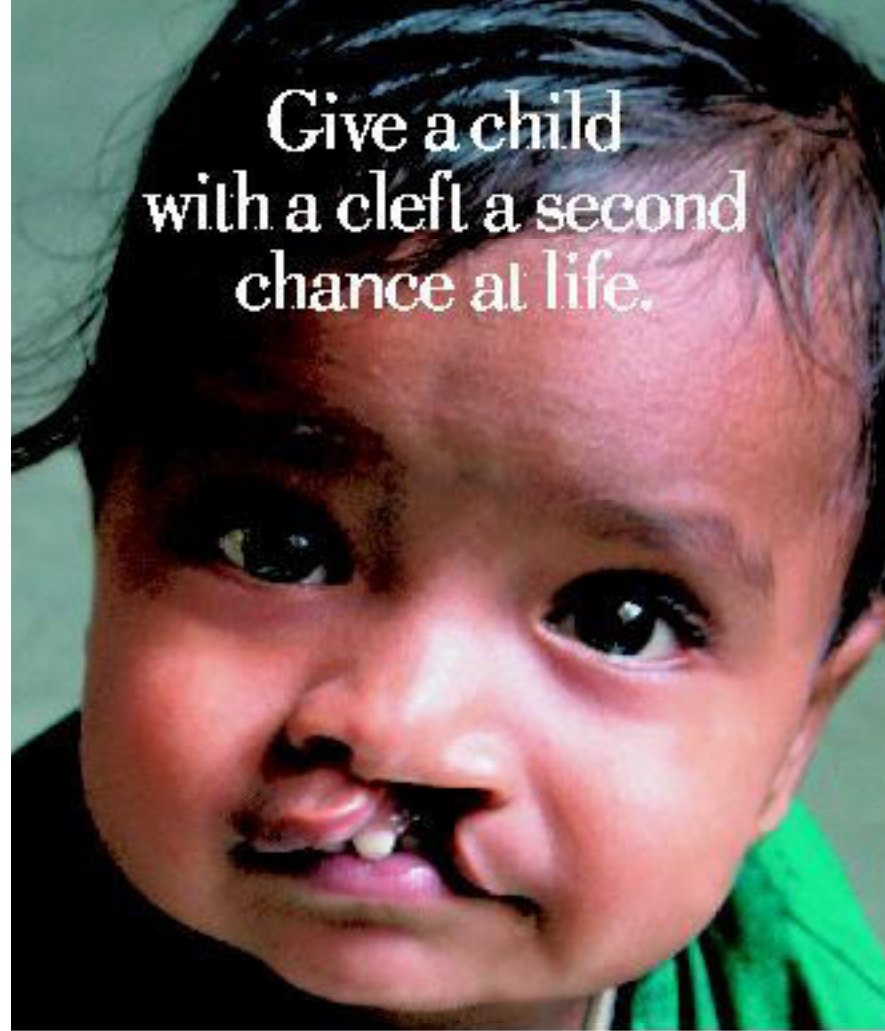
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The women sentenced to die have a cell each

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