

Brian Falkner

'I think it's really good, Janey,' he says. 'I know I wrote it, but I don't really understand it.'

'That's okay, Matty,' I say. I put the manuscript back in its cardboard box and put it away, high on a shelf in his closet.

I hug Matty tightly. He squirms, like any thirteen-year-old brother.

And that is enough.



SMILE

## SUNDAY

Grant was grinning at me, propped up on the bed with pillows, when I arrived with our mother at the start of visiting hours on Sunday afternoon.

In the beginning we'd gone to see him every day. Then after a few months it became twice a week. Then every weekend, usually on a Sunday.

'Hello, Grant,' Mum said. 'It's your mother, and Benny's here, too.'

Grant's eyes did not move to follow her as she edged around to the side of the bed.

'He loves our visits,' she said. 'Look how it makes him smile.'

Our visits didn't make Grant smile. Nothing made him smile; nothing made Grant do anything. Nothing except the effects of the massive stroke he had after his motorbike accident. The fixed grin on his face was

permanent: something to do with the way the stroke had affected the muscles in his face. But you couldn't tell Mum that. I mean, she knew. She'd sat in on the same doctor's meetings I had. But she liked to think that he was smiling, that somewhere inside he was happy. And it would upset her to be reminded of the truth.

He'd been shaved. His face had that fresh clean look. It made him look younger, maybe fifteen or sixteen instead of twenty. They shaved him about three times a week. Always on a Sunday morning because they knew that we'd be visiting in the afternoon. The nurses here were good like that. They really cared about him.

At least one or two of the younger ones would probably have thought about dating him, if it hadn't been for the stroke. Grant always had the looks in the family. Dad, when he was alive, always said that God had divided up the genes. Grant got the looks and I got the brains.

I guess he was right. I was only in Year 12, but in my spare time I was doing a couple of university courses. Smashing all my exams, too. Things that seemed complex to other people just seemed simple to me. I don't know why.

Grant was showing off for me when he had his accident. I didn't ask him to do it, and I know it wasn't my fault, but that doesn't stop the feeling of guilt. If I hadn't

been there that day, then he'd never have attempted that stupid stunt, and he wouldn't have spent the past twenty months in a hospital ward peeing into a catheter tube and getting sponge baths from pretty young nurses.

Grant kept grinning at me and I grinned back. I couldn't help it. He'd always had a bit of a lopsided goofy looking smile, which drove the girls crazy, and it was that exact grin now. You saw it, you smiled. That was just the way it was. Most people who met Grant liked him on sight.

It wasn't so easy for me. I had to really work for it. He had a natural charm, but I was shy and awkward. I could never hate him for it, though. I liked him as much as everybody else did.

Here he was, propped up in bed with a fixed grin on his face and he was still more likeable than me.

Mum planted a big kiss on his forehead like she always did, leaving lipstick marks that the nurses would clean up in the morning at sponge-bath time. Then she plonked herself into the chair next to the bed and started chatting.

I sat on the end of the bed, next to the raised lump in the blanket that was his feet, and tuned out a bit. Mum talked incessantly when we came here. She wasn't content to sit quietly. She wasn't happy just to be with him. She had to talk to him, sharing all sorts of gossip and every single detail of her daily life.

It wasn't for his sake. If he could have heard her he wouldn't have been the slightest bit interested. He would just have said, 'Whatever. Later, Mumm.' And he would have been off out for a bike ride. If only he could.

No, it wasn't for him, it was for her. By talking to him, pretending that he was listening, she somehow forgot that there was nothing going on upstairs. That she was talking to a living, breathing doll. He wasn't real. He didn't even blink, for God's sake. The nurses had to come in every hour and lubricate his eyeballs with drops to stop them drying out.

My father, our father, had dropped dead of a brain aneurism four years earlier. One minute he was talking at the dinner table. Next minute: gone. That was hard. It was hard enough for me, but I can't imagine how Mumm managed to cope with it. And now this.

She talked and I sat and watched, and I smiled at him, smiling at me, but my mind was elsewhere. On my university work.

I applied for a couple of neuroscience courses at university, and was accepted with the help of a glowing recommendation from my Year 12 dean.

Originally I was going to study biochemistry. That subject still fascinates me, particularly the communication between cells. There are huge advances being made every year in biochemistry and I wanted to be a part of that.

But I changed to neuroscience because of what happened to Grant.

Maybe at some deep level I imagined myself finding some kind of miracle cure for brain-injury patients and bringing them back from the dark void they were in. Maybe I thought that. Maybe I didn't. But I chose neuroscience and in one of those happy accident things it turned out to be the right choice. I loved it.

The brain is such a fascinating and complex piece of machinery and even the top neuroscientists don't fully understand how it works. Studying it is like being an early explorer, setting off in uncharted waters, unsure what you will find or where it might lead.

My lab partner, Charlize, and I had been working on a project that I thought was unique in the world of neuroscience and that was almost ready for testing. When it was ready I needed a test subject. And I had one. Lying on the bed in front of me.

The science was relatively simple. Speech is controlled by a small section of the left frontal lobe of the brain called Broca's area. It's named after a French surgeon, Pierre Paul Broca, who figured it all out.

That's the first thing you need to know.

The second thing involves electroencephalography (EEG). That's just a big fancy word for covering your head in electrodes and detecting neural oscillations in the electrical signals produced by brain activity.

Okay, let's simplify this. An electroencephalograph is a machine that picks up your brainwaves and displays them on a computer screen.

Charlize (who is a genius at the electrical stuff) and I had been working with an EEG electrode array, experimenting with the placement of the sensors, and a lot of other variables, to try to focus the system on Broca's area. You see where this is going: Our plan was to try to find a way to detect speech activity in patients who could not communicate otherwise.

Not brain-dead patients. If there were no brainwaves, then there'd be nothing for the electroencephalograph to pick up. But we planned to work with people like my brother, who still had discernible brain activity but were unable to express themselves in any other way.

Some locked-in syndrome patients, for example, can squeeze a finger or blink their eyes to answer simple yes/no questions. Others, like Grant, couldn't even do that.

But if there was anything going on upstairs, and if he was trying to speak, then that should produce activity in Broca's area.

What Charlize and I were hoping for was to be able to detect a positive or negative mental state. In other words to detect a pattern of brain activity that indicated a 'Yes' and a pattern for 'No'.

Of course we wouldn't be able to detect any patterns

unless there was something actually going on inside my brother's head.

We stayed at the hospital for an hour that Sunday, a bit longer than usual, then said our goodbyes. Grant just sat there and grinned his goofy, happy grin as we closed the door on the way out.

## TUESDAY

After a minor breakthrough on the Monday (thanks to Charlize, not me) we took four large plastic boxes of equipment out of the lab on the Tuesday and put them in the back of Charlize's mother's car. Charlize drove us to the hospital.

Grant's doctor attended at the start. I don't think he was all that interested. He just wanted to make sure that we weren't going to do anything nasty to his patient.

Once we showed him the equipment we were going to use, he seemed satisfied, and left us to it, happy that we weren't going to give Grant electro-shock treatment, or blast his head with radiation, anything like that.

Yeah, like I'd do something bad to my own brother. Charlize is so cool. She's one of the smartest people I know, and I was very happy that we paired up for our lab work, for lots of reasons. To see her, you wouldn't

pick her as a science genius. She dresses more like a surfer chick than a scientist: shaggy blonde hair, ragged jeans, outsized t-shirts and all that. She had a boyfriend, and even if she didn't, she was too old for me. I mean she'd never be interested in someone a year younger than her, and even if she would, I wasn't in her league. Grant would have been, maybe not intellectually, but he would have won her over with his charm.

But he was lying on a hospital bed, grinning at us and drooling.

First thing Charlize did was find a tissue and wipe the spit off his chin.

'I could have done that,' I said.  
'No big deal,' she said.

We set up the equipment together. It consisted of a laptop that connected to the signal processor, which in turn connected to the signal amplifier, then to the EEG receiver and finally the sensor array.

The skullcap part of the equipment consisted of a network of a hundred adjustable sensors, each of which had to be positioned in a precise place on the skull. Some on the face, but mostly over the top of the skull and on the temples.

The signals are tiny, which is why the signal amplifier was needed to boost the information before the signal process turned it from analogue into digital information that could be displayed on the laptop screen.

The science and the technology were sound, and well proven.

What we were intending to do with it was highly experimental.

The nurses had shaved Grant for us that morning, and not just his chin and cheeks. They had shaved his head. That made it easier to position the sensors. Charlize adjusted the sensors, while I set up the computer and other gear. To get everything in the right position, half the time she sat, straddling him, on the bed, with her chest in his face. Even in a coma, my brother got more action than I did.

The tuning took hours but the results were disappointing. Broca's area was mostly uneventful. A few farts and burps, but nothing of any sustained intensity that could be recorded or analysed.

Charlize sensed my disappointment and when I finally switched off the computer she came and put her arms around me. I sighed and wished I could have put my arms around her also, but that wouldn't have been appropriate. She was consoling me, not cuddling with me.

'I'm really sorry,' she said.  
'It doesn't mean that it won't work,' I said. 'Just not on him. We'll have to find another subject.'

She nodded. 'No sweat.'  
It wouldn't be 'no sweat'. It would be a lot of sweat. Finding a suitable subject, gaining all the permissions,

it would have been a lot easier if there'd been something going on in my brother's brain.

'I'll help you pack up,' Charlize said, dropping her arms. I really wished she'd put them back. It had felt nice. 'I need to meet Paulie at 6.'

What kind of a name was that? Good for a fish, or a parrot maybe – but not a boyfriend.

'No, I'll do it,' I said. 'You go. I want to quickly try the right side before I pack up.'

There have been documented brain-injury cases where the centre of speech has somehow switched itself from the left front temporal lobe to the right. The brain is an amazing organ. It compensates, repairs, rearranges things to try to get them to work. If there was even the slightest chance that Grant's brain had done this, I wanted to try it.

A nurse came to the door as Charlize was getting ready to leave. She was older, grey-haired, severe, not one of the ones that Grant would have been hitting on. She looked like a prison warder.

'Visiting hours are over,' she said, 'I'm going to have to ask you to leave.'

She sounded like a prison warder, too.

I found our doctor's permission slip and waved it at her as if it was an all-day pass.

'We have permission,' I said.

She didn't blink. 'Visiting hours are over.'

Charlize put a hand on her arm and, talking quietly, drew her outside. After a moment the nurse popped her head back in and nodded.

'You have an hour,' she said. 'We need you out of the room after that so the nurses can perform their duties.'

'Definitely,' I said. I had a feeling that the nurses' duties involved changing colostomy bags, things like that. And I didn't want to be around for that.

Charlize smiled and waved as she left.

Recalibrating our equipment to the right temporal lobe took about half an hour. Fine-tuning it took almost as long. I ended up with just a couple of minutes before the prison warder threw me out.

I wasn't expecting anything, but I had to know.

I sat on the visitor's chair with the laptop on my knees, looked over at Grant, and said, 'Hey, big bro, how you feeling?'

A pattern of colour exploded onto my screen.

I stared at it for a moment, unsure about what I was seeing, the laptop slipping slowly away. I had to grab at it to stop it sliding onto the floor.

'Can you hear me?' I said.

Another, slightly different, and much quicker pattern of coloured dots.

'Do you know who I am?' I asked.

The pattern repeated. It was possible that I was seeing a pattern that indicated a positive answer. In other words, he'd just said, 'yes'.

I said, 'Is your name Grant?'

Same pattern, therefore same response. Yes. Maybe.

'Is your name Obi-Wan Kenobi?'

A different pattern. Possibly negative. No.

The first had been like a starburst, with lots of reds and yellows. The second was more like an inward spiral, dark oranges and blues.

'Am I your mother?'

The negative pattern.

'Am I your sister?'

Negative.

'Am I your brother?'

Yes.

I wanted to hug Grant, but I didn't. It would upset the delicate mess of sensors attached to his skull. I was short of breath, hyperventilating, beyond myself with excitement. I wanted to call Mum, but I didn't. First rule of science: Quantify, qualify and prove your results before you shout them out to the world.

I told Charlize, though. I used some of my precious prepaid minutes to ring her from the bus on my way home. Strangely, she wasn't as excited as I expected her to be. She sounded flat and dull. Interested, but not excited.

I guess she had to see it for herself. She probably thought I was exaggerating, or seeing things that I wanted to see, because it was my brother.

### WEDNESDAY

Pulling the sensors off the previous day had taken only a few minutes. Putting them back on took just as long as it had the first time, and again Charlize did it. Again, she leaned over Grant, and this time she was wearing a low-cut t-shirt.

I mean I wouldn't trade places with him for anything – well, maybe for a minute. He was getting a great show. Charlize herself had seemed a little bleary-eyed when she picked me up and drove us to the hospital. A bit upset. I'd been too excited to really think about it, or ask, and by the time we got into Grant's room I had basically forgotten about it.

I had left all the other equipment set up, on the table in the corner.

Now I set the laptop on the bed where we could both see it.

'Hey, Grant,' I said.

A flaring, swirling pattern of dots on the screen.

'That doesn't mean anything,' Charlize said. She cradled her chin between her thumb and forefinger.



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'Be nice,' I said. 'He heard that.'

The screen flared with what I thought was the positive response.

'That's it,' I said. 'That was a "yes"!''

Charlize still wasn't convinced. 'Grant, please repeat the last word you said.'

Yes.

'The pattern changes,' she said.

'Of course it does. When you say the word "yes" is it always the same? If I ask you whether you'd like a cup of coffee, you say "Yes". When your boyfriend asks you to marry him, you say "Yes!"' Same word, but completely different intonations and meanings.'

There was an abrupt silence. I turned to look at Charlize. She was shaking with emotion.

'Charlize?'

'We broke up last night,' she said and swiped at her eyes.

Damn. I should have guessed something like that. Or at least asked her why she was upset in the car. Grant would have. He was always good with people. I've always been useless.

'I'm really sorry,' I said. I really didn't know what to say in situations like this, and honestly, I wasn't all that sorry. I was sorry that she was hurt, but no more than that.

She shook her head and was the calm and detached

Smile

scientist again. 'It's not important. Let's try and prove that you're right. Can he say "no"?''

'You sure you're okay to continue?'

'Quite sure.'

I nodded. 'Okay. Grant, are you a three-headed alien?'

Yes.

Huh?

I repeated the question.

No.

'That's it,' I said. 'That's the negative response.'

Charlize was still not convinced. Neither was I. Not as much as I had been.

We spent the rest of that session, until the nurses kicked us out, trying to determine patterns, but with inconsistent results. The same question sometimes produced a 'no', and sometimes a 'yes'. Other times a random pattern that didn't relate to anything.

Afterwards we drove home in her mum's car and her personal life was obviously occupying more of her mind than our research project. I guess that was understandable. She said hardly anything and occasionally seemed on the verge of bursting into tears.

'I might not be in tomorrow,' she said, when she dropped me off at home.

'No worries,' I said.

## THURSDAY

She didn't come in on Thursday. I don't know what she was doing, but in a way I was glad. It gave me time to experiment, without the pressure of someone watching. I tried repositioning the sensors slightly, which she wouldn't have let me do if she'd been watching. They were in exactly the prescribed locations, according to her textbook.

I was an hour into it before I managed to get another pattern on the screen.

'Was that you, Grant?' I said.

Yes.

Still not sure if I was having a conversation with my brother, or a random pattern generator inside his brain, I asked him to repeat it.

Yes.

I sat for a moment and thought things through. It seemed rude to ignore him and leave him out of what was going on, so I started to tell him what I was doing.

'We appear to be seeing patterns,' I said. 'Do they relate to sounds?'

Yes. No.

I took that as a maybe.

What I was suggesting was mind-blowing. I didn't dare to think that it might be for real.

That there could be a correlation between the brainwave patterns I was detecting and actual sounds. I set up the laptop to record the pattern sequences.

'Grant, please say the word "yes".'

Yes.

'Now the word "no".'

No.

'Say "note".'

A different pattern on the screen.

I played the sequence back. The first part of the pattern was almost identical to the word 'no' but it dissolved into a different shape.

'I think that's the "no" sound,' I said. 'Try saying "nobody".'

Another sequence. What I was seeing on the screen was Grant's brain trying to speak.

I spent the rest of visiting hours asking him to say words, and identifying the sounds that made up those words.

The, their, though, thee. Sit, sat, set. Bad, bed, bid, bud. And so on.

Each time I thought I had identified a sound, I stored it. I created a small database and typed in that sound phonetically, then linked it to the brainwave.

It was long, arduous work. I never realised how many sounds there were in the English language. I was still going when the prison warden came to kick me out.

There was a sudden flash on the computer screen as I went to shut it down. I compared it quickly to my little database.

The hard G sound, as in golf. The *oo*h sound, like wood. The *D* sound. *Good*.

I transcribed the rest of the sounds onto a notepad.

*Guh ooh Duh Bi.*

*Goodbye!*

'Goodbye, Grant,' I said.

More flashes on the screen.

*W Eh ZTH UH G er L.*

It took me a moment but I figured it out: *Where's the girl?*

'Charlize?'

*WTHTH UH Nuh Ai S B oo B S.*

*With the nice boobs.*

I laughed. 'She'll be here tomorrow. Do you want me to get her to put your sensors on again?'

*Yes. Yes. Yes.*

## FRIDAY

Charlize wasn't there on Friday. She wanted to be there, but she had a progress meeting with our professor, and you didn't miss those for anything. We agreed that she would talk to him in general terms about what we were

doing, without giving away too much. It was kind of a superstition. As if by boasting about our success we would jinx it somehow.

I fired up all the gear and smiled at Grant as I sat down. He gave me that permanent goofy grin.

'It's great to see you,' I said, and it was. It was as if he had come back from the dead. For two years he was gone, but here I was, talking to him, knowing he was listening.

I had spent the entire evening writing a small computer program. It took the feed from the headset, scanned it for patterns that we had already stored in the database, and automatically assigned the word sounds. Then it displayed them as text.

'Are you awake?' was my first question.  
Yes.

'Good morning,' I said.

*G ooh Duh Mnh aw Nuh ING.*

*Good morning.*

It was like learning another language. Within a few minutes I stopped seeing the awkward phonetic spelling that my program produced, and my mind automatically translated it into words.

'Just wait till Mum comes on Sunday,' I said. 'She's going to get a real surprise.'

*Y Oo H aw NT oh ld H er Yuh ett.*

*You haven't told her yet?*

I shook my head. 'I wanted to surprise her.'

Thank you.

'You're welcome.'

Really. Thank you for doing this.

'Really. You're welcome.'

*I was going insane.*

It was outrageous, awesome and brilliant all at once.

'Grant, you better believe how happy I am to be talking to you. It's amazing.'

*Where's Charlize?*

'Meeting with the professor. She'll be here tomorrow.'

*Is she your girlfriend yet?*

I laughed. 'No. She's a bit old for me.'

*If you older than her, would be problem?*

'No, I guess not.'

*So go for it bro.*

'She just broke up with her boyfriend.'

*I know. I heard. So what you waiting for?*

I considered that. She'd never be interested in me.

But I knew what Grant would say to that.

All I said was, 'Too soon, too soon.'

*Book book book book.*

I raised an eyebrow.

*Chicken sounds.*

I laughed.

*So what's next?*

'What do you mean?'

*We talking. Now you know am alive in here. What next?*  
'Not sure.'

And I wasn't. I had thought this experiment through as far as getting 'yes' and 'no' answers. The rest was unexpected. Where to from here? No idea.

*Get the doctors. Tell them what's going on.*

'I will, soon. Soon.'

*I want to get out of here.*

Those words sat on the screen like a silent scream. Like an accusation. I hadn't thought this through, but now I was thinking. And seeing the problem.

There was no way out of here, no cure for what had happened to Grant. Maybe in the future. Maybe I'd be the one to find it. But that would take years. Decades. Even then, the chances were small.

'I'm - working on it,' I said. 'So is Charlize. We'll get a big research grant, involve a lot of really smart neurologists, there are answers out there. We just have to find them.'

*I'm stuck here?*

'For now.'

*You have no idea what it's like.*

'I can imagine.'

*No you can't. I can't blink. The overhead lights hurt my eyes. I barely sleep. I can't move. If I get an itch I can't scratch it. I pee into one tube and poo into another. I get fed through a tube in my arm. Your sexy little research partner comes and sticks her*

chest in my face and I just want to hold her. To kiss her. But I can't. I want to ride my bike again. I want to eat barbecue steak. I want to drink beer and go to the movies. I want a life.

'You need to be patient,' was all I could think of to say. Patient. I don't want to be patient. I don't want to be a patient. What are we talking, weeks, months?

I was silent.

Years? I don't think I can stand another day of this. I can't wait for years. I can't deal with this.

'Grant—'

Shit bro, I can't even cry.

'Grant, I promise. We'll get every research university in the world onto this. We just need a breakthrough. You will walk again. You'll do all those things you mentioned. I promise you!'

Blank screen.

'Trust me.'

Blank screen.

'Grant?'

Kill me.

'Don't be stupid,' I said. 'This is just for now. Not forever. You can get through this.'

Kill me.

'No.'

*Pull out the plugs, or whatever is keeping me alive.*

'There's nothing keeping you alive. There are no machines. You are keeping yourself alive.'

*Then find some rat poison. Put it in my drip.*  
'Not going to happen.'  
*You owe me.*

'Owe you? How do I owe you?'

*I wouldn't be here if it wasn't for you.*

Ouch. There was some truth to that. But no way was it my fault.

*Kill me. Kill me. Kill me.*

The simple black letters on a white screen conveyed only information: no emotion; no emphasis. But I didn't need it to know that he was screaming.

I shut off the computer, stared at my hands, then at the ceiling. What he was asking me to do was too much. But the alternative was even more unthinkable.

I sat for a long time in silence as the sun dropped slowly behind the trees outside the window on a world that Grant would never see.

I started to cry. I cried for Grant.

Because he couldn't.

## SUNDAY

Charlize met me and Mum in the foyer as we waited for the elevator.

'Can I talk to you for a moment?' she said.

'You go on ahead, Mum,' I said. 'We'll be along in a minute. Just some uni stuff to discuss.'

Mum nodded and smiled. I think she was going to say something but the elevator doors shut it off.

Charlize stared at me for a moment then put her hand on my arm. I liked the feel of her fingers on my skin.

'It's Paulie,' she said. 'Well, it's about Paulie.'

'How can I help?'

'The reason we broke up—' Her fingers slipped down my arm to my hand. She squeezed it gently. 'It was you.'

'Hey, don't blame me. I wasn't even there.'

She smiled. 'He said that all I ever talked about was you. That he didn't even seem to figure in my thinking.'

'Didn't he understand that we work quite closely together?'

'Yes. Still, it got me thinking,' she said.

'Thinking?'

'All I was going to say was that if you wanted to, like, get a cup of coffee or something, sometime, outside of our uni stuff. That'd be okay.'

I stared at her for a moment. I pressed the button to bring the elevator back down.

I wanted to. I really wanted to. But I said, 'I think that would make it difficult to work together.'

'No, you're right,' she said, far too quickly, letting

go of my hand. 'Of course you're right. And if it didn't work out it could get really awkward.'

'Absolutely.'

That was a perfectly good reason. But it wasn't the real one.

The truth was that I didn't deserve Charlize. I didn't deserve that kind of happiness.

The elevator arrived and we stepped into it, smiling awkwardly at each other.

Grant was grinning at us as usual, propped up on the bed with pillows, when we entered. He had a big lipstick kiss on his forehead.

Mum was standing in front of the pile of computer equipment. She looked up as we entered.

'How have your experiments been going?' she said.

I shook my head. 'Sorry, Mum. Nothing. It didn't work.'

Charlize frowned at me.

'I thought you said there were really interesting results,' she said.

'I was getting ahead of myself,' I said. 'Turned out to be just random brain patterns. Static. White noise.'

'Oh.' She shrugged. 'That's a shame. It looked so promising.'

Grant stared at me with unblinking eyes.

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'You've got to fall down if you want to learn to walk,' I said. 'There'll be lots of false leads before we make any real progress. But I promise you that I won't rest until I find a solution.'

Mum nodded. She thought I was talking to her. 'You're a good brother to him,' she said. 'And he knows it. He loves us visiting. Look how it makes him smile.'



LOCKDOWN