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IS MY
BRAIN ON
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by SARAH STROHMEYER

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ONE

It is an accepted scientific fact that the brain of the average adolescent male thinks about girls every seven heartbeats. Which, when placed in perspective, leaves very little time for the brain of the average adolescent male to seriously think about anything else—including, quite possibly, imminent death.

Addie figured this was the only explanation for why the boy wedged in the seat next to her wasn't freaking out like everyone else on Flight 1160 from New York to Boston.

A violent summer storm tossed the plane like a Frisbee; it climbed, then fell, banking to the left, then to the right, only to do it all again. The electricity flickered.

Drinks spilled. Luggage actually broke through a couple of the overhead compartments. People alternately gasped, groaned, and clutched their stomachs.

Intellectually, Addie understood that their fear was illogical. With at least thirty thousand feet of space between the ground and the plane, which was specifically designed to withstand the external stress of high winds and the occasional lightning strike, the chances of a free-falling crash were ridiculously minuscule.

But try telling that to her amygdala. That troublesome almond-shaped segment of her brain too often overruled the cortex's calm reasoning when it came to fear, anxiety, and, much to her embarrassment, love. So despite mentally recalling the statistical improbability of midflight crashes (eleven million to one) and trying to distract herself with the latest edition of *Neuroscience Today*, she was inwardly roiling in heart-pounding, palm-sweating, pulse-racing panic.

Unlike 11B, as Addie had mentally nicknamed him. He was blissed out to the music from his earphones, totally oblivious under his black curls, a silly half smile on his face, seat back, eyes closed.

Suddenly, the lights went off and the plane dropped, belly down, like a rock, which was so unexpected that the cabin went completely silent.

"I think we might have lost an engine," said a man in

row eleven, loud enough to be heard all the way to first class. He pointed out the right window. “It’s on fire!”

“We’re going to die!” screamed the woman in the window seat next to him, gripping the armrest. “Die!”

This was the third such outburst from 11A and Addie was growing mildly annoyed. For one thing, screaming was a primal reflex meant to alert others to flee approaching danger and was, therefore, completely useless on a plane. (Which was ironic when you thought about it—while they were in flight, they couldn’t *engage* in flight.)

Moreover, due to her frequent outbursts, 11A was increasing the cabin’s CO₂ to dangerous levels.

“Excuse me,” Addie said, leaning across the long legs of 11B to get the woman’s attention. “Is that really necessary?”

She regarded Addie through thick lenses. “*What?*”

“Your pointless emissions.”

“I beg your pardon,” the woman exclaimed, reddening.

“I don’t mean to criticize . . .”

(This was Addie’s go-to opening line, suggested by her best friend, Tess, who had once gently noted that even though Addie might possess the noblest of intentions, occasionally, in an effort to be informative, she came across as, well, bossy. “But only because you’re *so* smart and right ninety percent of the time,” Tess had added quickly so Addie’s feelings wouldn’t be hurt.)

“... but considering the diminishing levels of oxygen in the cabin, it would be ever so helpful if you could keep your carbon dioxide production to a minimum.”

“Who cares about carbon dioxide?” the woman snapped. “Can’t you see? We’re about to die!”

A little boy sitting on his mother’s lap across the aisle began bawling.

Addie estimated his age to be approximately six to eight—old enough, surely, to not be treated like a baby. Her twin stepsisters were that age and already they were acquainted with the mysterious art of cosmetics and the climate-change themes in *Frozen*.

“Hey, what’s the problem, buddy?” Addie inquired.

The mother smoothed his hair. “Tommy gets upset when other people are upset. He’s very sensitive.”

Immature cerebellum, Addie deduced. Common among boys of that age group and, well, older ones, too.

“Perhaps this will allay your fears: flying has a 99.999 percent survival rate, and no American plane in modern history has fallen to the ground due to turbulence. Not once.”

He sniffed and rubbed snot from his nose. “Really?”

Addie nodded. “Really. You’re one-hundred-percent safe. Planes fly with one engine all the time.”

“See, Tommy?” his mother said. “No reason to cry.”

“I didn’t know that.” He sniffed again.

“It’s the first three minutes after takeoff and the last eight minutes until landing where you run into trouble,” she continued, hoping to nurture his nascent interest in aviation. “That’s why landing is nothing more than a controlled crash.” To illustrate, Addie plunged her hand through the air between them. “One gust of wind shear and we’re toast!”

And Tommy started crying all over again.

11B pulled out an earbud and murmured, “Nice going.”

“You can do better?” she asked.

“Probably anyone could.” He tapped Tommy on the shoulder. “Hey, little dude, you want to see something neat?” He pulled out a set of keys attached to an unusual object—a large brown scorpion encased in acrylic.

Repulsive, Addie thought. Taking a creature of nature and turning it into a tchotchke.

“What is that?” Tommy asked.

11B said, “You tell me.”

“A spider?”

“Nope. Close, though.”

“A tarantula?”

“A tarantula is a spider,” Addie said. “*Obvi.*”

11B flashed her a quizzical half grin. “Thank you, Bill Nye the Science Guy. However, next time let’s remember to raise our hands.” Turning back to the boy, he said,

“Here’s a hint. It lives in the desert and there’s a stinger at the end of its tail.”

Addie raised her hand. 11B paid no attention, even when she flapped it and said, “I know, I know.”

Tommy took the key chain, being mindful to pinch the one corner absent a leg. “Is it a . . . scorpion?”

11B shot him a finger. “Bingo. This one’s a Manchurian scorpion I brought back from China. They eat them there, you know. On a stick!”

Mesobuthus martensii, Addie thought, fighting the temptation to inform them of the venom’s fascinating use by Eastern physicians to treat neurological disorders such as paralysis and chronic pain and its untapped potential to cure forms of cancer.

The boy gazed at the dead bug with fresh awe. “I’ve never seen one up close before.”

“You can keep it,” 11B said kindly, smiling at the boy’s stunned expression.

“No way!”

“Sure. It’s good luck, you know.”

“It is?”

Even though Addie was impressed, even touched, by 11B’s easy generosity, she had to scoff at the silly notion of a lucky charm. Like “luck” was even a thing. She was about to put paid to this silly superstition when she felt a distinct pressure on her toe and looked down to see 11B’s

black sneakered foot pressing on hers—hard.

“What do you say?” the mother prompted.

“Thank you!” the boy gushed.

“Yes, thank you,” the mother repeated with relief, handing the keys to 11B. “That was extremely thoughtful. He’s totally forgotten . . . everything.” She pointedly looked at Addie, as if somehow her mentioning the chances of dying at the beginning and end of flights had been inappropriate, when she’d only been stating facts.

“No problem,” 11B said, handing back the freed scorpion. “To be honest, I’m not big on carrying around dead animals, even if they are scorpions, but I bet it’ll keep Tommy busy.” The two of them stared adoringly at Tommy, who was busy flipping the key chain over and over, inspecting every detail.

Addie sighed. It was extremely awkward to be stuck in the middle of a conversation when you were trying to comprehend *Neuroscience Today*’s exclusive on the untold secrets of dopamine.

“Do you want to switch seats?” she asked 11B.

He shook his head. “Nah. My work here is done.” He sat back and untangled his earbuds, which wasn’t easy as, in attempting to begin its early descent, the plane had begun listing from side to side.

She resumed reading and managed to get through one whole paragraph before she heard shallow panting,

a telltale sign of hyperventilation. Her diagnosis was further confirmed by a cursory visual examination of 11B's hand.

"That twitch," she asked, gingerly touching the muscle at the base of his thumb, scientifically referred to as the opponens pollicis, "did that just start?"

"Huh?" He pulled out the right earbud.

She brushed her finger along the fleshy mound. It pulsed. "See?"

He rotated his wrist, examining the situation. "Not sure."

The plane plummeted yet again, eliciting another round of gasps from the passengers. 11A grabbed the white barf bag from the middle seat and heaved.

Kinetosis. When the inner ear and optic nerve send mixed signals to the brain, prompting the brain to assume, weirdly enough, that the body is being poisoned . . . whereupon it orders the stomach to empty its contents. *Fascinating.*

11B flinched at the muscle spasm. "Should I be worried?"

He sounded concerned. Addie assessed his other symptoms. Faint perspiration on his upper lip and above his heavy dark brows. Dilated pupils in his large brown eyes. A bluish tinge at the base of his nails. Well, that ruled out her two prior assumptions about him being

unfazed by the turbulence.

“Are you dizzy?” she asked, circling his wrist to take his pulse.

“I don’t know.” He massaged his temple. “I think I might be getting a headache.”

“You’ve been panting out too much carbon dioxide. You need to reabsorb some by breathing into a paper bag.”

Which was in the process of being filled by 11A.

“That’s the last one around so . . . not an option,” he murmured.

The plane pivoted a sharp ninety degrees as smoke began to fill the cabin. 11B blanched, and even Addie, minutes after explaining to Tommy that the odds were solidly in their favor, found herself wondering if this was the end.

A crackling from the speakers overhead signaled an incoming announcement from the cockpit. “Well, folks, I’m going to do my best to get us into Logan without too many bumps,” the captain drawled, “but it might be a rough landing. Therefore, I need you to put up your tray tables, seatbacks up, and, just to be extra cautious, to place your heads between your knees.”

“And kiss your butts good-bye,” 11B said under his breath.

The last eight minutes are the most dangerous. Addie braced herself for the worst.

11A shoved the soiled barf bag into the seat pocket and bent forward. 11B keeled slightly. If Addie didn't act fast, he was going to lose consciousness, possibly hit his head or . . .

She grabbed his chin and gave him a shake. "Wake up!"

He blinked slowly. "I don't feel good. There's this strange tingling . . ."

"Around the edges of your mouth. I know." He was farther along than she'd thought. This was bad. "Listen, do you trust me?"

"To do what?"

"To follow my advice, no questions."

"What kind of advice?"

"Put your lips on mine."

His eyes widened as if she'd asked him to kiss a toilet seat. "What for?"

Typical boy, she thought. "Oh, please. I'm not interested in you that way! This is purely a medical intervention. Without a bag handy, the only way to avoid stage five hyperventilation is for you to put your lips to mine and breathe. Otherwise, there is a very good chance that you will pass out. Or, in the extreme case, lose enough oxygen that you actually suffer a stroke, possible brain damage, and/or death."

"You're joking."

“See me laughing?”

“Do you ever? Somehow, you don’t strike me as the giggling type.”

She narrowed her eyes. “It’s your choice. Live or die.”

He hesitated and then, just when the plane took another free fall, leaned in. Addie pursed her lips, ready to perform her public service, but as he moved closer, there was something about him that made her do a double take.

Those eyes.

And then it clicked.

TWO

“I know you!” she exclaimed. “You go to the Academy.”

He flinched, backing off. “355?”

She nodded, trying to place him, which was often a challenge. People who weren’t in her advanced science classes, who didn’t spend all their free time in the library or the lab or live in her all-girls dorm were, even in their small school, strangers.

“Heads down, please.” A flight attendant placed slight pressure on Addie’s head. She and 11B did as they were told.

“This actually helps with the dizziness,” he said, inhaling deeply. “Probably not as much as a kiss, but . . .”

“This was going to be my second option, though it’s

more effective with a bag.” She peeked at 11A, whose lips were moving rapidly in a silent prayer. “So, how come we’ve never met before?”

“I’m fairly new,” he said, palming sweat off his brow. “I used to go to Andover, but I transferred in January after I came back from Nepal.”

Something crashed in the overhead bins. “What were you doing there?”

“Volunteered with Projects Abroad to help rebuild after the earthquake. Most amazing experience of my life. You can’t imagine the devastation in Kathmandu. No running water. Some people walking around like ghosts, having lost their entire families, others opening what was left of their homes to you, just grateful to be alive. It was surreal.

“On top of that, I went to China on the way back and saw the Great Wall, which totally blew my mind. Made everything else I’d ever seen seem meaningless in comparison.”

“And that’s where you got the scorpion key chain.”

He nodded. “Along with a whole new perspective on the world. Just that.”

“Just that,” she repeated.

“Which was why I couldn’t go back to school. I barely lasted a month. Guys who’d been my best friends seemed like such dirtbags. They’d go, ‘Dude, wish I thought of

that, padding the college résumé with some humanitarian crap. Yale eats up that kind of stuff.”

Addie cringed. “So cynical.” She wanted to keep him talking. Distraction was an excellent antidote for anxiety-induced hyperventilation.

“I know, right? I mean, by the time I left, my family in Nepal was like my own. They weren’t just a thing on my college to-do list. So, I dropped out of Andover in October and switched to the Academy for the next term. And I’m a semester behind.”

Which explained why he wasn’t in her classes, she thought, noticing that his thumb had quit twitching even though the turbulence was so rough the seats squeaked as they plowed through the clouds.

“Cognitive changes,” she said.

“Pardon?”

The plane lurched and she closed her eyes briefly, willing her stomach to quit churning. “Dealing with unfamiliar surroundings stimulates the creation of new neural pathways, thereby leading to a greater range of cogitation. Similarly, mastering Liszt’s famously complex Hungarian Rhapsody no. 2 might broaden a pianist’s skill at playing subsequent pieces.”

He rubbed the back of his neck. “Greater range of cogitation, huh? If I knew what that meant I’d say you’re right, maybe.”

Maybe? She was *always* right, but she didn't quibble. "My theory is that even transferring to the Academy didn't solve your existential crisis. No doubt, having witnessed human suffering firsthand along with the Great Wall of China's majestic grandeur, you found it nearly impossible to rejoin the game. Striving for a perfect 4.0 and a perfect score on the SAT became irrelevant."

"Exactly! Where were you when I was trying to explain that to my parents when I dropped out of Andover?"

Addie checked her mental calendar. "If it was during Christmas break, then probably back home in the suburb where my parents live outside of Philly."

He chuckled. "Good one."

She didn't get what was so funny. She *had* been at home; the prospect of a ski vacation or a winter trip to the Caribbean would have been prohibitively expensive for the Emersons' shoestring budget. Unlike Tess, who spent every Christmas in Wales.

Tess was forever doing cool stuff on her vacations: surfing off the coast of Australia, basking on a beach in Thailand, riding elephants in Zimbabwe, where her mothers sponsored a school for girls. Last summer, she skied in Norway. In June. At midnight. In the sun.

Meanwhile, Addie was at home in Perkiomen, Pennsylvania, babysitting the twins. For free.

“Of course I won’t pay you to watch your sisters,” her father said indignantly when she politely asked to be compensated for sacrificing her free time to entertain two demanding little girls with endless games of Pretty, Pretty Princess. “I’m surprised by your selfishness, Adelaide. We all chip in here as a family, and even though you go to boarding school, when you’re in this house, you’re expected to be a team player.”

Unfortunately, pleading to her mother was useless, since her mother was usually off researching venomous arachnids in some remote outback without cell service.

The upshot was that with all of her father’s attention focused on his second family and all of her mother’s energy devoted to the Karakurt spider, Addie’s interests fell through the cracks. So she’d learned to look out for herself, even finding a way to pay for college—the reason she was on the plane to begin with.

Final submissions were due in two weeks for the Athenian Award—the highest honor granted to high school seniors who planned to pursue careers in neuroscience. She and her lab partner, Dex, planned to turn in their step-by-step Brain Adrenaline, Dopamine, and Amine Synthesis System, otherwise known as B.A.D.A.S.S.

Winners received a full scholarship to the college of their choice for four years. This meant nothing to Dex, whose parents annually dashed off \$50,000 checks the

way some people hand out Halloween candy. But for Addie, who relied on the good graces of Academy benefactors to cover her schooling, every penny counted. Dex had already promised that he would donate his half of the money to her if they won.

That was a big *if*.

Even their project advisor, Dr. Brooks, doubted that the Athenian Committee would vote for the controversial premise that she and Dex could make anyone fall in love with anyone by implementing a few simple methods.

“I fear a glorified love potion is too silly to win an Athenian,” Dr. Brooks told them last semester when they pleaded for her faculty endorsement, a key requirement for all high-school submissions. “I will keep an open mind, however, and wait for your trial presentation this summer. By then you should have finished your experiments and honed your thesis. At that point, the headmaster and I decide whether to endorse this project.”

The trial presentation was scheduled for that afternoon, and the truth was, they weren’t even close to finished. They still had one more experiment to run, the make-or-break test that would determine whether they could duplicate the results of previous experiments. It was totally nail biting.

Dex had been at the Academy all summer refining the project, but Addie had been allowed to return now only

because her father and his new wife, Jillian, were taking the twins on a one-month tour of Europe. Not that they'd even considered asking her to come along—even as a free au pair.

“At least your parents are involved in your life,” she told 11B. “If I didn’t take care of my twin sisters, my father probably wouldn’t notice if I fell off the face of the earth. Not that such a thing would be possible, seeing as how the earth doesn’t have a face and, of course, because of gravity.”

He laughed again. “You’re pretty funny, you know that?” He took advantage of his position to tie his sneaker laces. “Wish I met you last semester instead of . . .”

She waited.

He said nothing, just switched to the other shoe to redo those laces, too.

“Instead of what?” she asked.

He sat up and looked around. “Instead of . . .” He paused. “I didn’t know anyone and I was a junior-year transfer student. . . .”

“You should resume the crash position,” Addie said, as the smoke grew thicker. “We’re about to make contact.”

He lowered his head, his dark curls falling over his face and obscuring his features so she couldn’t see his expression. Not that this was an obstacle. When it came to reading body language, Addie was the first to admit that she sucked.

“Anyway,” he said, “I ended up doing things I shouldn’t have done, so I’m going back for summer school. To atone for past sins.”

Sin was such an odd word. Academy 355 was strictly secular, not Catholic like Gonzaga or Episcopalian like St. Paul’s. Those “things he shouldn’t have done” must have been really, really bad. “Did you kill someone?”

He turned to her and furrowed his brows. “No.”

“Steal an item valued at over three thousand dollars, such as a late-model car?”

“Grand theft auto? Yeah, I don’t think so.”

“Torture an animal?”

“*Me*? I’d be the last person to hurt an animal. That’s why I gave away that key chain.”

He opened his brown eyes wide. Addie noted that his lashes were freakishly long and curled up at the edges.

“Then,” she said, “I hardly see why you have to make amends.”

“Let’s put it this way: if I don’t, there’s a place reserved for me at a certain all-boys military school in Colorado.” He exhaled. “All. Boys. How frightening is that?”

“Depends on who’s going. My best friend, Tess, would love it.”

For some reason, that, too, made him laugh. Though it was true. Despite—or perhaps because of—her vegan actor liberal parents, Tess was instantly attracted to boys with an overabundance of militarized patriotism and a

penchant for buzz cuts. Case in point, her ROTC boyfriend, Ed.

“How about you?” 11B said. “Ever have an existential crisis?”

“Not per se,” she said slowly, playing with the strap on her sandal. “But that’s because I realized that existence was overrated. Like reality, it is nothing more than the result of our brain’s ability to process stimuli.”

“In other words, you think existence is only what you perceive?” He had to shout to be heard above the flaps that were being lowered with a loud groan.

There was no way to answer this without launching into a long and detailed explanation—complete with diagrams—illustrating how sight, smell, sounds, taste, and touch, i.e., the sum total of existence, were unfixed and fluid depending on one’s brain. But since Tess had often cautioned her against “nerding out,” all she said was “Yes.”

There was a deafening thud and a jolt followed by a roaring screech. Involuntarily, she hugged her legs and braced her body, preparing for final impact. Seconds passed where the entire plane held its collective breath. . . .

“Hey!” 11B was sitting up and pointing past 11A out the window to the scenery passing by: other planes, the runway lights, the flashing of awaiting fire trucks.

It was over. The cabin broke out into thunderous

applause. Addie sat up and clapped, too.

“We made it!” 11B exclaimed, breaking into a huge grin.

And that’s when he did it.

He was so fast, she didn’t have time to process his movements and react appropriately. Hand reaching out, sliding behind her ear, the sensation of warm fingers along her jawbone, on her hairline. The way he hesitated for a half of a half second and then brought his lips to hers.

She let out a muffled gasp of, “Oh!” But he didn’t recoil in shock at his impulsivity. He let his lips linger, soft and firm, like he was trying to leave a message.

Addie could count on one hand the times she’d been kissed by a boy. There was the necessary exploratory testing of lip-on-lip contact with Michael Utard in kindergarten. (She remembered he tasted disgustingly of peanut butter and sour milk.) In seventh grade, Nick Elias had tried to sneak a quick peck during a school dance and she promptly squished his toes in retribution. Park, the son of one of her mother’s boyfriends, had made out with her down at the Jersey Shore a few times, and then there was that moment of weakness with Dex. An incident of which they never spoke.

Ever.

But this was a completely different experience. Michael, Nick, Park, and Dex had been her friends or

classmates. 11B, however, was a stranger she referred to by a JetBlue seat number.

They broke apart. 11B held up his hand. “You were right. That did it. My thumb isn’t twitching anymore.”

“I don’t even know your name,” she whispered, still half in shock.

“Kris.” A corner of his mouth curled upward. “And you?”

“Adelaide Emerson. Addie.”

His lower jaw dropped. “*You’re* Addie Emerson?”

He acted like she’d just introduced herself as Kate Middleton.

Or Godzilla.

“Yes, Addie Emerson,” she said. “Is that good or bad?”

He collapsed in his seat. “I have no idea.”