

# The Brain

The teacher is quiet. He is thinking, I can't believe I am doing this. He pulls on rubber gloves, reaches into a white plastic bag, and pulls out a human brain. A real human brain.

The students are quiet. They are thinking, I can't believe he is really doing this. The students are thinking. If he hands it to me I will DIE, JUST DIE!

Sure enough, he hands it to them. They do not die.

When the brain comes back to him, the teacher tosses it across the table to the rubber-gloved quarterback of the football team, and he tosses it to his rubber-gloved tight end. Laughter as the tight end drops the brain on the table. The brain bounces.

To explain: In this beginning drawing class, I had been lecturing about the impact of brain research on the process of art, using pictures and diagrams and anatomy charts. We had tossed around a cantaloupe to get the feel of the size of the brain, but somehow brains remained a bit abstract. The students had that glazed expression on their faces that means this is getting b-o-r-i-n-g.

In that moment of educational ennui, a freshman girl says, "I can bring a human brain to school if you want —my father has lots of them." (Talk about a full-scale class alert: "She's going to do WHAT?")

Well, it turns out her daddy is a bona fide research neurosurgeon at the medical school and has jars and jars of brains in his lab and he would be pleased to have us see the real thing. So, sure, I can handle this. "Bring a brain to school!" I shout at the departing class. "ALL of YOU."

Sure enough, a week later, the freshman girl, Queen Forever of Show-and-Tell, shows up with a brain in her bag.

"Well, Mr. Fulghum, what do you think?"

If ever there was an appropriate use of the word "nonplussed," it is now. This is what students call an "oooo-wow" moment of monumental proportion.

"I have one of these things between my ears," I said. "It is made up entirely of raw meat at the moment. It is fueled by yesterday's baloney sandwich, potato chips, and chocolate milk. And everything I am doing at this moment—everything I have ever done or will do passes through this lump. I made it; I own it. And it is the most mysterious thing on earth.

(This brain in my hand wasn't raw, mind you—it had been preserved in formaldehyde. And no, it was not, in fact icky or gross. Light beige in color, slightly damp, soft and rubbery like clay. And just about the size of that cantaloupe we had passed around—only this one weighed almost three pounds).

'Now I can kind of understand the mechanical work of the brain—stimulating breathing, moving blood, directing protein traffic. It's all chemistry and electricity. A motor. I know about motors.

But this three-pound raw-meat motor also contains all the limericks I know, a recipe for how to cook a turkey, the remembered smell of my junior-high locker room, all my sorrows, the ability to double-clutch a pickup truck, the face of my wife when she was young, formulas like  $E=MC^2$ , and  $A^2 + B^2 = C^2$ , the Prologue to Chaucer's *Canterbury Tales*, the sound of the first cry of my newborn son, the cure for hiccups, the words to the fight song of St. Olaf's College, fifty years' worth of dreams, how to tie my shoes, the taste of cod-liver oil, an image of Van Gogh's *Sunflowers*, and a working understanding of the Dewey Decimal System. It's all there in the MEAT.

One cubic centimeter of brain contains ten billion bits of information and it processes five thousand bits a second. And somehow it evolved over a zillion years from a molten block of rock, Earth, which will itself fall into the sun someday and be no more. Why? How?

"That's what I think."

"Oooo-wow," chorus the students. The teacher is in a groove — got em.

Once again the brain is passed from hand to hand, slowly and solemnly. Once again it is very quiet. The Mystery of Mysteries is present, and it includes us.

The single most powerful statement to come out of brain research in the last twenty-five years is this: We are as different from one another on the inside of our heads as we appear to be different from one another on the outside of our heads.

Look around and see the infinite variety of human heads—skin, hair, age, ethnic characteristics, size, color, and shape. And know that on the inside such differences are even greater—what we know, how we learn, how we process information, what we remember and forget, our strategies for functioning and coping. Add to that the understanding that the "world" out "there" is as much a projection from inside our heads as it is a perception, and pretty soon you are up against the realization that it is a miracle that we are communicating at all. It is almost unbelievable that we are dealing with the same reality. We operate on a kind of loose consensus about existence at best.

From a practical point of view, day by day, this kind of information makes me a little more patient with the people I live with. I am less inclined to protest, "Why don't you see it the way I do?" and more inclined to say, "You see it that way? Holy cow! How amazing!"

This set me to thinking about Einstein's brain, which is somewhere in Missouri in a lab in a jar now. It was removed and studied to see if it was special in some way. (No, it wasn't. It wasn't his equipment, but what he did with it, that cracked the window on the Mystery of Mysteries.) When Big Al was in residence at the Institute for Advanced Studies at Princeton, a guest asked to be shown Einstein's laboratory. The great man smiled, held up his fountain pen, and pointed at his head. (Oooowow.)

from *It was on Fire When I Lay Down on it* by Robert Fulghum.