



Science Guy

The Eastern Market district of Detroit is on the wrong side of the freeway. The Fox Theatre, the big new stadium where the Tigers play – they're over on the other side. Here in the Market, each block is an uncertain and dangerous piece of terrain. Coming around a corner or under a bridge, you are likely to be accosted by a strange and bedraggled person – one of the homeless. Yes, that can happen on any big city street – but usually you are in the company of the crowd. Here you are alone with the outcasts. They often confront you, ask unusual questions, and make demands. To negotiate these streets is to be a wanderer in a children's fairy tale. You meet the trolls, beggars and princes in disguise, and must always be thinking. If you persevere and show courage and imagination, you may find your reward. The stench of excrement, from both people and other things, is common. It mingles with the waste vapors of the cars on I-75. Supposedly, that stuff is making the world warm up, but with the temperature around 5 degrees on this January day, I think maybe it's not true. Or, if it's true, I wish it would hurry up.

I am almost to the door of the slaughterhouse, when my sleeve is suddenly grabbed by a person that I did not see. He was behind a telephone pole. He eyes the bright white Styrofoam box that I'm carrying, and demands to have what's in it. It's a test. I think quickly, and decide that I should give in to his demand. I open the box, and offer it to him. I can hear his hand scrabbling around among the contents – then he draws a piece out. He stares at it for a second – then he screams. He lets go of my arm, and I slip in the door. He must have thought I had food or something. It was dry ice.

At first, I can't see anything – so stark is the contrast between the

dim interior and the daylight outside. In my mind, I keep seeing the startled, wide-open mouth of the nameless creature who confronted me. There were only three teeth – two on the bottom and one on the top. But the tongue was surprisingly healthy and pink. Not as anemic as his station in life might have predicted. Just around the corner, I can see the place I've been seeking. It is an Islamic slaughter house, where a bearded man with a knife dispatches the animals one after another, in accordance with the Koran, the USDA, and also the FDA, simultaneously. Today, we're killing sheep.

The floor is wet and stained pink with blood, although they stop to spray it down with the hose when the inspector makes them. Little bits of pale and bleached flesh catch in the cracks and pockets of the rough concrete where he stands with his arms folded across his chest. Big, black, smiling as he jokes with the men, he points to the debris at his feet when it gets too thick to suit him. Someone quickly rinses it away. He didn't like me when I first came in, cold from the winter air and not certain where I was. He wants to know what's in the box. It's another test, but this time I think I should respond with my best version of the truth. I tell him about the dry ice in my box, the vesicular glands, and where they are in the sheep. "Like it was where your prostate would be?" "That's right," I answer, mumbling a few words about our research.

Semen is one of those things that you can't mix up until right before you plan to use it. It's like the epoxy cement at the hardware store that comes in two separate tubes. Neither one is any good as a glue unless you mix them into each other with a small stick. Then within minutes, they harden up like a rock. In order to make semen, you have to mix a stream of fluid from the vesicular glands of the prostate with another one that comes from the epididymus. (That's a sperm storage bag that hangs on the side of each testicle like a little French beret.) Why you have to mix semen just before use is not as well understood as epoxy cement. That's one reason why I'm here.

I study COX. No, not penises – COX stands for cyclooxygenase –

an enzyme. COX is an enzyme apparently up to no good. It makes people have headaches, menstrual cramps, and achy joints. COX comes in two varieties – the regular blue jeans version, COX-1, and one for special occasions, called COX-2. No one had really heard much about it until Merck made an inhibitor for COX-2, and named it Vioxx. People soon started suing Merck, claiming that Vioxx caused them to have heart attacks. I used to be able to send my colleagues e-mails and use the letters COX anywhere I wanted to. Now that makes spam filters throw the e-mails in the trash, and no one ever gets them. I used to be able to search for COX on Google and get reasonable information – now I get solicited by attorneys and linked to nasty web sites. There is no better place to get COX than sheep seminal vesicles – their prostate glands. They're loaded with it. That may in some way be related to the fact that semen is stored in separate compartments. If I'm lucky, today I'll get enough of them to study that.

Prostate hits home with our representative from the government; he grabs his pants. “Had a friend had to have his taken out - got to wear diapers now. That why you want 'em? For research?” A thread of fear catches in his throat - you can see it in his eyes. This man does not want to wear diapers, all the fault of some odd lump of a gland that goes bad deep inside his bowels. “Right,” I answer, knowing it's not exactly right but close enough for partial credit. Smoky mist curls out from under the lid by my wrist. Dry ice. Coldest thing anyone here has ever heard of. One hundred ninety degrees below zero. He leaves me a place to stand where I won't get hit by the hose. I'm starting to get some respect.

The bearded guy – I guess he's the Imam – does his little thing with some muttering, and another sheep goes down. There's a thick, musty vapor in the air, like wet hay starting to mold. It's the blood. Sheep blood spills out onto the cement, warm and steaming. The air is wet, heavy, full of pungent odors that course through sheep veins. Molecules that have been making the quiet commute from kidney to liver to lung and back suddenly find themselves dumped without ceremony onto the floor. (Well, actually there was

a little bit of a ceremony – I'm just not sure either the sheep or myself understood it.) Derailed from their routes, metabolites and pheromones are released to float free around my feet, into my clothing. The knives flash silver, pressing gently into the sheep as the ribbons of flesh open up and the hide peels away. The belly parts smoothly down the center and out falls a huge and hideous snake; a python disguised as a digestive system, all neatly coiled into loops and ripples of gray-green, bulging here and tapering there into fine lengths of sausage. The surface shines like a polished rock. It is deftly cut free and scooped with two hands into the tray before me, slithering to a stop. And not a drop of blood on it. The seminal vesicles look like peach pits, the color of raw shrimp, tucked in behind the limp sac of a bladder. It takes a few minutes to carefully cut them free, pry them up out of the fat while severing each little thread of tissue holding them in place. Once in the dry ice they blanch white, freezing in an instant. They roll around in the box like marbles. The sheep goes on down the line, its body disintegrating into pieces. The bigger ones fall into trays and hang from the ceiling on hooks. But the scent of life breaks free in a swarm of potent little vectors that waft up toward the ceiling.

In a few hours the sheep are all gone and my box is half full. The inspector is munching a donut, taking care not to let any crumbs fall onto the floor and contaminate it. No, the floor is the place for entrails, and rumped wooly hides caked with dried sheep dung – woe to anyone who might drop a couple of donut sprinkles down there. He's telling me about his education now, and how he rose up from the ranks of janitors and night watchmen to become a federal inspector for the U.S.D.A. He has even confided some tips on how I might be able to follow his example and become an inspector too. I think he must like me, perhaps because I'm not afraid of dead sheep. Or perhaps it's because he hopes that one day I may help mediate a dispute that he might have with his prostate gland. To be honest, I like him too. It's because he let me take the glands without being a pain in the ass about it. I nod to him and step out through the heavy metal door.

A cloud of steam exits along with me, boiling into vapor as it strikes the cold air. Thin January sunlight is shining brightly into my eyes. Walls of faded and crumbling red brick line the street. The thick, sweet aroma from inside fades quickly. In its place are the cold, dead smells of a city in winter. There is exhaust in the wind, and garbage on the sidewalk. My hands are warm, the skin soft and greasy from the sheep. Although I washed them, they seem to have absorbed something that doesn't wash away. I clutch the box under one arm, and turn to make my way back to where I parked my truck. A half inch of snow was dumped here in the night by a storm that now races away across lake Ontario. The cold winter wind is playing with the snow like an idle child, pushing it into fine white lines where there are cracks and making white triangular piles behind the tires and the phone poles. My friend with the frostbitten fingers is nowhere in sight. The same mysterious forces that pushed us together for an instant at the slaughterhouse door have now pulled us apart. Once I am safely back inside my pickup, I can begin to feel badly. I feel badly for this city, which seems stricken by some disease or evil spell that mires it down in perpetual ruin. And about him, his life, and how the guy with the box tricked him. And about the sheep, who went so quietly, but left the essence of their lives stamped into my skin. It only lasts a moment, as I nudge aside the box lid and peek at the frozen tissue. There is a new compound, KMN10404, back at the lab. It is an elegant, tiny little construct, with an oxygen, a nitrogen, and then three carbon atoms tied together into a neat little pentagon. It's an isoxazole...maybe it will be christened Isoxx. I already know it's a COX inhibitor, and at least 1000 times more potent than Motrin. I won't know if it's like Vioxx or not until I get back and grind up my little frozen marbles. Already I'm speeding down I-75 and out of Detroit. I know my place in the world, and it is not as the fixer of dead cities or the rescuer of the homeless. I am just a science guy.

