

On Butterfly

I never understood why butterfly stroke — the most powerful, the most infamously difficult of all the strokes — was named after such a delicate animal. I never felt like a butterfly when I swam it. If you swim butterfly incorrectly, you feel like a bird trying to swim, flapping your wings but never getting very far. But if you swim it correctly, if you get that feeling of the water rushing beneath you, propelling you forward, surging up above the water with your arms reaching up and over your head, you certainly don't feel like a butterfly then either. Butterflies fly in an almost drunken flight pattern, weaving up and down, the slightest breeze ready to take send them off course, not at all reminiscent of the power rife within the proper butterfly stroke.

Humans were not made for the water, but sometimes, if you swam butterfly *just* right, you could almost believe we were.

Butterfly was born out of another stroke, which makes sense. A butterfly is born out of a cocoon, or more distantly, a caterpillar. Butterfly's cocoon was breaststroke. Swimmers realized that an overarm recovery could make breaststroke faster, thus creating the characteristic overhead motion of butterfly. This out-of-water recovery, swimmers soon discovered, allowed for them to triumphantly explode from the water. It made them feel powerful.

[The shoulder is a ball-in-socket joint, giving it the greatest range of motion (ROM) of any other bodily join. It's the joint that makes butterfly possible.]

I used to catch (and subsequently release) the butterflies that flocked to the butterfly bush in my backyard. It grew purple flowers that smelled like nectar if you stood within a close enough radius to it, and as a result, it always had butterflies on it. I marvelled at how delicate they were, how fragile their wings looked, like they would break if I sighed too heavily or shook the ground too hard when I ran by. Their wings did not seem to be built for the sky; my body did not seem built for the water.

Butterflies start out as caterpillars. There's a picture somewhere in my mother's collection of me practicing butterfly for the first time. It was early morning, and I remember that the air was chilly and unforgiving whenever I surfaced from the pool, which made me want to stay submerged forever. I was probably seven, and my stroke technique was horrific. My arms were bent and flailing wildly, my legs moving in opposite directions. But if you squint, I guess the way I curled my stomach in to try and get my legs to kick in the proper way resembles a caterpillar. Inching along through a swim lesson, eyeing the goal at the end of my journey (a caterpillar's goal is a butterfly, mine, the deep end of the pool).

[Atraumatic shoulder instability, also called multidirectional instability (MDI), is described as laxity of the shoulder's glenohumeral joint in multiple directions. It is common in baseball pitchers, gymnasts, and swimmers. It does not say anything about affecting writers, or students who sit at a desk for too long.]

Lax-i-ty

noun

1. Looseness of a limb or muscle.

"The laxity of the right shoulder weakened the muscles around it."

The butterfly kick developed independently from the arms. It was called the dolphin kick, yet another aspect of butterfly that makes no sense. The kick was developed by studying the way dolphins move through the water, the way their bodies are streamlined to propel themselves forward most efficiently. The kick was decidedly *not* developed by watching a butterfly.

[The human shoulder is made up of four bones and interconnected tissues — ligaments, tendons, and muscles. They must all do their job properly, because the shoulder is the body's most flexible joint.]

When I injured my shoulder, there was no big, flashy moment where I double over in pain from feeling a bone crunch or a tendon tear. I barely felt anything at all. I didn't feel the rotator cuff grow weak, injured from what the orthopedist called "microtrauma." I didn't know that the interconnectivity of the shoulder — the aspect of the shoulder that exists to make it strong — meant my other muscles were overcompensating for the exhausted, injured rotator cuff. My shoulder muscles were taking on jobs they weren't meant to do.

Throw a butterfly in the water, and it will drown. It is somewhere that it isn't meant to be.

[Symptoms of MDI include: pain, numbness, a tingling sensation in the arm. Popping and clicking of the join when moved. Fatigue and weakness. A growing sense of dread that the work you put into something you loved was your ultimate downfall.]

It didn't happen in a burst of pain, instead, it crept up slowly. I would climb out of the pool, trying to match the grace with which the other swimmers did it, and I would feel a slight throb, a twinge of pain in my shoulder. I thought I had just overworked it, so I went back in the pool. And over time, the pain grew worse and worse, until I could no longer ignore the throbbing in it that matched my heartbeat.

[Treatment for MDI includes rest and physical therapy to strengthen the muscles.]

Eight weeks into my injury, and I was starting to understand why butterfly was called butterfly. When a butterfly loses its wing, it can no longer fly. When a high school girl loses the strength of her shoulder, she can no longer swim. She loses a lifeline, and like a butterfly caught in a breeze, she spirals.

Japanese swimmer Jiro Nagasawa is credited with uniting the butterfly stroke and the dolphin kick, but so are swimmers Jack Sieg and David Armbruster. Like a pool left too many days without being cleaned, the official start of butterfly is murky. Nagasawa did, however, set a world record using butterfly in 1945, paving the way for butterfly to be considered an official stroke by 1954. Two years later, the stroke ended up in the Olympics.

Without swimming, the constant worry that hung over me was inescapable. I was caught in a breeze but I didn't bother to try and beat my wings to get out of it. I had given up, and I let that anxiety overtake me.

Anx-i-e-ty

noun

1. A nervous disorder characterized by a state of excessive uneasiness and apprehension, typically with compulsive behavior or panic attacks.

"You have an anxiety disorder."

[MDI is not a career-ending injury. Within a month or two of rest and physical therapy, swimmers are able and encouraged to get back in the water to begin rebuilding their strength.]

I was reassured by numerous sources that MDI is incredibly common. Many swimmers get it. Nearly all of them return to swimming not long after. So why hadn't I?

Maybe it was because the pain wasn't going away. Maybe it was because I was nervous about re-injury. Maybe it was because my injury sent me spiraling. Most of high school felt unstable, flailing up and down, and I no longer had the solid footing of swimming to stabilize me, so I allowed myself to sink.

[Physical therapists will help patients diagnosed with MDI return their shoulder to a full range of motion (ROM).]

Metamorphosis is the process by which a caterpillar turns into a butterfly. It is a transformation, a rebirth. A revival. A second chance at life that no other species seems to have access to. I wonder if a caterpillar knows about its rebirth when it encloses itself in its chrysalis, or if it goes in blindly, believing it is done for, only to be surprised at its own renewal. One could argue that the process is entirely instinctual, a ritual deeply embedded in the caterpillar's DNA eons ago.

Humans were not built for the water, but something in me must have been, because like instinct, the water drew me back. A year after my injury, I jumped back in the pool, with explicit orders from my doctor not to swim any backstroke. She didn't say anything about butterfly, but I still avoided it. I was thrilled to be back in the pool, thrilled to have the cool water envelope me, quiet my thoughts the way that submerging your head underwater quiets the rest of the world. I felt my strength return, and day after day, I kept going back.

No one really knows the origin of butterfly stroke's name. People have said that it originated from the arm movement of the stroke, which supposedly mimics that of a creature's wings. Those people have clearly never seen how wings work.

Four years later, the ache remains, but it is nowhere near as constant, only reappearing if I sit hunched over for too long or overwork my arm at the gym. Or if I swim butterfly. When I dive into the water and throw my arms up over my head in that once-familiar yet now-foreign motion, I can feel the tear, broken and fragile like a butterfly's wing.