



Photo credit: Tenney Rizzo

FEEL IT IN YOUR BONES: A LOVE STORY

Little did biology major Brandon Rowley know, as he entered Professor John Perrine's office with a routine question, that this visit would introduce him to a beautiful creature, cause him a lot of work and heartache, and ultimately lead to him falling in love.

That meeting led Rowley to Jasmine who, in her youth, had toured the country, appeared on Letterman and Leno, and even spent time with animal expert Jack Hanna. Yes, Jasmine was a tiger, and when Rowley met her, she was dead.

CHAPTER 1: NECROPSY

Jasmine spent most of her life with Zoo to You, a charitable organization based in Paso Robles, Calif., that rescues wild animals and provides conservation education. When Jasmine died at 19 — a ripe old age for tigers — Zoo to You wanted to know what caused her rapid decline. They placed the fateful call to Perrine, the one that Rowley walked in on, asking whether Perrine could perform a necropsy, an autopsy for animals.

Rowley, already interested in big cats, lost no time in convincing Perrine he was the student for the job, and in March 2014, he met Jasmine for the first time. She had no skin and was ready for dissection.

Rowley got to know Jasmine intimately during the necropsy — every muscle, organ and tendon. He and his fellow students weren't only searching for the cause of death, which turned out to be kidney problems and maybe lung cancer. They had a larger vision: Jasmine would become a skeleton that Zoo to You could use as an educational piece.

"Jasmine was an icon for conservation all over the world. She touched the lives of millions of people," Rowley said. "In death, she can continue to educate people about anatomy and the illegal trade in tiger bones."

But to get to the bones, you have to remove the tissue surrounding it.

CHAPTER 2: MACERATION

After cutting off as much muscle as possible, Rowley and his team faced a critical question: carrion beetle, boiling water or bacteria. That is, what's the best method to remove the remaining flesh?

Rowley, dedicated to both Jasmine and his education, used all three methods, none of them for the faint of heart. "I think the hardest part about the boiling is that you have to be with it the whole time," Rowley said. It does, however, smell better than the flesh-eating bacteria that grows when the bones are soaked in cold water for an extended period of time.

In fall 2014, with the flesh removed, the student team whitened the bones with laundry detergent and set out to make Jasmine whole again, a process otherwise known as rearticulation.

CHAPTER 3: REARTICULATION

But how to best connect the bones of a tiger skeleton? Do you wire your true love together, letting the whole world see that unsightly copper?

Rowley wanted something more elegant for Jasmine, so he chose a method developed by local expert Ron Ruppert, chair of the Division of Biological Sciences at Cuesta College. Rupert's technique involves drilling a quarter inch hole in the bones, running a steel rod through, then filling the cavity with hot glue. The result would be a gleaming white skeleton with no sign of the mechanism holding it together.

But Rowley had never drilled a hole in much of anything. His hot glue gun skills were rudimentary at best. And he had exactly one chance to get it right for each bone.

"I never thought that the first time I'd be drilling things would be through tiger bones," Rowley said.



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Enter Biological Sciences Department technicians Mike Stiles, Dave Clendenen, and Rob and Doug Brewster, adept at assembling pretty much anything. "We really couldn't have done it without these guys," Rowley said.

As Jasmine's skeleton began to take form, Rowley realized how much she was already teaching him. "I'd never done anything like this," he said. "I learned to have foresight, know when to ask for help, and to take it one step at a time. I also really learned the anatomy from the outside in, bone by bone."

Rowley and his team completed the rearticulation in spring 2015. Though she will eventually return to Zoo to You, Jasmine currently resides in Fisher Science, and she is beautiful.

"People can go in and touch the bones and feel how amazing the joints are and how they articulate perfectly," Rowley said.

Now that's true love. //

 View related video online at cosam.calpoly.edu/intersections



Top: The skeleton of Jasmine the tiger on display in Fisher Science. Photo credit: Tenney Rizzo. Middle: Brandon Rowley hotglues a phalange onto a metatarsal while rearticulating Jasmine's skeleton. Photo credit: Dave Clendenen. Bottom: Rowley and his team plan the skeleton rearticulation using a life-size drawing. Photo credit: Dave Clendenen