

next-door neighbor's chimney.



When Grandpa was in the hospital, Charlotte went to the backyard in the evening and found that the bat house had fallen down from its tree. She came inside crying, because this was a sign, and Grandpa died within the week.

Charlotte is my sister. When Charlotte was in 3rd grade she was the most difficult grandchild. We tried to encourage her to pursue her interests. She wanted to be a carpenter, like Jesus, and she liked bats because she had a book about them. We knew that bats were mammals not birds, that most of them didn't drink blood, and that our next-door neighbor had them living in his chimney. We could also tell them apart from birds when we saw them at dusk and sometimes dawn, when the sky was glow-stick blue, because the bats had weird wings and didn't sing.





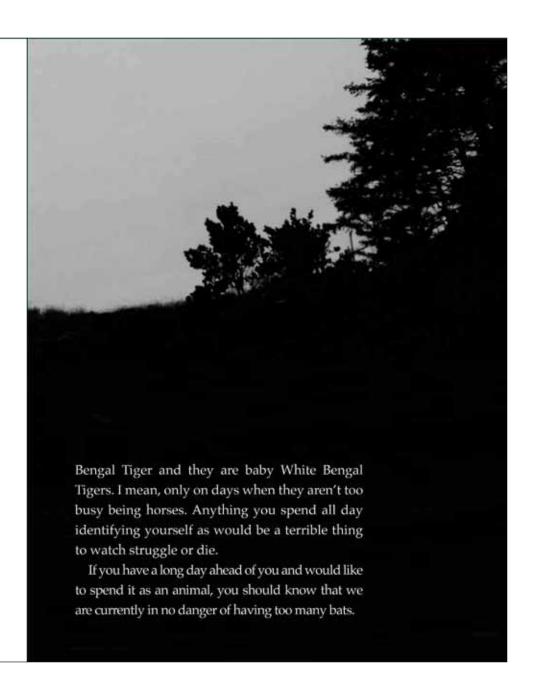
So one weekend Grandpa invited just Charlotte to make a bat house in his basement.

She told me, "I just watched and played with stuff like nuts and bolts, while he talked and did most of the work." She wore her purple jogging pants, and the wood smelled nice and Grandpa made her wear huge goggles.

Grandma came down the stairs every so often to ask Charlotte if she would like some rice cakes or some pop, and to tell them about the birds in the backyard and the weather. Grandpa would yell at her.

"Go away Dorothy, we are working!"

They couldn't finish the bat house that day because the air was too humid, and the glue wouldn't dry.







When a forest is mowed down and a city is built, humans move in and other animals move out, and then some animals come back, and bats are some of the ones that come back.

Bats have always lived among us and they still live among us, in human-made habitats instead of natural habitats. They live in highway overpasses, underneath bridges, inside mines, and in unused wells and chimneys and attics and bat houses.



In Austin, Texas, more than 1.5 million Mexican free-tailed bats are living underneath the Congress Avenue Bridge. I used to think bats were rare, and that we were lucky to have them as close as our neighbor's chimney. Actually bats are everywhere. Good luck if you want to be far away from them. A good bat house is usually occupied within a year.

Our bat house wasn't occupied for some reason. We thought maybe the dogs in our backyard scared them away, but then I read that usually bats are not scared of dogs.



There is one scary thing about vampire bats. Every so often a bat will develop a taste for the blood of a human, and from then on will seek out that particular person time after time. If a bat wants your blood, it will know who you are no matter how you try to hide or disguise yourself, from the sound of air escaping through your nose.

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Bats look enough like dogs themselves. There's actually a bat called the dog-faced bat, and I have seen them at the Bat Zone in Michigan. Dogfaced people tend to be unfortunate looking, but dog-faced bats are probably the cutest bats of all because their faces make them look like tiny upside-down puppy dogs.

Vampire bats look like mutated nuclear deathrats that just flew into a glass door. They are probably the least-cute of all bats. Unless you like that sort of thing, I guess.



Someone gave Charlotte a pictorial guide to identifying Michigan bats. At the time, I collected pictorial guides to identifying things, like trees and planets and stars, but Charlotte wouldn't trade me her bat book for anything, even though she never used it. It's not like she was out all night identifying bats.

She was, however, learning about bats at school. Bat handlers from the Bat Zone give presentations to school groups at home, and they also travel to schools around the country. I met one of the presenters at the Bat Zone when I went there to hang out with one of their volunteers, my hippie friend Rosalie. The presenter's name was Dale, and he told me that bats have been one of the most under-studied and under-noticed mammals for too long, but this is finally beginning to change. For example, more children's books about bats exist today than ever before.

The Bat Zone was founded by bat biologist and bat author Kim Williams behind the Cranbrook

which had become so bad that it burned the bottom of his esophagus.

It's possible that Grandpa only lived as long as he did because of vampire bats. He probably never met one, because most of them live at least as far south as Mexico. But blood-drinking vampire bats have introduced modern doctors to one of the most common anti-coagulants used in hospitals today. The main chemical, known as desmoteplase, is used by bats to prevent blood clotting in the cattle whose blood they are trying to drink, and by humans to make drugs that treat stroke and other vascular problems. Now nine other drugs are in the making that have been discovered from compounds in vampire bat spit.



Grandpa had several bypass surgeries and several heart attacks before the one that finally killed him. He went to the hospital because of an ankle injury he got in his garden, and never went home alive.

Grandpa hated hospitals, which might be why just going there gave him a heart attack. In general, he would never go to the hospital, even when he thought he had cancer, which he did for years and years when he was in his forties. He couldn't eat solid food, and grew so weak that he weighed the same as his teenage daughter. One New Year's Eve, he finally collapsed at a party and had to be taken away by an ambulance. It turned out that he really just had acid reflex,

Institute of Science in Bloomfield Hills, Michigan. It's about an hour drive from my house, and has become a home for injured or otherwise non-releasable nocturnal animals, as well as the home of the Organization for Bat Conservation, a non-profit group whose mission is primarily to educate. The OBC can teach you how to expel unwanted bats from your attic or chimney without hurting them, and how to build a bat house of your own.

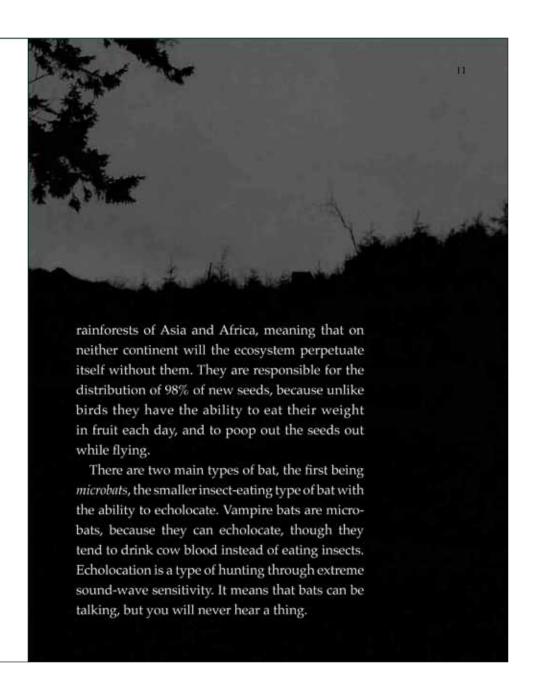
The Bat Zone has thirteen species of bat, three species of owl, several flying squirrels, several extremely cute sugar gliders, a three-toed sloth named Mo, and a big fat frog. All of the animals are nocturnal, but the ones that live inside are awake during the day because the center runs a reverse light-cycle to confuse them into staying awake for when people come to visit. The owls live outside in huge wooden cages. One of the owls was found after being hit by a car, and can no longer see.



In Michigan we have mostly little brown bats and big brown bats, but we also have at least one rare species. They are called Indiana bats, but in fact they live only in Michigan. Though bats are not uncommon animals in North America, only certain species are doing as well as we would like. Forty percent of bat species are endangered or threatened, according to the OBC, and often uninformed people will kill bats indiscriminately out of fear. Some people are scared of rabies, as they should be, since rabies is a horrible disease that paralyzes your throat and wrecks your brain, causing your mouth to fill up with foam until you grow crazy and ravenous and finally die. There is also no cure for rabies once you have symptoms. Still, only a half of a percent of bats around here actually carry rabies. Also, the only type of bloodthirsty bat is the vampire bat, which has very few human victims.



Once my family went on a camping vacation at Pickerel Lake, and some days we would row a boat around the lake and watch bullheads slink around in the yellow mud under the water's surface. Bullheads are big, slow bottom-feeder fish with whiskers, and they are all you will ever catch there. Pickerel Lake is slowly becoming a swamp. Its water is nearly hot to swim in. But when we were there, the lake still had lily pads with lily flowers, and Grandpa told us not to pick the flowers because they fed insects which fed endangered bats.





Bats that echolocate are not blind. There are no known species of bat that are completely blind. The second major subgroup of bats, the larger fruit bats, or *megabats*, cannot echolocate at all, and depend on eyesight much as humans do.

English is one of few languages with a distinct word for the animal known as the bat. In French, the word for bat means "bald mouse," though some scientists now believe that bats may be closer related to humans than to mice. Fruit bats in particular have very well-developed, humanlike hands with opposable thumbs.

Bat family organization varies from species to species. Some bats have a high birthrate of females, and organize into harems around males. Others have fifty-fifty gender ratios and mate for life. At the Bat Zone, I saw that some bats were asleep holding each other, and Rosalie told me that they were mothers and daughters.

