



Dances with Bees

Michael Battenberg
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My big adventure began in a humble and most understated way. With my 3 companions I was about to pay a visit to a most extraordinary place. More mysterious than the Great Pyramids. More ancient than Stonehenge. So close yet in many ways so remote. For today I was going to visit beehives, right here in the city!

We assembled bright and early at a subway station, loaded up our provisions for the day, and headed out. We fought traffic and potholes in my crowded Toyota Echo all the way to the parking lot at Humber College. After a brief rest stop at the visitor's centre, we proceeded along the well worn "way of the bees" through thickets of bushes and grasses that line the river valley, until we arrived at a small, inconspicuous wooden enclosure, filled with what looked like stacks of shipping crates. This is it? Not exactly the sistine chapel. Yet I was soon to learn that you truly can't tell a book by its cover. For I was about to experience a splendour far greater than Rome had ever been. I was about to visit one of the True wonders of the world and be forever changed. No longer would I be called Mike The Bug Guy – from now on I would be known as *Dances with Bees*. Kevin Costner eat your heart out!

I felt like an astronaut, a giant astronaut! Decked out in a white suit with a meshed helmet and thick, cumbersome gloves, We opened the the compound doors and left the mundane world behind for the teeming, buzzing metropolis of the planet of the bees. Tiny shuttles whirled out of Spaceship Bee to the feeding grounds, soon returning with golden treasures strapped to their legs, then disappearing in an instant to the depths of the Mothership.

It was time to breach the fortress. W'ere going in, said Fran, our beekeeper and guide. Just remember, the bees feel what we feel. If we are calm, they are calm; if we are nervous, they are nervous.

We popped the lid and held our breath (well, I held my breath). It began with a distant buzz. Bees swarmed from the depths like the waters of Noah's deluge. Wave upon wave flooded the deck until there, inches away from my face were a hundred or more honeybees. Poised, yet with no menace whatsoever. Staring at me as I stared at them.

Stage 1 is complete. Time to go even deeper.

We pulled one of the slats from the box. The mystery deepened even as the truth became more apparent. In our hands was a fragrant complex of honeycombs, a field of hexagonal nurseries and storage cells and bees, hundreds of bees on both sides still working their charges as though nothing had happened. If we are calm, they are calm. No mass attack, no preemptive strike. Simply business as usual. We were holding fire in our hands, yet felt no sparks whatsoever.

As gently as we removed the homestead, we returned it to the mothership. No casualties reported, we made sure of that. It's the least we could do. A final cloud of fragrant, pacifying smoke billowed across the hive as we closed the hives. We locked the enclosure and left the valley, smelling like beeswax and lavender smoke, to resume our own lives in our own hive of the city.

My ears were still buzzing as I sat and scraped the beeswax from my camera, reflecting on the mysteries of the hives, and of bees , and of life in general.

There are close to 20 thousand known species of bees in the world, and even though I have only witnessed a dozen or so, the diversity I've seen is staggering. I've watched a solitary cellophane bee emerge from it's anthill shaped nest in April when there seemed to be nothing to eat but dirt, and followed a mining bee as it swayed in the breeze on the tip of a Willow catkin, yellow from head to toe with bright yellow pollen. I've chased a big, furry Bumblebee across a sunlit spring flower when I could still see my breath, and stared back at an even larger Carpenter bee peering out from a hole carved out of a trellis. And now finally, I'd witnessed the improbable architecture of the worlds most famous bee, the Honeybee.

Honeybees and humans go back a long way. Cave paintings 10,000 years old show us stealing their honey, no doubt feeling their wrath in the process, and developing a healthy respect for these marvellous creatures. The Ancient Egyptians believed bees and their honey had a divine origins, emerging from the tears of the sun god Ra. The Mayans kept and venerated their own species of bees. Bees and their honey infuse our myths, our medicine and our superstitions, as well as our cuisine, around the world. They have lauded as examples of cooperation, hard work and industry, and still studied for their ability to learn, communicate, and make group decisions.



Hive with top removed. photo by Michael Battenberg

Honeybees are part of our cultural history, so it's no doubt that we've tended them, carried them across half way around the world, and helped them survive and flourish for thousands of years. Yet there is a downside to this devotion. We've been dancing with only one partner at the grand ball, to the expense of the thousands of other guests. And ultimately at the expense of our partner as well, for after swaying together in a give and take for millennia, something has gone very, very wrong. We've fallen woefully out of step with each other.

The bees are dying.

This is headline material. It's graphic. It's alarmist. And it's true. It's been true for years. Many species of native bees have suffered declines over the past century. Bumble Bees have suffered since the 60's with a few extinctions assumed. But few people noticed and fewer people cared. But now it's hitting home with a vengeance. Now it's the honeybees, our honeybees.

Honeybees are big business, and important business, so when something happens to them it's on everyone's radar. Since honeybees are heavily managed, we can't pretend we don't know what's happening: it's right there in the ledger. Suddenly and with little warning the bottom fell out. During the winter of 2006/2007 as many as 875,000 colonies were lost in the US, roughly a third of all the managed bee colonies. That's one season. A huge loss. And it's about a whole lot more than just honey.

Bees are the most effective pollinators in the insect world. What this means is that bees are responsible for the fertility of many of the plants we eat. Yet over the years we neglecting the thousands of native bees, the less glamorous guests at the ball. We left them on the sidelines, and never noticed their decline as we began to rely more and more on our favourite bee, the honey bee, to do the work. All the work. We routinely ship them across the continent like migrant workers to pollinate one crop after another. For example, each year we pack up almost half of all the honeybees in the US and ship them all the way to California to pollinate the Almond crop. Without the bees, the harvest would fail.

But now they're sick. They are leaving home and never coming back. We call it Colony Collapse Disorder, or CCD, and it's a major cause for concern. Rarely does a large scale phenomenon stem from one specific cause, and CCD is no exception. Research suggests that CCD is caused by a whole suite of factors, including disease, habitat fragmentation, stress and general poor health, climate change and pesticides. Each on their own is enough to stress a hive, but when they all converge, as they did in the winter of 2006, the effects can be devastating.



Solitary Mining Bee, genus Adrena. photo by Michael Battenberg

Can we identify a tipping point, one final last straw? It seems that yes, we can. We've recently introduced a whole new class of pesticides into the world. They are called neonicotinides, or neonics. They do a great job of killing pests since they become part of our crops' tissues, rendering the whole plant toxic. Unfortunately, as good as they are at killing pests, they can't tell the difference between a destructive bug and a beneficial bug, like a bee, and they kill them all. It seems like an open and shut case: ban them outright, or at least suspend their use until more data are available. But life is rarely that simple.

We don't have time to delve into the many scientific, political and business issues involved in this problem. And really, it's not my place to do so. I am no scientist, and my research is far from complete. My personal opinion is that neonic usage needs to be stopped now. Yet I am aware that on its own this is not a long term solution, for as we've seen, pesticides are simply one piece of a much larger puzzle.

It would be nice to wipe the slate clean and start all over again; a world free from poisons, monocultures, industrial agriculture, short-sight politicians and powerful business interests. But that is simply a childish fantasy. We must start today with what we have and where we are, even if that's a colossal mess, and move forward.

We must learn to think from the ground up, and act to protect the integrity of that ground. And that means, among things, learning to think like a bee, to become a bee in our imaginations at least, because bees are a large part of the ground on which we stand.

As absurd as this may sound, I believe this is a good place to start. And since there's no time like the present, let's try a mind experiment... Lets pretend we're bees. We'll keep it simple and say honey bees. And right here, First is our hive. Now I realize that honeybee colonies have only one queen and many workers and UU congregations tend to be the other way around, but like I said, let's pretend.

You wake up from a poor sleep since you've been on a truck all night driving home from Florida. You go to the mirror and notice a mite the size of a puppy on your back sucking your blood. You've had nothing to eat but oatmeal for the past month, and are looking forward to nothing but Cheetos this month. And this is all before your morning coffee, which by the way costs \$50 a cup since it requires bees to get a plentiful crop and they are in short supply.



Honey Bees, Apis mellifera, tending cells. photo by Michael Battenberg

Not to be deterred, you warm up your wings and head out for breakfast, but all the Tim Horton's are gone. All you can see for miles are glass condos and taverns, so you keep flying. You need your double double... but alas you are tired and hungry and decide to try your luck at Ed's bar and grill. A quick cuppa joe and you are off for home. Only Ed put some Glenfiddich in your coffee and now you are flying under the influence, unable to get your directions straight. Instead of heading back to First you find yourself in one of those "other" churches who have no idea what a Unitarian Congregation is, let alone how to get to one, and you finally succumb to exhaustion.

Sounds like a horror story, doesn't it? Yet what I've described is similar to the challenges faced by many honeybees, and for that matter other pollinators like butterflies. Poor health and fatigue, mites, habitat fragmentation and toxic food. Each on their own is bad enough, but together they spell disaster. Disaster for the bees, and disaster for us. For no bee is an island; there are no islands in the interconnected web of life. If the bees fall from the sky, we too shall likely stumble and fall. Yet if we help the bees, we will ultimately help ourselves.

Candace Savage sums up our ongoing dance with the bees in these words from her book *Bees*:

What Bees ask of us is simple: a world free from poisons and other stressors, with places where they can nest and a sweet, season-long supply of flowering plants. In return, they offer to teach us their deepest lesson yet. Much as a honeybee belongs to her colony, so we human beings belong to the living community of the Earth. The wild lies around us, and we draw it like breath. Our lives are indivisible from the lives of insects.



Honey Bee, posing for the camera. photo by Michael Battenberg



Dances with Bees, aka Michael Battenberg, posing for the camera. photo by Ruth Tait

Readings

Opening: *Bee Kisses*, excerpt from *The Forgotten Pollinators*, by Stephen Buchmann, co-author

Stephen has just visited a massive tomato growing greenhouse in the Sonoran Desert, complete with an in-house population of Bumble Bees. Tomato plants require a specific kind of pollination called Buzz Pollination, whereby a bee clasps the blossom's anther and vibrates its body. This buzz causes pollen to erupt and coat the bee, which then carries it to another flower on a nearby tomato plant thereby pollinating it. Honey Bees are unable to perform this, but Bumble Bees are.

I stopped by the last tomato plant at the end of the row before the door, to take a look at just one more tomato flower. Checking the flower with my hand lens, I noticed some telltale brown markings on the otherwise bright yellow anthers.

“What are those brown spots?” I asked the manager

“Oh those? We call them bee kisses” he replied. “Those are the places where bumblebees bite into the anthers to keep from getting thrown off the flower while buzzing their brains out. You know, it's kind of like the browning you find when you bite into an apple, and then set it aside for a while. That's how tomato growers can be sure the bumblebees have been doing their work”.



Bumble Bee, genus *Bombus*. photo by Michael Battenberg

As I left the greenhouse that afternoon, I tried to image what tomato growers might be like in two decades – or even twenty decades from now – after having spent season after season diligently searching their plants for bee kisses. Would the wetness of that metaphor get under their skin, skin which is sometimes as tough as that of the hybrid tomatoes they grow? Would songs develop in praise of bee kisses or their furry black and yellow go-betweens, rituals expressing gratitude for the upcoming harvest.

I reserve judgement. Nonetheless, it may become less and less possible for tomato growers to treat the bees without some affection, some respect, or some sense that they are members of a new “agrosymbiosis”, not merely links in the mechanistic chain of some ultramodern food factory. Working in a place where they are literally surrounded by bee-kissed blossoms, how could they remain unmoved?

Closing: from *A Sting in the Tale – my adventures with Bumble Bees* by Dave Goulson

We have barely begun to understand the complexity of interactions between living creatures on Earth, yet we often choose to squander the irreplaceable, to discard those things that both keep us alive and make life worth living. Perhaps if we learn to save a bee today, we can save the world tomorrow.