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The first time I lifted the lid off of a beehive, I was greeted by the gentle, energizing hum of beating wings, the flow of guard bees darting toward my face, and the comforting smell of warmed honey and fresh beeswax. When I eased my ungloved hands straight down amidst the thirty-to-fifty-thousand honeybees that make up a colony for the first time, the range of emotions crossing my mind was overwhelming. I knew I was hooked.

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New Zealand

Australia

AOTEAROA: AN ADVENTURE IN APICULTURE BEEKEEPING, BIOSECURITY, AND MEDICINAL HONEY

As fascinated as I was by the golden mass around me—honey, beeswax, pollen, the bees themselves—I was still intimidated. Although I loved the bees, have always loved bees, it took a while before I eased the fear of the famed sting. Luckily, when you respect the bees, the bees respect you. Working from May to August with honeybees all over New Zealand, I received only one sting—my third day, when I got a bit too comfortable and started working too fast, accidentally trapping a worker bee in between honey supers during a hive inspection. She didn't take too well to the threat of death, and got me on the tender tip of my middle finger. After dancing around and a lot of jokes and jibes from my seasoned supervisor—the President of New Zealand's National Beekeeping Association—the pain subsided, and I reached back in...this time, more prudently.

I am not the first person to become enthralled with honeybees, and I will be far from the last. A rich history of dependence links the two species. The relationship between humankind and honeybee has been one of the most integrated and lasting relationships on Earth, with Honey being one of the most prized, versatile, and valuable goods on Earth. Honey transcends East and West, found in nearly all cultures, times, continents, religions, and languages. Situations from celebrations—the Jewish New Year, for example—to the most dire circumstances—severe burn wounds—use Honey. It has been used for currency more valuable than gold, a medicinal staple for nearly all ailments, a healthier and tastier sweetener, a pet name, and lifelong love of Winnie the Pooh.

The first recorded uses of Honey date back thousands of years—a Sumerian text from circa 2000 BC provides a written prescription for a honeyed healing agent to treat surgical incisions, a practice still used today.

The Ebers Papyrus of the Ancient Egyptians, circa 1550 BC, uses honey as the primary medicinal agent in over 147 of its healing formulas.

This history of honey, especially as a medicinal treatment, gets richer with the growth of human civilization.

Today, medicinal honey is becoming more popular



as bacterias show more resistance to manmade chemical treatments. Although all Honey is naturally antibacterial, Manuka Honey from New Zealand's bushlands shows some of the strongest therapeutic properties among the thousands of honeys known today on Earth.

This summer, my work with Dr. Peter Molan, the person who first used a laboratory to prove the incredible therapeutic properties of Manuka Honey in 1991, opened my eyes to whole new world of health management. His research over the past two decades has brought honey

back into the medicinal spotlight. Multiple case studies have shown honey, especially Manuka honey, to be more effective at disinfecting wounds, preventing inflammation, stimulating white blood cell production, and promoting faster,

scar-less healing than any synthetic chemical currently used in modern day treatments. One day, as we were sitting in the Honey Research Unit at Waikato University, Dr. Molan joked to me that the only thing he's found that honey doesn't help is one of his own afflictions—balding.

But Honey isn't the sole value from Bees. One out of every three bites of the food that we eat is pollinated by bees. The annual monetary value of bee pollination to US Agriculture alone is 15 Billion US Dollars. Humans have been dependent on bee pollination to increase their crop yield, prevent

crop failures, and perpetuate genetic variance. The bees, happy with the flowering crops sweet nectar, have been more than happy to work along. However, recent years have seen honeybees worldwide dying off in alarming numbers—as high as 40% decreases in population a year—in a phenomenon called Colony Collapse Disorder. Europe and the United States have been hit the hardest, and crop production has plummeted, leading to drastic increases in food prices. Multiple manmade factors seem to tie into this species collapse, and the exact combinations of reasons have not yet been pinpointed...but research continues.

Albert Einstein famously said that if honeybees become extinct, humans will not be able to survive for more than 6 years. Research has since predicted an even shorter period of human survival time. Colony Collapse Disorder is more than a tale of extinction—it is a threat to human survival.

Fortunately, the fascinating culture within a beehive teaches lessons in community interaction, activism, selflessness, happiness, productivity, women's empowerment, and the power of working together. It is these values I see reflected in the world around me, and these values I strive towards in my own life.

And somehow, the community culture of a beehive inspires me to see the potential in people. Even in the threat of serious difficulties—whether personal, local, national, or international, whether Colony Collapse Disorder or Human Trafficking, I am reminded that if we, much like the sisters within a hive, band together, working to our full potential both as individuals and as a community and lose ourselves in our passion of service to others, we can truly make an impact. I am reminded of a Māori saying I heard on my first day in New Zealand: *Ui mai koe ki ahau he aha te mea nui o te ao, Māku e kī atu he tangata, he tangata, he tangata -- Ask me what is the greatest thing in the world; I will reply, "it is people, it is people, it is people"*.

