The honey bee´s return to the forest

Mia Mäkelä

In relation to other animals, humans have long since become gods.
We don´t like to think about it deeply because we have never been very merciful gods.

Yuval Noah Harari

Before the beginning of time

The honey bee, Apis mellifera, is a real rarity among hundreds of thousands of insect species and thousands of bee species. Apart from the silkworm, it is the only insect whose activities have been exploited on an industrial scale. The Earthwatch Institute has recently declared bees the most important creatures on Earth. And no wonder, the importance of pollination for the survival of countless species, including ours, is undeniable. Long before humans came to dominate the Earth bees had already had millions of years of time to influence on the menu of editable plants. Consequently our early nutrition had a profound effect on how we evolved into the species we are today. Apart from our general diet, consuming honey may also have had an impact on our development, according to nutrition anthropologist Alyssa Crittenden. She estimates that honey has provided our brains with the necessary combination of minerals, vitamins, fats and proteins, which has also been an easy food for our digestion. Honey is also a rare food as it does not rot or go sour.

One can only wonder what we would have become without bees?

The undomesticatable honey bee?

Over the last ten years, the restoration of honey bees in a more natural state has grown in popularity across Europe. Underlying the re-wilding movement is concern and need to find a more sustainable use of the species. However, many scientists question whether the honey bee was ever truly domesticated at all to even need help in the re-wilding process. According to ecologist **Larissa Bailey**, the only insect that has been truly domesticated by humans is the silkworm, as it needs human maintenance to survive, unlike the honey bee that survives in its naturally inhabited areas. Anthropologist **Margo DeMello** uses the following criteria in order to define the domestication of an animal species:

1) The species is kept for a specific purpose.

2) Humans control the breeding of the species.

3)The survival of the species depends on humans.

4) Genetic traits are developed that do not occur in nature.

Survival in nature seems to be the only feature that excludes honey bee from total domestication. Cultural geographer **Kay Anderson** describes domestication as the process by which an animal species is brought "into a nexus of human concern where humans and animals become mutually accustomed to conditions and terms laid out by humans; where that which is culturally defined as nature's `wilderness' is brought in and nurtured in some guises, exploited in other guises, mythologized and aestheticized in still other forms of this complex practice".[1] This practice of cultural control is described through language in a way that beautifies and even glorifies human activity. The way we cover up our own actions by using indirect expressions is called euphemism. Talking about domestication sounds better than talking directly about the enslavement, imprisonment, subjugation, and force breeding of another species. Misleading language masks the institutional exploitation of other beings, as author activist **Joan Dunayer** has pointed out.

The bee is the best caretaker of the bee

Jonathan Powell, a founding member of the Natural Beekeeping Trust in the British Isles, has seen over the past 40 years how both suitable habitats and fertility of honeybees have collapsed. He asks "We've taken control, but are we smarter?" Powell believes the bee is the best caretaker for the bee and calls for natural beekeeping. A natural life for a honeybee means, amongst other things, a nest built inside a hollow tree trunk and natural selection by swarming. Keeping wild bees up in tree trunks is known by the term Tree Beekeeping in English and Zeidler(ei) in German. Finnish beekeeping historian **Kaarlo Huotari** has translated the term into *kolohoito* in Finnish. The field of natural beekeeping has a variety of terminological approaches. Bee researcher **Thomas Seeley** talks about Darwinian beekeeping, which refers to Darwin's natural selection. There is also discussions about bee-centered (apicentric) and bee-friendly beekeeping. In Finland **Erkki Pöytäniemi** has called his courses "more bee-like beekeeping". Nowadays Jonathan calls his own actions apiology. He gives his bees full agency. The most important thing in the path towards natural beekeeping is to restore the autonomy of the bee in natural selection, nest building and securing it´s own food.

---

[1] Anderson, 1997.

Jonathan has assisted in bee re-wilding projects in Germany, Spain, Belarus, France and Switzerland. The challenge has been to find a large area of organic or wild vegetation and people who are willing to observe and take care of the bees for many years. Jonathan also doubts the usefulness of the term re-wilding. He would rather talk about free-living or unmanaged bees. The honey collection area may extend to a radius of more than 4 km, and bees may not be kept within the boundaries of their re-wilding area. Bees should also be allowed sufficient living space, as bees prefer a maximum of two wild nests per square kilometre. Jonathan encourages to protect bees by leaving lots of hollow trees or log hives around. Indeed, there are thousands of wild honey bees on the British Isles, as there are numerous primeval forests in the country to inhabit. Admittedly, wild bees can choose to use also human structures such as chimneys and other cavities as nesting sites, but this is often a sign of loss of more suitable natural habitat.

Bee forests - a return to the future?

In the vast forest areas of the Russian Empire, the exploitation of wild forest bees had centuries-old legacy. The practice was common among almost all Ugri-Finnish peoples, especially among the Mordovians, Votians, Hungarians and Estonians. The Maris, who were called Finns of the Volga, were notoriously good "bee men" who taxed honey from wild bees living in the trees. Forest beekeepers, *bortniks*, may have controlled hundreds, even thousands, of beehives in some areas. Violation of the property rights of bee trees, marked by carved signs identifying ownership, or theft of honey resulted in severe penalties, even the death penalty.

In the practice of tree beekeeping, honey bees were not killed during the collection of honey. Instead enough honey was left in the nest to ensure survival over the winter. Unlike primitive honey hunting, tree beekeeping was an activity aimed at continuity and a significant livelihood. Honey´s ancient market value kept high thru the centuries. In Hungary one litre of honey was enough to buy a cart of shingles
in the 11th century and a Christian slave from the Buda Turkish market in the mid-18th century. A beehive could match up to a hundred pounds of wheat in the 19th century. Honey has served to pay taxes as well. The economic and societal value of bees and honey has been considered much higher in the past than it is today. It is curious as we understand the value of pollination for food production better than ever before.

Tree beekeeping began to tail off in Russia[2], during the late 19th century. The former abundance of natural resources that had been used by a smaller population began to disappear and with it the bee forests. This was mainly due to the decline of forest acreage with the increase in human population, agricultural area and new forest laws. As agriculture in Russia intensified, meadows and pastures were plowed, destroying the diverse supply of pollen for the bees. Population growth in bee areas led to drastic changes in land ownership, which meant that trees could no longer be used without permission. The new need for forest use and the accompanying mindset that developed with it were not conducive to the preservation of primeval forests. However, the tradition of tree beekeeping continued into the early 20th century, especially among the Maris, who are considered the last pagans in Europe. The situation was similar in the Baltics, Poland, Ukraine and the old Slavic regions of Germany.

---

[2] Grand Duchy of Finland existed as an autonomous part of the Russian Empire 1809 -1917.

The development of tree beekeeping required a great experiential knowledge of nature, accumulated from long-term observation of bee activity. It was known where the bee goes to drink to its thirst or which other species like honey. A bee tree could be found following in the animal´s footsteps during the winter. It was known what a bee-made hive looks like and what kind of tree the bee prefers. Once upon a time, tree beekeepers could wait a hundred years for the hollowing of a tree's interior to be completed. Spells were sang in order to attract the bees. At some point in history, climbing the bee trees ceased. We stopped adapting to the natural or "original" living conditions of bees. At some point we brought bees down to the damp earth, to live in our domestic area in rectangular boxes that resembled our own houses in shape. Considering this it is depicting that domestication comes from the Latin word *domesticus*, which originally meant "belonging to a house". Living close to the ground exposed honey bees to entirely new dangers, but from a human point of view, the efficiency of honey production and the ease of beekeeping became a priority. This is how one important interspecific relationship transformed slowly into more human-centered. The so-called anthropocene era got one fortification more.

The uniqueness of Finnish bee history

Beekeeping knowledge has spread from tree beekeeping areas towards the north, but the Finnish climate seems to have been too cold for honey bees. Especially during the small ice age between ca. 1450 and 1850, the average climate temperature was couple of degrees lower. Every effort was made to raise the temperature, contrary to the current objectives. Bee historian Eva Crane considers the 60th latitude to be the northern boundary of the honey bee's natural habitation range. It runs just below Helsinki in the present-day Finland. Below that fatal latitude can be found the southern parts of Sweden and Norway, as well as Denmark. Data referring to honey production have been found in the remains of the Vikings in the Oslo area as early as the turn of the 12th and 13th centuries.

However, the latitudes did not prevent the stories of honey bees from spreading among Finns. The folk poet collector Elias Lönnrot became enthusiastic about Karelia[3], where echoes of the tree beekeeping tradition could still be heard. Based on his journeys on the Eastern part of Finland he published the national epic *Kalevala* in 1835.

"Tiny bee, thou honey-birdling,
Lord of all the forest flowers,
Fly away and gather honey,
Bring to me the forest-sweetness,
Found in Metsola's rich gardens,
And in Tapio's fragrant meadows,
From the petals of the flowers,
From the blooming herbs and grasses,
Thus to heal my hero's anguish,

[3] Karelia is the former Eastern part of Finland, which belongs to Russia since the Second World War.

Thus to heal his wounds of evil."[4]

The bee is mentioned in hundreds of different versions of folk poetry, which can be read in the online archive of the Finnish Literary Society. In these spell poems, the honey bee had many names, such as "mead-wing," "man light," "slippery bird," and "king of the forest flowers." The poets apparently did not know that the bees collecting nectar were females.

Against this background, the relationship of Finns with honey bees seems uniquely contradictory in the European context. Culturally, the bee has belonged to the Finno-Ugric tradition through language and mythology. Thus, with the national romantic ethos of the 19th century, the bee was perceived as "belonging to us". **Erik Julin**, the Finnish Economic Society´s ardent promoter of beekeeping apparently believed in bee cultures that flourished in Finland in the distant past. In the 19th century, however, the Finnish-speaking people did not seem to have much contact with the honey bee in practical terms. Finnish "national writer" Zachris Topelius writes in his Book of Nature in the 1860s, "Not all of us have seen (bumble)bees and wasps."

Honey bees were introduced over the borders of present-day Finland as early as the end of the 18th century. The motive for the operation was to strengthen domestic honey production and reduce the need for imported sugar. However, it was challenging to motivate people to take care of the newcomer. It was even suspected that honey bees would suck the flowers dry, as the knowledge of pollination hadn´t spread until later. In log and straw nests, which were in use until the mid-19th century, a swarm of bees was destroyed with each honey harvest. Towards the end of the century, modern beehives with movable frames became more common. In these novel structures, the bees could be controlled with a whole new intensity and the honeycombs brought out of the hive without butchering the swarm. This modern practice, which has not changed significantly since the 19th century, was decisively different from tree beekeeping. Forest bees were usually disturbed only twice a year. Most of the time, they were allowed to live in peace. Modern beehives, on the other hand, are inspected almost weekly during the nectar-collecting seasons.

Re-building interspecific partnership

Poland declared tree beekeeping as cultural heritage in 2016. The story began as early as 2002, when a WWF research team traveled to the Southern Urals in Bashkiria to map out forest reserves. In the Sulgan-Tash nature reserve, the leader of the group, German biologist **Hartmut Jungius**, unexpectedly met three tree beekeepers, each with 15-20 bee trees in their possession. Jungius told his Polish colleague **Przemek Nawrock** about what had happened, and they got enthusiastic about restoring this ancient cultural heritage in their homelands. Przemek found foresters, beekeepers and naturalists in Poland who wanted to take part in the project. In the first workshop in 2007, Bashkir beekeepers were invited as teachers. Later the workshops were also organized in Switzerland and Germany. Today in the primeval forests of Bialowieza 140 bee trees can be found, the oldest dating from the 18th-19th centuries. Poland and Belarus joined forces in order to get tree beekeeping approved to the UNESCO list of intangible cultural heritage. Their proposal got accepted at the end of 2020. This creates belief in the continuity of this centuries-long tradition in the region.

---

[4] https://www.sacred-texts.com/neu/kveng/kvrune15.htm

Jungius is currently involved in the Swiss organization Free the Bees, which aims for sustainable beekeeping. It is an independent agent from beekeepers' interest groups, focusing on the well-being of the honey bee and ensuring sustainable pollination. Switzerland is the best place in the EU for non-human animals by many criteria. The country is likely to have the strictest legislation on farm animal welfare. Apart from that, the canton of Zurich has had an animal advocate on payroll, who among other cases, sued a fisherman for torturing a pike in 2010. **Andre Wermelinger**, the manager of FTB, believes that the animal rights situation in Switzerland is good thanks to direct democracy. People have the power.

According to the FTB, honey bees should be given the opportunity to reproduce naturally and to live in their habitat, rather than by all means trying to suppress the innate needs that have evolved as a result of their evolution. Andre thinks that our constant interference in bee´s activities is perverse. His own bees are allowed to live in a fairly peaceful state, which he calls almost-natural.

Wildlife projects can be expensive and complex, which is why Andre focuses on mapping, monitoring and protecting honey bees currently living in the wild in Switzerland. However, the state environmental authorities claim that they no longer exist. Neither is there room for FTB´s perspectives in beekeepers' publications. Andre regrets how people no longer dare to act according to their own knowledge. They would rather stay in the mainstream without questioning harmful practices, even if they see the devastating consequences of their actions. FTB aims to facilitate the commencement of organic beekeeping by raising awareness of the impact of beekeeping on the life of the honey bee. Andre shares a table online where everyone can find out the intensity of their beekeeping and draw their own conclusions based on it.[5] Many who call themselves bee friends have not stopped to think about the consequences of intensive honey production on bee welfare. Maintaining a certain temperature and humidity in the beehive is vital. The smoke, in turn, makes the bees panic. Each additional disruption takes resources from the nest. The administration of sugar during the winter weakens the bee's resistance, according to studies, not to mention the collection of propolis, which acts as a natural immune defense in the walls of the hive. If we systematically deplete bee´s resources and at the same time provide a monocultural toxic environment, is it unexpected if the species approaches the point of collapse? Colony Collapse Disorder is definitely a strong indicator of that.

What would the bee do?

The COVID-19 pandemic might help us identify with the situation of the honey bee, as now the immune defense of also the human species is really tested. Instead of coronavirus, varroa mite has been the nuisance to honey bees. Apis mellifera encountered varroa after being transported around the world outside it´s natural range. This acquaintance has been fatal to the community-based honey bee in many ways. It has also led to the treatment of hives with chemicals in the fight against varroasis. However, it has recently been discovered on the Swedish island of Gotland, that honey bees which have been allowed natural selection by swarming have survived varroa. They seem to have succeeded without human intervention after years of ordeal, al-

[5] https://freethebees.ch/en/beekeeping-methods/

though the losses have been great at first. This raises hope that the honey bee will be able to develop resistance to varroa on its own, as long as the species is allowed to adapt peacefully to the challenges of the environment and continue its own evolution. Andre recalls, however, that varroa is only one factor in the collapse of the honey bee. The biodiversity of the plants to be pollinated has withered which has impoverished bees´ diet. Honey bees may also be starving to death.

American actor **Morgan Freeman** hit the headlines a couple of years ago when he was setting up a honeybee sanctuary on his farm. He hired a gardener who strives to provide bees with pollen to their liking. Paying attention to the needs of the bee, not the human, is an interesting starting point for a change. Individuals like Morgan could reach a large audience and raise awareness of a bee-centric consciousness. In the end, there are many ways to help the bees. Anyone can set up a "bee pharmacy", which could be as simple as growing flowering lavender in their yard.

The working group of the Koroinen Association of Living Culture in Turku is currently planning a diversity feeding oasis in the Koroinen outdoors area. They are sending an open invitation for the honey bees to settle down inside the decaying beech tree trunk sculpture garden. Time will tell whether we will be able to observe the survival of bee colonies in Finland by means of their own architecture and way of life.

"Do you feel like a god when you are working with your bees?"
(...)
"Simpler than that. We feel like there is a God".

Beekeeper Gunter (Piers Moore Ede: Honey and Dust)

This re-edited article has been originally published in Finnish in Elonkehä (deep ecological culture magazine) 2/2021. https://www.elonkeha.com/

Bibliography

1. Primary sources

Maamiehen Ystävä, Kuopio 1845
Topelius, Zacharius: *Luonnon-kirja. Ala-alkeiskouluin tarpeeksi.* SKS, Helsinki 1862.

2. Archive sources

Kalevala-verkkoarkisto - SKS. https://skvr.fi/

Suomen kansan vanhat runot - SKS. https://skvr.fi/

3. Research literature

Anderson, Kay: A Walk on the Wild Side. A critical geography of domestication. *Progress in Human Geography 21,4*, 1997, 463–485.

Bailey, Larissa: *Honey Bee Pathology*. Academic Press, 1991.

Crane, Eva: The World History of Beekeeping and Honey Hunting. Routledge, New York 1999.

Crittenden, Alyssa: The Importance of Honey Consumption in Human Evolution.*Food and Foodways* Vol. 19, Iss. 4, 2011.

DeMello, Margo: Animals and Society. An Introduction to Human-Animal Studies.Columbia University Press, New York 2012.

Dunayer, Joan: English and Speciesism. *English Today.* 2003, 61–62.

Gunda, Bela: Mehiläishoitoa Unkarissa. *Kotiseutu* 1, 1971, 22–32.

Huotari, Kaarlo: Alkukantainen Mehiläishoito Kansanrunoissa. *Kotiseutu* 1972, 27–30.

Huotari, Kaarlo: Mehiläishoidon kotiutuminen Suomeen ja vaiheet järjestäytymiseen asti itsenäisyyden ajan alulla.
Jyväskylän yliopisto 1994.

Huotari, Kaarlo: Mehiläismetsät keskiajan Venäjällä. *Historiallinen Aikakauskirja 3*, Suomen historiallinen seura 1996.

Hämäläinen, Albert: Tsěremissien Mehiläisviljelyksestä. Suomalais-ugrilainen seura, Helsinki 1909.

Ilyasov, Rustem: The Burzyan wild-hive honeybee A.m.mellifera in the South Urals. *Bee Improvement and Conservation.* Autumn 2016, Number 42, 2016.

Locke, Barbara: Natural Varroa Mite-Surviving Apis Mellifera Honeybee Populations. *Apidologie* 47.3 (2016): 467–482. Web.

Ruttner, Friedrich & all: The Dark European Honeybee: Apis Mellifera Mellifera Linnaeus 1758. The British Isles Bee Breeders Association, UK 1990.

Vuorela, Toivo: Suomensukuiset Kansat. SKS, Helsinki 1960.

3. Online publications

http://bartnictwo.com/en/news/

https://www.theguardian.com/world/2010/mar/05/lawyer-who-defends-animals

https://www.forbes.com/sites/trevornace/2019/03/20/morgan-freeman-converted-his-124-acre-ranch-into-a-giant-honeybee-sanctuary-to-save-the-bees/

http://www.travelerstoday.com/articles/33565/20170107/the-mari-people-the-last-surviving-pagans-of-europe-their-sacred-woodlands-white-magic.htm

https://www.theguardian.com/world/2010/mar/05/lawyer-who-defends-animals

Links

https://freethebees.ch/en/

https://www.naturalbeekeepingtrust.org/

http://bartnictwo.com/en

https://earthwatch.org/