Review of Hoof Beats by William T Taylor

Regardless of how we broadcast our academic, disciplinary identities, all of us secretly wish we were magicians. The first step of every magic trick, the pledge, begins with the presentation of something ordinary. Modern human societies emerged from, and are maintained upon a foundation of domestic plants and animals. As a result, they have permeated our human world to such a degree that they have become ordinary. Those of us who study domestication can leverage that familiarity to make use of the magician's tricks. In William T Taylor's book *Hoof Beats*, that first, nondescript, unremarkable thing is a horse.

In the second step of the trick, the turn, the magician spins that ordinary domestic species into something remarkable. Taylor tells us that in 1880 there were 150,000 horses in New York City. Combined, they produced 4 million pounds of manure and more than 4,000 gallons of urine per day. At the time, there were just less than two million people living in New York which equates to approximately one horse for every 130 people, and two pounds of poo per person. Today, the horse population has shrunk dramatically and there are barely 150,000 horses in the entire state of New York.

Finally, the third act, the prestige, in which the magician warps the audience's mind and elicits spontaneous applause for the sheer audacity of the reveal. Taylor leaps back four million years when, in North America the two major horse lineages (cabaline horses on one branch, and the progenitors of zebras, asses and donkeys on the other) first evolved, and then two million years later dispersed west into Eurasia and Africa. While these lineages adapted and spread and thrived in their new continental homes, all North American horses went extinct about 10,000 years ago, only to be reintroduced from the east in the 16th century by colonising Europeans, whereupon horses immediately went feral and made themselves at home as though they had never left.

As a species we are not terribly good at comprehending change. Much less continual change over long time periods. We tend to grasp a modern set of circumstances and then expect that things have always been that way. No matter how many times we learn that the only constant is change, we remain steadfast in our belief of stasis. Taylor understands these expectations and, over the course of 220 pages, subverts them by making iterative use of his magician's powers. The thrill is even more pronounced since Taylor is able to briskly and expertly thread data and insights from biology, ecology, culture, technology, and behaviour into dozens of prestige horse reveals in every chapter.

A second pledge is a human on the back of a horse. There are saddles and bridles and bits and reins and stirrups, all of which help the rider to control the animal, and minimise the likelihood of falling off. People clearly needed a big animal to help convey us faster, so we first domesticated horses. For the turn, Taylor tells us that in fact, up to 1,000 years before domestic horses even existed, people in the Near East were riding donkeys. What's more, they were deliberately mating evolutionary divergent equid lineages to produce infertile hybrids which they also rode. The mind-boggling prestige is then the demonstration that people only rode on horseback 1,000 years after horses entered the domestic realm, and that for that first millennium, horse transport only took place with chariots.

In just 4,000 years, horses have become so intertwined with human populations that, as Taylor comprehensively demonstrates, they were the harbingers of our interconnected, globalised society. Horses sped things up dramatically and each modern example had a precursor. The Pony Express in 1860 reduced the time for a message to travel across the width of America to 10 days. But as Taylor recounts, a horse-based postal system operated in the late 6th century BCE that connected the Persian Gulf with modern day Turkey.

There may not be any aspects of the *longue duree* of the human-horse relationship with which Taylor is unfamiliar. His zooarchaeological expertise is particularly impressive and the specific manner in which those insights can illuminate the deep and often personal history of horses and people are fascinating. To his credit, he name checks a number of colleagues and influences, but fails to mention Ludovic Orlando, a collaborator and scientist whose lab has generated the vast majority of the revolutionary genomic insights presented in the book. This is bewildering since neglecting to do so is akin to writing a history of theoretical physics and not mentioning Stephen Hawking.

This is a fantastically rich narrative. Horses had been hunted and occasionally represented on cave walls for tens of thousands of years before people and horses took their flirtation to the next level. That triggered a 4,000-year whirlwind romance that saw horses conquer the globe and interject themselves into our lives, infrastructure, entertainment, armies and myths. It’s difficult to therefore not feel a twinge of sadness as Taylor’s book ends with the last century’s cooling of our horse dependency as our heads have been turned by technology, and far less romantic and motorised horse-drawn conveyances.