

HORSE SENSE

The joy and the science of riding

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The author with Quinqua, a thoroughbred ex-racehorse he fell in love with while on holiday in Tuscany

Are you one of those people for whom the idea of getting on a horse is anathema? I came to riding late but it is now a central part of my life. There's no more convivial an activity nor a better way to see the countryside than going out on a hack. As Ronald Reagan once said, "*The best thing for the inside of a man is the outside of a horse.*" So I thought I would try to describe what it's like and tell you something about these superb beasts.

The Gallop

Before we turn the corner my horse already knows there's a gallop ahead and she's excited, but I need to hold her back until the other riders are ready. If one horse sets off, there'll be a charge. I gently pull her head to one side to prevent her getting in line with the track but I'll only be able to hold her for so long. I am about to accelerate from nought to ten metres per second in as much time and if I'm not ready I could be left sprawling. I lean forward with my legs directed slightly backwards, ready to absorb the sudden jolt. Then we're off with a thunder of hooves, it's the moment we've all been waiting for. Pheasants explode clucking from the undergrowth at either side of the track as this juggernaut charges through the wood. I try to capture the moment because this is what I want to remember when I am back at my desk. But my memory tape can't run fast enough, the experience can only be now. I have to duck to go under a tree whose branches are drooping following a recent shower. With my face buried in the horse's mane, I can't see where I'm going but I daren't look up too quickly in case there's a second branch waiting to knock me off. Anyway, the horse knows the way!

The horses want to race but we must maintain the line. Get too close and the horse in front will kick out, a bone crunching experience if your body gets in the way. I scan the ground ahead for ruts or fallen branches and marvel at how the horse can gallop over such uneven terrain. But they're incredibly sure footed. We reach a narrow track that runs across the side of a steep escarpment. The slope to my left goes down a hundred metres or so. My horse clearly has a head for heights and prefers to gallop along the very edge of the track where the ground is firmer. It's a tightrope walk - one slip and we would be a tumbling catastrophe with me and half-a-ton of horse playing roly-poly down the hill. But we survive, yet again.



Fallow deer – a common site on a ride

A group of fallow deer on the upward slope suddenly break cover, obviously startled by the noise. My horse had already spotted them a few strides ago and tweaked a radar ear in their direction. There's about half a dozen of them and for a while they run alongside us as if joining in the fun, it's a wonderful moment. Then they accelerate and cross the path ahead of us and run down the escarpment into oblivion. The lead horse shies which sends a

quiver of alarm back through the line, but we press our horses on. Soon we meet a sharp bend, to take this at a gallop I will need to lean over with the horse, just as I used to in my motorcycling days. Other wildlife is flushed out for our inspection; badgers, foxes, rabbits and the occasional buzzard. In Italy, we saw wild boar and even porcupine and plucked unspeakably delicious figs from the trees.

The end of the gallop is approaching and it's time to slow down. After a while, you begin to communicate your intentions to the horse in more subtle ways than kicking to go and tugging on the reins to stop. Simply sitting back in the saddle puts my weight on her hind legs, which acts as a natural break. (Subtle communication reaches its pinnacle in dressage, which is as close to my style of riding as the Hokey Cokey is to classical ballet). We slow to a trot. The horse's head is bobbing, you can tell that she has enjoyed the run. I have a big grin on my face, so do the others – this is the best thing!



At a gallop, a horse uses energy with 100% efficiency

Speed Machine

The horse is one of the fastest quadrupeds on Earth but it has only recently become apparent why it's such a speed machine. Scientific studies into the way they use energy have revealed some interesting facts. The different gaits - walk, trot and gallop – deliver the most efficient use of energy at those speeds, a bit like the gears of a car. However, as the horse shifts through its gears, the energy consumption remains almost static. In fact, a horse is less energy efficient when walking than at

a gallop! This efficiency is due in part to a horse's ability to store potential energy in its elastic tendons and ligaments, which act like coil springs. It seems that this potential energy is used to reconform the limbs after each stride. While the efficiency of the petrol engine is only around 20%, at a gallop a horse approaches 100%

efficiency. It will be some time before even the most fuel-efficient cars will catch up with the steeds they originally replaced.

Animal Insights

There's something else about riding that intrigues me. It's as close as you'll get to experiencing the world through the mind and body of another species. At a gallop, you can stand in the stirrups, lean forward and look between her ears and try to see the world as the horse sees it. Only of course she sees more things more quickly than we ever can. Her ears move independently and are constantly scanning for suspicious sounds. Each is directed by sixteen different muscles and has an acoustic range that tops ours by 10,000 hertz. Predators don't tend to announce their arrival so a horse is tuned in to the sounds of rustling leaves or cracking twigs that may signal the approach of a tiger, even though we are on the South Downs. These acute senses are linked to a hair-trigger flight reflex – run first, ask questions later. The rider tries to suppress this at all times by being super calm, which is not always easy when you are actually crapping your jodhpurs!

Purpose Built

The anatomy of the horse makes it almost purpose built for riding. As a large man, I always feel concern for my albeit large horse as I lower myself gently into the saddle. But horses seem to carry our weight with little concern. If you have say, a largish horse weighing 500kg, a largish 80kg rider represents only 16% of the horses total body weight. That's equivalent to that rider carrying 13kg, the weight of an average rucksack. The horse has the additional advantage of pillar-like legs and a semi-rigid spine. The back vertebrae are fused to form a strut between the front and hind legs, which is designed to bear the weight of the horse's voluminous digestive system. It also makes a useful pole on which to hang a saddle. And the minute you sit in the saddle you change your relationship with the ground. Between you and terra firma there is now a totally different system of locomotion, the animal equivalent of four-wheel drive. Our hands and feet with their grasp and cantilevered suspension are designed for the forest. The horse's long legs were designed for speeding across the open plains of North America, where they first evolved.



The anatomy of the horse makes it almost purpose built for riding

In spite of their differences these two locomotory systems, horse and human, can be perfectly integrated and the whole becomes far greater than the sum of its parts. And as fellow social animals, we integrate very well at the psychological level as well. It is a truly symbiotic relationship, one that has profoundly influenced the course of human history and done wonders for my weekends.

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