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1

Prologue

The Horse of the Past

Our species, *Homo sapiens*, spent most of its evolutionary history without the horse. But as soon as it appeared at our side, the entire history of the world was revolutionized. The world began to appear smaller than it ever had before—because what the horse offered us, above all, was a means to travel faster and farther than we ever could using just our legs. It provided an opportunity to explore the world, to meet with distant relations, to trade with them, to spread our languages, our cultures, and even our germs, at a speed that was previously unimaginable. The horse enabled us to connect with distant places and peoples in a relative blink of an eye, and to truly globalize ancient worlds for the first time. The horse also sometimes enabled us to interact and mix peacefully with others along the way, and other times—often, in fact—to wage wars of a different type, on horseback, or in chariots to which it was harnessed. It is indeed the horse that I wish to talk about here: the horse of kings and peasants, but also that of the nomads of the steppes, and polo players; the one that delights young and old alike, a delight that can at times cause people to lose their heads and complete fortunes by betting at horse races;

the one that carried the cavalry and its equipment, or the million and a half others that perished during the First World War; and the mustang, which became the uncontested emblem of the Great American West.

Through astonishing recent advances in DNA sequencing, we now know that the domestic horse appeared around 4,200 years ago in the steppes of the northern Caucasus region—in the lower valley of the Don and the Volga, to be more precise. That makes the horse one of the last large mammals to have been domesticated by humans, many thousands of years after the dog, the cow, the sheep, the goat, or the pig. It was “the most noble conquest” that humans have ever accomplished, the Count de Buffon wrote in his *Histoire naturelle*, a work of unparalleled popular success which in August 1753 would take him, the most illustrious naturalist of the Jardin Royal des Plantes, barely forty-five years old, from the doors of the French Academy of Sciences to those of the French Academy, the organization that defines the proper official use of the language in the country. He was the perfect incarnation of the Enlightenment.

The Horse in the History of Civilizations

The conquest of the horse may have been belated compared to other animals, but its success was immediate: in scarcely a few centuries, this new type of horse, henceforth domesticated, would be found quite far from its place of origin, from the coasts of the Atlantic to those of the Pacific; it was like an instrument of a new era that had just gotten underway. The German historian Reinhart Koselleck had the right idea when he proposed that the great periods in the history of our civilizations no longer be categorized by the metals that fashioned our weapons and tools—primarily the Copper Age, then the

Bronze Age, and finally the Iron Age—and suggested we espouse a dichotomy that is (in his opinion) not only simpler, but also more pertinent. One need only to determine whether humans already possessed the animal we are looking at here or not, to reveal a dynamic that had been little known but which was nonetheless fundamentally pivotal in human history. The proposal was to introduce an age before the horse, the Pre-Caballine Age (from the Latin name retained for the species, *Equus caballus*), and an age of the horse, the Caballine Age. This would emphasize just how profoundly the animal changed our societies and the great impact it truly had. Today we are living in a post-Caballine Age, the one after the horse, ever since combustion engines replaced the animal's motor force and caused the working horse itself to disappear from our cities and our countrysides.

But it was not so long ago that the horse was still an integral part of our daily universe, including in large cities such as Paris, London, or New York, where it pulled omnibuses that carried people from one point to another in those increasingly tentacular cities; but where it also brought supplies to businesses and stores, and also served in the maintenance of law and order, and even became a quintessential social marker in high society. At that time, everything—or almost—revolved around it. As proof of this: it took only a particularly devastating equine flu epidemic for the economy of one of the most powerful nations in the world, the United States, to grind to a halt. It was at the end of 1872 and the beginning of 1873, and according to various estimates, only between 2 percent and 18 percent of afflicted horses died. But close to three-quarters of them fell ill and developed a fever and wracking cough that made it impossible for them to move and thus to work for many long weeks. Without horsepower, that nation which earlier was as proud as it was thriving, and which

nothing seemed to be able to daunt, fell victim to the flu. Doctors could no longer jump on horseback or catch a horse-drawn omnibus to reach the bedsides of their patients, and the epidemic took off, and nothing could stop it. Through a domino effect, trains remained stuck in stations because their necessary fuel, coal, could not be delivered—nor, without the help of horses, could it be extracted from mines, and a well-oiled economic machine came to a grinding halt. The effects of a lack of horses extended to fire pump trucks, which without their “motors” could no longer leave their stations. As a result, in November 1872 Boston, in one of the most devastating fires of its history, saw close to 800 buildings go up in flames in just a few days.

The Horse Today

From those bygone days, there remain large double carriage entrance doors, equestrian statues of our triumphant emperors, and national stables—those lofty places where the reproductive life and breeding of horses are so carefully controlled. There are the legendary names of fabulous horses that have marked our imaginations and collective memory, such as Pegasus, the winged horse of the Greeks, son of Poseidon and bearer of lightning and thunder, or the stormy Bucephalus, who, if we are to believe ancient history, only Alexander the Great was able to tame. Even now, there are 600 or so horse breeds that are fashioned according to our needs, to perform tasks for us, from large draft horses to racehorses, or as companions of the Republican Guard. But there are currently between 7 and 10 million horses in North America and only 60 million throughout the world, a number that is less than the total human population of France.

For more than 4,000 years, the horse has earned the reputation of being the most indispensable and most noble of all human

conquests. And yet today it is no longer that inestimable companion outside of a few rare places in the world such as Mongolia, for example, a country with a population of 4 million that has more horses than inhabitants. In the West, the horse has become almost exclusively an instrument of the leisure and sporting industries, which at times use cloning and ever more elaborate doping strategies, borrowing from the most sophisticated genetic technologies, in the pursuit of optimal performances and increased returns on their investment.

Throughout its history, the horse thus tells us a great deal about what our societies once were, but also about their contemporary aspirations. It is that history we will travel through together, borrowing here and there the tools of historians and archeologists but above all those of geneticists. As surprising as this might appear, today we can read the DNA of horses like an open book, including that of horses that now exist only as skeletons in the collections of natural history museums or at archeological digs. We will go back in time, traveling through genealogies and the course of history no longer on horseback, but by way of the messages inscribed in horses' genes. We will discover the great stages of the horse's biological evolution and the changes introduced by breeders since the dawn of its domestication, including the stages that accompanied the creation of the animal we know today. It is precisely that voyage that my research team and I have been working on for more than a dozen years now, without for a moment anticipating the surprises we would encounter along the way. If that voyage has taken us to the four corners of the world and into the depths of time, it has above all led us to rewrite entire chapters of the history of our most noble conquest. Let's now set off without further delay.

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