

## ON 'MOUTH IRONS', 'HOOF CRAMPS', AND THE DAWN OF THE METAL-FREE HORSE

Robert Cook, FRCVS, PhD<sup>a</sup>

*Man masters nature not by force but by understanding*

- J. Bronowski (1965)

In one respect, it's a pity that a horse is not like a pig. When hurt or even when only mildly upset, a pig will let out an ear piercing protest that is impossible to ignore. Unfortunately, horses don't scream. They suffer in silence and mostly without retaliating. It is only by reading their body language that the suffering can be seen. But if we haven't learnt their language we remain unaware. Bits and shoes cause pain. In general, the bit causes acute and immediate pain, whereas the shoe causes chronic and delayed pain. The horse tells us about bit pain in a vast vocabulary of behavioral signs, most of which have been overlooked as, until recently, they have not been recognized.<sup>1-3</sup> The effect of shoe pain has also been overlooked because its signs (chronic lameness, navicular disease and laminitis) do not surface for many years, and the connection between cause and effect is masked by the long interval.<sup>4-6</sup>



Fig 1

Many equestrians might be surprised to read that with the development of a new design of bitless bridle<sup>9</sup>, comprehensive rein aids can, for the first time, be communicated painlessly, without causing the many adverse behavioral problems that are caused by a bit. Furthermore that, unlike the bit, the new

<sup>a</sup> Professor of Surgery Emeritus, Tufts University School of Veterinary Medicine.  
Home address: 206, Birch Run Road, Chestertown, MD 21620, USA  
E-mail: [drcook@bitlessbridle.com](mailto:drcook@bitlessbridle.com) Tel: (410) 778 9005

<sup>b</sup> The Bitless Bridle. The Bitless Bridle Inc. 2020, South Queen Street, York, PA 17403-4829 USA

bridle does not interfere with breathing and striding, or trigger contraindicated digestive system responses.<sup>1-3</sup> As a result, horses can now be controlled better in all disciplines, will perform better, and be safer to ride and drive without bits than with bits. Happily, one does not have to be a professional horseman to reap these advantages. Because removal of the bit eliminates at least 50 problems caused by the bit, the art of both schooling and riding is simplified. There being no disadvantages or contraindications for use of the new bridle<sup>c</sup>, essentially no learning curve for the horse, and very little for the rider, the advantages are readily available. Even the greenest novices are saved from themselves by a method of control that can neither hurt nor confuse a horse. Their progress is no longer blocked by bit-induced problems and they more readily become proficient riders because, as they are no longer inflicting pain, their horses are more compliant.

A second surprise and more good news is that, with the development of a natural management system<sup>d</sup>, horses remain sounder, perform better, live longer, and are safer to ride and drive without shoes than with shoes. Surveys have repeatedly shown that lameness is the primary cause of wastage in the horse industry. This being so, the prospect of improving the welfare of the horse, of reducing the toll of accidents to equestrians, and of lightening the emotional and financial cost to horse owners represents a landmark in the history of equitation. As will be made clear, this also represents a reformation that is long overdue.

To those who have not studied the evidence, these claims might sound outrageous. A skeptic's instant response might be to say, 'Of course, such claims can only prove that whoever made them knows nothing about horses.' Yet both these claims are the serious conclusions of two research veterinarians who have been working on these topics for many years.

Dr. Hiltrud Strasser of Germany has been studying the horse's hoof for the last 20 years. In three books<sup>4-6</sup> and in her website, [www.strasserhoofcare.com](http://www.strasserhoofcare.com), she provides compelling evidence for the indictment of stalling and shoeing, and the case for the naturally-boarded, high-performance, barefoot horse. Figure 1 illustrates one of the regrettably common endpoints of stalling and shoeing, a horse with deformed hooves and, therefore, navicular disease. Figure 2 illustrates an equally avoidable endpoint, laminitis. Strasser's management system enables the 'slow-poison' of traditional management to be avoided. This prevents navicular syndrome, laminitis and a slew of other problems. As a result, horses can live longer, more productive, and less painful lives. Applied therapeutically, it enables many horses to fully recover from so-called incurable problems such as navicular syndrome, laminitis and other causes of chronic lameness.

---

<sup>c</sup> Apart from FEI regulations that require use of a bit in certain competitions

<sup>d</sup> Strasser's Hoof Care and Holistic Lameness Rehabilitation

A second veterinarian has been studying the horse's head, neck and chest for the last 50 years. Since 1999, he has published three articles with evidence to show that the bit is harmful to the welfare, health and safety of horse and rider (or driver) and an impediment to performance<sup>1-3</sup>. These articles are available on his website, [www.bitlessbridle.com](http://www.bitlessbridle.com), where readers will find that their author is also the author of this essay. When it was first published in 1860, Figure 3 carried the satirical caption, "Various modes of forming that which all men speak of with admiration, as 'a good mouth'." It illustrates some of the more obvious abuses of the bit. Sadly, this is only the tip of the iceberg as it is now apparent that the bit causes a whole cascade of problems and harms most systems of the horse except perhaps the reproductive system. For example, Figure 4 illustrates one way in which the bit damages the skeletal system. In a museum survey of 65 skulls from adult horses, 75% exhibited bone spurs on the bars of the mouth.<sup>6</sup>



Fig 2

But if the above conclusions are difficult to swallow, some readers may be further surprised to learn that, in the National Sporting Library in Middleburg, Virginia, there is a book containing similarly seditious views from a third veterinarian who was writing nearly 200 years ago. Within its leather, quarto binding is a series of articles and monographs by a veterinarian who came extraordinarily close to both these conclusions early in the 19<sup>th</sup> century. The book carries the title of one of its monographs, "The History of the Horse." It consists of a partial collection of the writings of a remarkable Englishman, Bracy Clark (1771-1860), Fellow of the Linnean Society and Member of the Royal Institute of France. The purpose of

this essay is to alert readers to the existence of this buried treasure. Bracy Clark had a deep understanding of the true nature of the horse and his work provides historical support for the more recent observations quoted above.<sup>e</sup>

In an appendix to her first book<sup>4</sup>, Dr. Strasser drew my attention to Clark's observations on the horse's hoof. She had chanced upon his work after having already completed her own research. Understandably, she was both delighted and disconcerted to discover that he had stolen some of her thunder by publishing conclusions similar to her own about the essentially elastic nature of the horse's foot and the evils of traditional shoeing. However, though his work was groundbreaking, he had not developed Strasser's answer to the "iron ring", a method for the barefoot management of the high-performance horse.<sup>f</sup>



Fig 3

Similarly, it was while I was browsing through Clark's collected works at the National Sporting Library that, to my delight, I came across his 1835 monograph 'A Treatise on the Bits of Horses (Chalinologia).' Once again, though Clark railed against the iniquity of the bit and urged the gentlest use of the least offensive bit, he did not provide the ultimate answer; a method of communication that dispensed with the bit entirely.

Nevertheless, his observations on both subjects are stimulating, valuable, and pioneering. Sadly, in return for drawing these truths to the attention of his colleagues in the embryonic veterinary profession of his day he was ridiculed,

---

<sup>e</sup> Bracy Clark's writings are also available in other rare book collections around the world.

<sup>f</sup> Clark was living, of course, at a time when most horses were kept for utilitarian purposes. Today, horses are kept predominantly for leisure purposes and a more humane management system is both practical and preferable.

vilified and shunned. As Milton said, "Truth never comes into the world but like a bastard, to the ignominy of him who brings her forth."

Bracy Clark read both Latin and Greek, and spoke both French and German. He had already served a seven-year apprenticeship to a human surgeon before he became one of the first pupils at The Veterinary College, which opened in London in 1792.<sup>g</sup> He was probably a help to Charles Vial<sup>h</sup>, a Frenchman who had been appointed the first Professor and whose English was shaky. When the college opened its Infirmary in 1793, it was Clark who led in the first horse. After Vial died "of a fever"<sup>i</sup> in the autumn of 1793, Edward Coleman – a young and inexperienced human surgeon - became his successor. Coleman knew little about horses and, in Clark's own words, found his pupil, "a troublesome guest", warning him off with the rebuke, 'Mr. Clark, either you or I must quit the College'." Accordingly, Clark was hastily examined and passed after three years at college. He toured veterinary facilities on the continent and then established a successful practice in London, specializing in draft horses. Throughout his long working life he was an original thinker and prolific author, who never hesitated to publish ideas at variance with his peers.

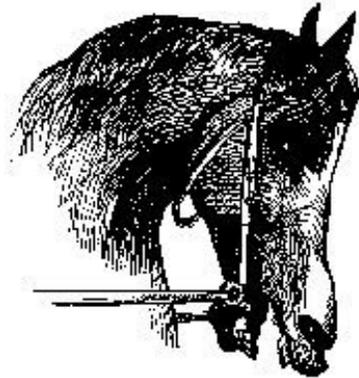


Fig 4

Clark, who records meeting George Stubbs<sup>j</sup>, researched tirelessly and wrote iconoclastically. His topics included etymology, the history of the horse, equine anatomy, bits, bots, blindness, broken wind, gripes, how to age a horse, their so-called vices, and, "the object of our most particular solicitude and attention", the hoof of the horse. Justice cannot be done to the man in a short review but I

---

<sup>g</sup> Now the Royal Veterinary College, University of London

<sup>h</sup> Hoping to be mistaken for an aristocrat fleeing from the French revolution, on arriving in England he adopted the grandiloquent name of Charles Vial de St. Bel.

<sup>i</sup> Probably from glanders, though "Dr Crawford ... observed that he had never seen in this country any fever that so strongly resembled the plague"

<sup>j</sup> "I saw the author about 6 months before his death. He lived in Somerset-street, Portman square, and complained heavily of the little encouragement he had experienced, even by those who were expending thousands in one way or another, in their pleasures with these animals."

would like to select a few of his observations on leverage bits (“wrenching irons”) and horseshoes (“hoof cramps”).

Clark rightly avers that, generally speaking, the horse “is docile and easily instructed” and, this having been admitted, a severe bit is unwarranted. Such “abominable torture” constitutes “a gratuitous and unnecessary infliction. The true biting of the horse does not require complication or harshness, or severity, but, on the contrary, every purpose is best served and obtained by the direct contrary. Since harshness is much more likely to produce the disobedience and danger that it pretends to prevent ... making [horses] commit from pain and rage, the very faults complained of....” Clark appeals for the bit to provide “a language of communication” that has “douceur or softness.” He writes “May we not define the true art of biting to be the applying to the mouth of the horse such mouth-pieces and reins as shall be sufficient for the necessary guidance of the animal, and for adequate restraint when required, and that these be of the mildest kind consistently with the accomplishment of these purposes.” Clark reminds us that the historical record indicates that control has not always depended on the use of a bit. “Indeed, two nations of noble horsemen dexterous in [simultaneously] drawing the bow and managing their steeds, viz. the Numidians and the Parthians, appear to have never soiled or debased their horses’ mouths with the iron, yet managed their fiery coursers with pre-eminent skill and address.”<sup>k</sup> He also notes seeing “cart-horses coming from the country with their loads, and without any bits whatever in their mouths.” Later in the treatise, Clark quotes Berenger, the equerry to George III, “The horseman ... should not act the part of a tyrant, but of a lover.” He also quotes Xenophon on what, today, we call the half-halt. “When you would wish to slacken the pace of an eager horse, that hurries on too fast, and would pacify his fury, and make him go more temperately, or even oblige him to stop, you should not attempt to do it at once and with violence, but artfully and by degrees, gently pulling him in, then yielding the bridle, and playing with his mouth, in such a manner as though you wished rather to win his consent than to force his obedience.” Clark points out that the bars of the mouth are knife-edges. He also observes that they are not always symmetrical and that the bar on one side may be higher than on the other. One wonders how often such asymmetry accounts for bitted horses lugging to one side. Having from the start of the treatise made clear that he was highly critical of bits, especially those “violent and painful machines” the “chain-curb” bits, Clark devotes 20 pages of this 63-page thesis to a section “*On the Abuses of Biting.*” He was of the opinion that the bit “after shoeing and whipping, is the worst torture the horse has now to endure.”

Clark refers to the hoof as “this beautiful organ” and laments “its destruction by common shoeing.” He describes how he first became aware of the healthy

---

<sup>k</sup> Elsewhere Clark adds, “Perhaps the Parthians, or Numidians, were the earliest riders of horses, and for this reason, that they simply guided them by a short wand held in their hand without any rein, which was certainly the most simple way of any, and therefore probably the first.”

(unshod) hoof's ability to expand when bearing weight<sup>l</sup>. "It was not till after many disappointments in turning horses out to grass to recover feet, without success, that I began to apprehend that it was the too solid resistance of the shoe and nails to an organ endowed with a high degree of natural elasticity, that produced these effects." To prove that shoeing prevented necessary expansion "an experiment was necessary of a very tedious description, that of following the same foot with plaster casts for several years, and comparing them. And the evidence obtained was, a constant annual diminution and hardening of the foot, from the too rigid embrace of its protector." He recognized that it was not only the hoof wall that became contracted at the heel but that the shape of the coffin bone itself was similarly distorted. No wonder, he realized, that turning a horse out to grass for a few months "to recover feet" was not long enough to allow time for the bone to remodel. As a result of shoeing, he noted that the foot became progressively narrow with each passing year until it became "stunned, benumbed, and contracted." Feet were "reduced by ironing to two thirds their natural dimension! And hardened with bone where no bone should exist." He drew attention to the fact that this serious "diminishment of volume" was so common that a deformed hoof was widely mistaken by the teachers of the day for a healthy hoof.<sup>m</sup> He invented a shoe that hinged at the toe, so that each branch of the shoe could expand with the foot. It was nailed on one side of the hoof only and he called it his "*Steel Tablet Expansion Shoe*." Clark notes that shoeing was first introduced during the Dark Ages and that "the slow mischief of its effects was [not] perceived till lately<sup>n</sup> ... bringing to the horse more sufferings than all his other cruelties and wrongs put together."

In the long history of the domestic horse, the practice of stalling and shoeing is relatively recent, having only become popular since 1000 AD. Similarly, though the bit was probably introduced almost at the same time as the horse was first domesticated, horses have also been frequently controlled without bits. Nevertheless, these metal items have become so ingrained in our traditions and so familiar that they will not be relinquished easily. In spite of the evidence against them, the proposition that they are harmful to the health of the horse will generate considerable resistance. We can expect an outcry but, as Kenneth Galbraith remarked, "the familiar is always defended with much more moral fervor just before it becomes foolish." We must be prepared for this and not let it blind us to the fact that, in the new millennium, there is now nothing to prevent us from granting our horses relief from the injustice of iron and this "cruel and unmerited suffering." But it is not only the welfare of the horse that can be

---

<sup>l</sup> He would demonstrate to a client by requiring them first to measure the raised fore foot of his (presumably unshod) mare at its widest point. Having fixed the screw of the caliper compasses at this measurement, he would ask the client to try and place the calipers across the same foot when the horse was standing on a flat stone with the other fore foot raised. This attempted and the client agreeing that it was impossible, Clark would now throw his arms around the neck of his horse and, suspending his whole weight, ask the client to try again. "The expansion became such as to be actually visible, and the compasses would in no respect pass the hoof."

<sup>m</sup> Sadly, this remains a problem to this day

<sup>n</sup> He quotes his own '*Dissertation on the Foot and Shoeing*', of 1809

advanced, it is also its performance.<sup>o</sup> A further benefit is that we can at the same time do ourselves a favor by making riding and driving safer, happier, and less expensive.

### **Acknowledgments**

The illustrations are by the artist, actor, playwright, activist, and veterinarian, Edward Mayhew (c.1813 - 1868). They are taken from his book *The Illustrated Horse Doctor (1860)*. His concern for the welfare of animals drew him to a career in veterinary medicine in middle age.

I thank the Officers and Directors of the National Sporting Library, Middleburg, Virginia for giving me access to the rare book collection.

I declare that I am chairman of The Bitless Bridle Inc.,

### **References**

1. Cook, W.R.: Pathophysiology of Bit Control in the Horse. *Journal Equine Veterinary Science* 19: 196-204, 1999
2. Cook, W.R.: A solution to respiratory and other problems caused by the bit. *Pferdeheilkunde*, 16, 333-351, 2000
3. Cook, W.R.: Bit-Induced Asphyxia: Elevation and Dorsal Displacement of the Soft Palate at Exercise. *Journal of Equine Veterinary Science*, 22, 7-14, 2002

---

<sup>o</sup> Interestingly, many of the performance benefits are the same. Both bitless and barefoot riders, for example, report that freeing the horse of metal increases stride length and, therefore, speed.

Mrs Marrot returned to the room where her husband lay, evidently suffering severe pain, for he was very pale and his lips were compressed. He was anxious not to alarm Gertie and Loo who stood at the bedside. The former could not speak, and the blood had so completely fled from her face and her small tightly-clasped hands that she resembled a creature of wax. "Can I do nothing to relieve the pain, dear father?" said Loo, as she wiped the perspiration from his brow. "Nothin', nothin', dear lass," said John, with some of his wonted heartiness, "except git me a cup o'ap