

“HORSE-RIDER INTERACTION VIA THE REINS” BY DR. HILARY CLAYTON:

A REBUTTAL

Robert Cook¹

Science advances by a process of constant updating. Researchers propose corrections when their findings do not agree with current knowledge. The proposals are examined by their peers, observations are double-checked and experiments repeated. After a lag time of obligatory scepticism, if the proposals cannot be refuted, they get accepted as updates and the new thinking becomes the orthodox wisdom of the day; something that might even approach the mirage of scientific consensus. After another time lag, sometimes shorter than a generation, the new information is applied.

That, anyway, is the tidy version of the scientific method; displaying man’s more noble qualities. Such a description hides a whole heap of human haggling, controversy and other less attractive human qualities. Whatever form the battle takes, propositions are either rejected, at least for the time being, or become accepted, albeit provisionally, i.e., until such time as further new evidence comes to light. So-called ‘scientific consensus,’ as Charles Fort wrote, may be nothing more than “the proper thing to wear, for a while.” The back and forth of confrontation and rebuttal is both unavoidable and necessary. In the process, researchers tread on toes and get their own toes trodden on. It is often difficult to do this politely. But unless researchers are willing to lay their evidence on the table and others are willing to debate its validity, all progress comes to a halt.

Scientific hypotheses (propositions) cannot be proved but, by definition, they have to be vulnerable to disproof. At the 2011 Conference of the International Society of Equitation Science (ISES), it appears that my veterinary colleague Dr. Hilary Clayton² put forward a number of propositions (Clayton 2011) that I believe can, in the light of current evidence, be disproved. The purpose of this article is to explain why I disagree with these propositions.

As a member of ISES, I receive the Conference Proceedings and have read Dr. Clayton’s abstract. Let me emphasize, this was only an abstract, not her full presentation. I have also read Christa Lesté-Laserre’s recent report on Dr. Clayton’s presentation, in which some of Clayton’s comments are cited that were not in her abstract (Lesté-Laserre 2012). I did not attend the conference, so am dependent on Clayton’s own abstract and a free-lance journalist’s reporting for my interpretation of the source material.

Clayton devotes her abstract to aspects of biting without addressing the larger question of whether a bitted rein-aid is even justifiable. By overlooking this question,

¹ Professor of Surgery Emeritus, Cummings School of Veterinary Medicine, Tufts University. Massachusetts

Chairman, BitlessBridle Inc., T: (443) 282 0472 E: drcook@bitlessbridle.com

² Mary Anne McPhail Dressage Chair in Equine Sports Medicine. Mary Anne McPhail Equine Performance Center, College of Veterinary Medicine, Michigan State University

she has – in my opinion – been left at the post. First, she reviewed research that her graduate student carried out some years ago using radiographic techniques to study the position of various bits in the mouth of a resting horse. Secondly, she reported that a study showed that a group of horses exercised on the treadmill were “*able to swallow with a bit in place while cantering with the poll flexed*” [emphasis added]. Thirdly, she reviewed some of her earlier work on strain gauge measurement of rein tensions in bitted horses that were trotted in hand (in side reins) and ridden at the sitting trot. Sadly, by focusing on three particular ‘trees’ she has failed to see the ‘wood.’ In this millennium, horsemanship has undergone a renaissance that Clayton seems not to have noticed. For an equine researcher in 2011 to review such aspects of biting is rather like someone reviewing whether, for the treatment of strained tendons with a firing-iron, the skin should be burnt in a pattern of lines or dots.

Clayton believes, as I do not, that use of a bit is acceptable. In her abstract, she writes, “*It is important to select, fit and use the bit correctly.*” I disagree. The selection and fitting of a mouth iron is a cruel and too usual punishment. It is no more to be recommended than the selection and fitting of a slave’s leg iron. As to its use, you can – in my opinion - no more use a bit correctly on your horse than you can use a thumbscrew correctly on your husband. Bits inflict pain. Today, most people agree that it is wrong to hit a horse around the head with a whip. One day soon most people will agree that it is wrong to hit a horse in the mouth with a steel rod. Not only is a bit not in the best interest of the horse but neither is it in the best interest of the rider/driver.

Christa Lesté-Lasserre’s report indicates that Clayton was of the opinion that the soft tissues of the mouth have a much greater ability to absorb the pressure of the bit than bone. “*The horse’s tongue.*’ Clayton said, “*can be very sensitive but it can also withstand a lot of different kinds of pressure.*” Clayton suggested that riders should avoid putting pressure on hard tissues (like hard palate and jaw) and confine the pressure to the tongue. She may or may not have explained how this could be done. Anyway, this begs the question as to whether tongue pressure is acceptable. For physiological reasons it is not. Quite apart from the pain it causes, the pressure of a metal foreign body on the tongue causes tongue movement, which in turn interferes with breathing and, therefore, also with striding (Cook 1999, 2002, Cook and Strasser 2003).

Surprisingly, Clayton is reported to have said that she isn’t convinced the bitless bridle is more humane (than a bit). Apparently she is of the opinion that the focal and, therefore, severe pressure of one or more rods of steel on bone and other sensitive tissues of the mouth (Fig.1) is more “*kind, tender, merciful, and considerate*” (Webster’s definition of ‘humane’) than the well-distributed and milder pressure of strap on skin (Fig. 2).

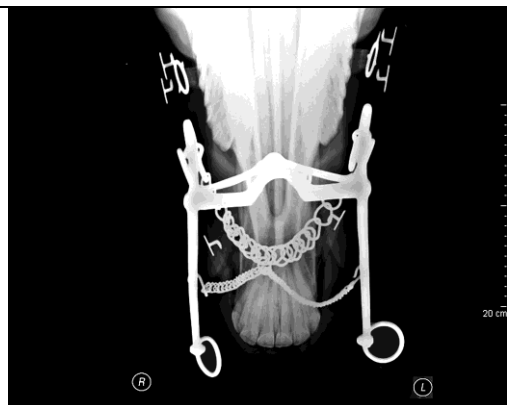


Fig.1 The double bridle, approved by the FEI for upper level dressage, applies the focal, severe and painful pressure of two steel rods on bone (the bars of the mouth and the hard palate) and sensitive soft tissue (tongue, gum and lips). Bone spur formation on the bars are common and dental erosion can be severe, leading to paradontal disease and even to the complete loss of the first lower cheek teeth. The curb chain, activated by leverage forces on the long- shanked curb, applies a thumbscrew action on the jawbone.

(X-ray courtesy of the Cummings School of Veterinary Medicine, Tufts University)

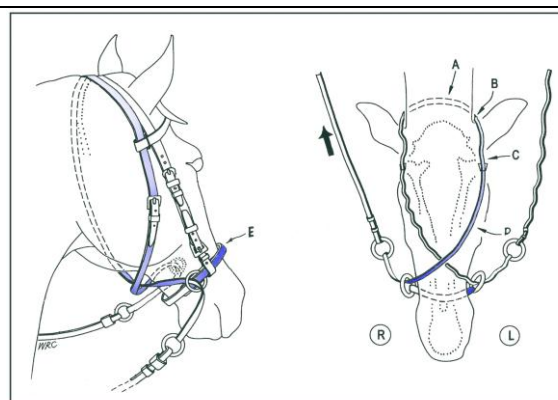


Fig.2. The crossunder bitless bridle, not approved by the FEI, distributes the milder, painless pressure of strap on skin over a much larger surface area, diminishing the pressure from E to A as indicated by the color gradation. For steering, a squeeze on one rein (arrow) nudges the opposite half of the head. For slowing and stopping, a squeeze on both reins hugs the whole of the head. Unlike a bitted bridle, it provides a rein-aid that is compatible with the needs of an exercising horse and rider/driver.

(Diagram of the Dr.Cook BitlessBridle™ manufactured by BitlessBridle Inc., www.bitlessbridle.com)

If Clayton is unconvinced about the crossunder bitless bridle's humanity, all she has to do is to ask the horse by means of a simple test; remove the bitted bridle, replace it with the crossunder and compare the horse's behaviour. Her lack of conviction, she said, stems from her studies which show that the crossunder's pressure on nose, chin and poll is "quite high." However, she does admit that this work is "still in its early stages." I await her publication of comparative pound-force per square inch data with interest. I assume that she will compare, at exercise, the force of two different straps in numerous locations on the relative 'acres' of skin on the horse's head, with the pin-point force of one or more circular cross-sectional metal rods on the two bony spines that constitute the bars of the mouth, the force of metal knobs on the hard palate, of steel rods on the tongue, the snaffle's action as an extreme lip retractor on the corner of the mouth and the thumb screw action of a curb chain on the jawbone.

Taken at face value, I agree with Clayton's remark "Some people are under the impression that if you take the bit out of a horse's mouth, then you solve a lot of

problems – that the bit is a source of pain.” My thoughts exactly! Unfortunately, her message is that those people who have this ‘impression’ are wrong. In her opinion, the bit causes no pain and no problems. I disagree on both counts. Removal of the bit solves a host of problems. The horse demonstrates by its behaviour that the bit is a potent source of pain. Much aversive behaviour disappears when the bit is removed (Cook 2003, Cook & Mills 2010, Cook and Strasser 2003). Since 2000, thousands of riders and drivers, worldwide, have repeated this ‘natural experiment’ and will testify to its outcome.

Yet Clayton warned delegates, *“I would caution you that taking the bit away and simply putting pressure on the horse’s nose may not be a cure-all.”* First, if Clayton is referring to the crossunder bitless bridle (as she seems to be), it is not true to say that this bridle puts pressure on the nose and nowhere else. The force, such as it is (i.e., nowhere near the force of a bit), is greatest at the nose but is also well-distributed in decreasing amounts along the chin and cheek, with least force at the poll. Secondly, though results have shown that removal of a bitted bridle and replacement with a crossunder bitless bridle does indeed cure many diseases and many behavioural problems, I have never claimed that it is a cure-all; neither to my knowledge has anyone else. To do so would be to overlook the diseases and problems caused by shoeing, saddles, 23/24 incarceration, improper diet etc., etc.

According to Lesté-Lasserre, Clayton conceded that a bitless bridle *“might be a useful alternative for horses that are unable to wear a bit, such as those with a lacerated tongue.”*



Fig. 3 Laceration of the tongue

(With apologies to the photographer, whose identity I failed to record and cannot acknowledge)

I wonder what it is that causes these lacerated tongues? Do these just happen to be tongues that cannot ‘*absorb the pressure*’ of a bit? The crossunder bitless bridle has been shown, by countless ‘natural experiments,’ to be not only useful but preferable for every horse, rider and discipline. Not a tongue has been lacerated, lip split, bone-spur generated, nor cheek tooth eroded.

In the final sections of her report, Lesté-Lasserre describes how Clayton spoke of the need for bridles and bits that help riders *“ease horses into lightness and rounded positions ...”* Such a comment seems to contradict her next statement in which

Clayton says her research indicates that neck injuries are very common in riding horses. In spite of this, Clayton spoke supportively of “a neck position required of a discipline” [emphasis added]. To me this sounds like FEI-speak and a defence of hyperflexion (aka Rollkur/LDR). Surely, what is needed is a comfortable position of the neck for the horse (Cook 2007).

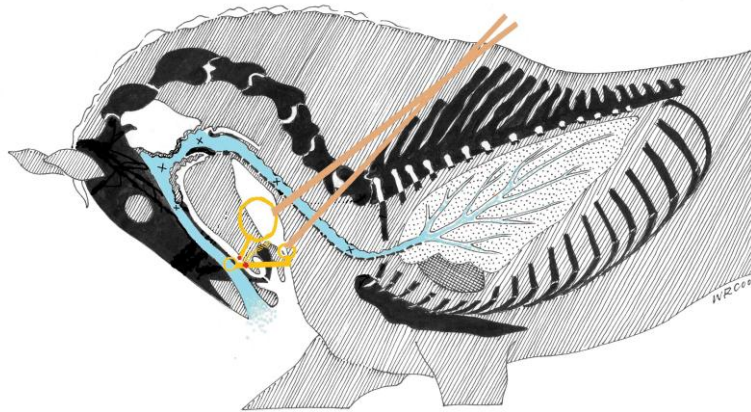


Fig. 4. Hyperflexion obstructs the airway (blue) at every region marked with an 'x' i.e., at the junction between nasal cavity and throat (posterior nares), in the throat itself (nasopharynx and larynx) and along the course of the windpipe (trachea) to the level of the first rib. Breathing is also made difficult by the 'U' bend in the airway, increasing resistance to the intake of air. Both factors cause partial asphyxia and water-logging of the lungs (pulmonary edema), so-called exercise-induced pulmonary hemorrhage or 'bleeding' (Cook et al 1988)

A horse is a horse. It cannot change. If a discipline requires something that is wrong for the horse, it is up to us to change the discipline. If humanitarian reasons are not enough to bring about change, recall that what is right for the horse is also right for us. A pain-free method of communication is more efficient, safer for horse and rider, prevents diseases, improves behaviour and promotes enhanced performance. It's the ultimate win-win welfare update for both athletes. For harmonious horse-rider interaction the reins should not be tipped with steel and strapped in a horse's body cavity. Neither should the threat of a rider's iron hand be used to persuade a horse's head into a harmful position for exercise. This hand-to-mouth method of communication is crude and prehistoric, contraindicated and counterproductive.

As our computer screens announce from time to time, “an update is available.”

References

Clayton, H.M. (2011): 'Horse-rider interaction via the reins.' *Proceedings of the 7th International Equitation Science Conference*. International Society for Equitation Science p 5-6

Cook, W.R. (1999): “Pathophysiology of Bit Control in the Horse.” *Journal of Equine Veterinary Science* 19: 196-204

(<http://www.bitlessbridle.com/pathophysiology.pdf>)

Cook, W.R. (2002): "Bit-induced asphyxia in the horse: Elevation and dorsal displacement of the soft palate at exercise." *Journal of Equine Veterinary Science*, 22, 7-14

(<http://www.bitlessbridle.com/Article-6.pdf>)

Cook, W.R. (2003): Bit-Induced Pain; a cause of fear, flight, fight and facial neuralgia in the horse. *Pferdeheilkunde*, 19, 1-8

(<http://www.bitlessbridle.com/2003%20Pferdeheilkunde.pdf>)

Cook, W.R. (2011): "Damage by the bit to the equine interdental space and second lower premolar." *Equine Veterinary Education*, 23, 355-360

(<http://www.bitlessbridle.com/DamageByTheBit.pdf>)

Cook, W.R. (2007). "Why is Rollkur Wrong?" Monograph (51 pages) in the online journal *Horses for Life* February issue

Part I Available online at <http://www.bitlessbridle.com/dbID/296.html>

Part II available at <http://www.bitlessbridle.com/dbID/297.html>

Cook, W.R. and Mills, D.S (2010): "Preliminary study of jointed snaffle vs. crossunder bitless bridle in four horses." *Equine Veterinary Journal*. Vol. 41, 827-830

(<http://www.bitlessbridle.com/CHAexperiment.pdf>)

Cook, W.R. and Strasser, H (2003): "*Metal in the Mouth: The Abusive Effects of Bitted Bridles.*" Sabine Kells, Qualicum Beach, BC Canada

Cook, W.R., Williams, R.M., Kirker-Head, C.A. and Verbridge, D.J. (1988): Upper airway obstruction (partial asphyxia) as the possible cause of exercise induced pulmonary hemorrhage in the horse: an hypothesis. *Journal of Equine Veterinary Science*, 8:11-26.

Lesté-Laserre C. (2012): "Researcher evaluates bit, rein interaction with equine mouth." TheHorse.com April 13, 2012 (online at

<http://www.thehorse.com/ViewArticle.aspx?ID=19877>)

