EVOLUTION OF THE CROSS-UNDER BITLESS BRIDLE

Robert Cook

“Perhaps the sentiments contained in the following pages, are not yet sufficiently fashionable to procure them general favor; a long habit of not thinking a thing wrong, gives it a superficial appearance of being right, and raises at first a formidable outcry in defence of custom. But the tumult soon subsides. Time makes more converts than reason.”
- Thomas Paine (Introduction to ‘Common Sense,’ Feb 14, 1776)

Readers who are interested in the full story can read the section below on ‘Ancient History’ but this part can be skipped if necessary and readers can jump directly to the later section on ‘Modern History.’

ANCIENT HISTORY

The first domestication of the horse, about 5000 years ago, coincided with the building of the pyramids. Horses were kept primarily for meat and milk, rather than for riding. When riding was first attempted, perhaps in the third millennium BC, riders probably had no more than a cord around the horse’s neck and steered with a stick. The next phase of development may have been for them to ride with a simple halter with reins attached, a precursor of today’s sidepull bridles. A loop of thong around the lower jaw was the precursor to the bit. (Fig 1). Archeological evidence is scanty for, as M.S.F. Hood points out, “the equipment of primitive riding is rudimentary” and, being vegetable rather than mineral, it left no trace. Native Americans, for example, rode with a loop of horsehair, rope or rawhide around the lower jaw, and one rein. They used the rein as a signal for stopping but steered with their legs. C.M. Russell’s description of Native Americans preparing to hunt buffalo provides a 19th century word picture of an earlier age. “Tain’t a minute till they’re all stripped to the clout an’ moccasins, forkin’ their ponies naked like themselves, barrin’ two half hitches of rawhide on the lower jaw”

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2 ‘Trails Plowed Under’, p143. See p 96 in the Sid Richardson Collection
It is easy to forget that the practice of riding without a bit is much older than riding with a bit. Bitless riding has been widespread around the world since horses were first domesticated. But the bit has become so ubiquitous in the last few centuries, that bitless riding has become a matter to note. Jane Digby, that intrepid British explorer and first wife of Lord Enborough, who subsequently married a Syrian sheikh, describing her experiences c.1850, “noticed the skilful manner in which these Arabs rode their small, strong and agile horses, holding them on a single rein attached to a bitless headstall.”

The bit method of control was probably introduced fairly early in the history of domestication. The primitive ‘bits’ would have been made out of twisted vines or some other plant material, but bone, horn and finally metal followed rather quickly. The first crude bits were probably devised and used by the Scythian horseman, ca. 5000 BC. In the Ashmolean Museum, Oxford, is an Egyptian bit from the fourteenth century BC. A jointed snaffle with four spikes lateral to the canons is designed to compress the horse’s lips and jaw from outside the mouth. With increasing severity of bits, there followed a long period of history in which the aids were used in the hope of enforcing commands rather than indicating wishes. The middle Bronze Age started after 1800 BC and bronze chariots are recorded in Palestine, ca. 1730 BC. Presumably, bronze bits were also in use at this period. “On the tomb of Horenhab of Egypt (ca.1600 BC) a horseman is depicted on an obviously spirited horse ridden in a snaffle bridle of surprisingly modern design” (E. Hartley Edwards). Curb bits were used by the Celts of Gaul during the fourth century BC and were in more general use by the third century BC. Unlike bitless methods, there has been no fundamental change of principle in the bitted method for over 2000 years. The metal has changed from bronze to stainless steel but the concept is unchanged.

Mounted warfare was known in 1700 BC but, as an instrument of war, the horse was used in chariots well before it became common, sometime in the eighth century BC, to fight on horseback. “Pictures of ridden horses are rare before 700 BC” (Anderson 1961). In his book, “Origin and Influence of the Thoroughbred” Ridgeway uses an

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3 The stirrup was invented by the Sarmatians, ca. 2000 BC and re-invented by the Chinese in 300 AD
illustration depicting chariot horses in Egypt (ca. 1321-1300 BC) being controlled with a bitless bridle. Two reins are attached to a severely dropped noseband. The upper rein appears to be a sort of bearing rein and the charioteer holds the lower rein. As with the bit, the early bitless bridles may have relied on force rather than finesse. Nosebands at a certain level would have the effect of pressing on the fleshy portion of the muzzle and would ‘control’ by obstructing the airway. When the nosebands are placed higher, and rest on the peak of the nasal bone (as they are with the present-day cross-under bitless bridles), suffocation is no longer a factor in control and horsemen learn to communicate rather than command.

Halters were probably invented before bridles. Evidence cited by Anderson on the design of early halters comes from a picture of a drinking vessel in the British Museum (Fig 2). The vessel is in the form of a mule’s head with its ears laid back and its mouth wide open (Attic, mid-fifteenth century BC). The mule wears what is plainly a halter with a low set noseband but with cross-under straps clearly indicated and no chin strap. This item supports Anderson’s later description of the design of halters at this period of history (see below)

![Image of a drinking vessel in the form of a mule’s head with a halter featuring cross-under straps](image)

*Fig 2. Mid 15th century BC drinking vessel in the form of a mule’s head with a halter featuring cross-under straps (From Anderson, ‘Ancient Greek Horsemanship’)*

A sixth century B.C illustration (Boetian) shows a cart in a bridal procession being drawn by a pair of mules. The carter controls simply by means of a whip and there is no evidence of a bit or bridle.

An early fifth century BC vessel (Attic) in the Museum of Fine Arts in Boston shows a carefully delineated Greek pack donkey carrying a load on a wooden-framed saddle (Fig 3). The donkey wears what Anderson describes as a halter. The lead rope is apparently attached to the packsaddle at one end and is described as being attached to the chinstrap of the halter at the other end. The donkey’s head is strongly flexed and the front line of the nasal bone is vertical to the ground. But judging by the position of the noseband, it was resting on the nasal bone and would not have interfered with respiration. A feature
of the bridle’s design is the presence of the two cross-under straps. These run from a point high on the cheekpiece on one side, at a level just above the corner of the eye. They end at the metal ring on the noseband on the opposite side of the head.\textsuperscript{4}

![Fig 3. Pack donkey on a 5\textsuperscript{th} century BC vessel; the halter has cross-under straps and a chin strap (From Anderson, ‘Ancient Greek Horsemanship’)](image)

An Etrurian vase from about 530 BC in the Louvre shows a mounted hunter with javelin, riding bareback, chasing a pair of antlered stags. The horse has a bitless bridle with noseband (on the nasal bone), browband and throatlatch. Its mouth is shown wide open. This may have been an artistic convention to indicate liveliness, rather than because it had a bit in its oral cavity. Anderson suggests that the open mouth \textit{“merely provides the artist with an opportunity to indulge his love of white paint”} but I think we should be wary of accepting this explanation. The bit is such a common cause of an open mouth in an exercising horse, both in painting and sculpture, that the presence of a bit should always be suspected as the cause of this pathological situation whenever this ‘convention’ is seen.

Another bitless bridle variation is seen in an Attic, mid-fifth century BC vase in the British Museum. The horse wears a halter with a very broad noseband, probably with spikes or studs on the inside. The draughtsmanship is rather poor but, if it is to be believed, the bottom edge of the noseband lies in touch with the top edge of the nostril and the corner of the mouth.

\textsuperscript{4} This halter, with small changes, could easily evolve into the present day cross-under bitless bridle.
A continuation of the idea that horses can be controlled by pressure across the nose led eventually to the system of control now regarded as the norm for the Western style of horsemanship on the American continent. I refer to the hackamore, and bosal (both bitless bridles) that depend for their effect on applying painful pressure on nose and chin. Historically, these trace their ancestry back to the horseman of the Iberian Peninsula and *la jaquima*. The tradition was introduced into America by the 16th century Spanish *conquistadors*. They, in turn, had inherited the tradition from the 700-year Moorish occupation of the Iberian Peninsula in the seventh and eighth centuries AD.\(^5\) In using this system, horses are trained to respond first to the hackamore before introducing a potentially severe curb bit. But used correctly, the curb bit is employed with only the very lightest of pressure on the reins. It has been described as the nose-to-bit system. Pat Parelli is a modern exponent of the system but not everyone uses the system so well.

Anderson comments on the early distinction that was made between a halter for leading a horse and a bridle for controlling a ridden or driven horse. The distinction is illustrated in a vase painted about 540 BC by the Athenian artist Nearchos, found at the Acropolis in Athens (Fig 4).

*Fig 4. To be inserted*

In relation to the development of the cross-under bitless bridle it is of interest to make note of the description given by Anderson of the design of the halters in the late centuries BC.

> “The simplest type of halter consists of a noseband divided into two halves, front and back, held in place by a third strap passing over the horse’s head just behind the ears. The junctions between these straps, on either side of the horse’s head, are normally formed by two large rings, presumably of metal. A single lead rope is fastened to the back part of the noseband [the chinstrap], under the chin. More elaborate examples have browbands and throat lashes, or [and I add emphasis here] two straps crossing under the chin in place of a simple band.”

Anderson does not, at this point, make a cross reference back to the mule head drinking vessel (Fig 2) or to the Greek pack donkey (Fig 3), though it seems likely that this is what he is describing.

**MODERN HISTORY**

I have deliberately gone into some detail in the foregoing section to outline the development of cross-under bitless design, whether in a halter or bridle. As there can only be a limited number of ways in which a strap device can be designed for a horse’s head, the differences – though minimal – are nevertheless important. The cross-under bitless bridle of today makes use of all that has gone before but adds small but vital detail. The development over time can be described in three paragraphs.

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\(^5\) Legend has it that the conquistadors led the Native American natives to believe that their horses wore bits to prevent them from eating people.
First, a cross-under feature was introduced in the design of a halter. This we have seen was already present in the fifteenth century BC (Fig 2). Related to the idea of crossing the straps of the halter to provide mechanical strength has been the idea of crossing the reins attached to a halter to provide functional control. Many a young lad in the past has been taught to ride by his father using a head collar with reins attached. The boy was never allowed to use a bit (or even a saddle!) until he had developed an independent seat and could handle a bit without damaging the horse’s mouth. But to gain better control with a head collar, the trick was to cross the reins so that the left rein was attached to the ‘D’ on the right side of the head collar and vice-versa. This was akin to head reining and in fact encouraged the concept of neck reining. Horses respond well to this form of communication. When it was first developed I have not yet been able to discover but I have traced its history back to the end of the 19th century at least and it was probably in use far earlier. The technique is known about, to this day, in the world of foxhunting, flat racing and probably many other disciplines.

In 1894, McCleod patented a bitted bridle with a cross-under feature (Fig 5) that may have owed its inception to the ‘crossed-rein’ principle. In McCleod’s bridle, reins ran forward from the rider’s hands, through the snaffle ring, and then crossed under the chin and up the opposite side of the face to finish (after a long detour that included a trip down the side of the face to a pulley on the snaffle ring) by joining over the poll.

![Fig 5. The McCleod cross-under but bitted bridle. This is a rather complicated one-cord bridle involving the use of a couple of pulleys to draw the bit up in the mouth.](image)

In the early 1950s, ‘Ike’ Grimsley, a rodeo ‘bulldogger’ of Swink, Colorado devised a bitless bridle based on the cross-under principle. It was the forerunner of today’s cross-under bitless bridles and identical in principle. It had one small difference. A strip of copper wire was sewn on the underside of the crownpiece and browband (Fig 6) Grimsley developed this design in response to his own need and that of fellow

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6 In those days, everyone had a nickname. Grimsley was also known as ‘Ink of Swink.’
‘bulldoggers’ like Leon Manchester of New Jersey (Fig 7). I first met Manchester in 2005 by which time he was 81 but still an active horseman, continuing to use the Grimsley bridle. Back in the early 1950s, the horses that Manchester hired out for rodeo work were ridden in a bitted bridle. As a result, his horse’s mouths got badly cut about and bruised. He and others needed a bridle that would avoid these injuries. Grimsley’s bridle was successfully used by a small circle of friends, perhaps in the New Jersey Cowtown Rodeo, a weekly rodeo that survives to this day. But Grimsley made no attempt to market the design.

![The Grimsley cross-under bitless bridle, c.1950](image)

*Fig 6. The Grimsley cross-under bitless bridle, c.1950*
In 1980, Woodruff patented a halter with the same cross-under feature (Fig 8). But it was a halter for ground control, not a bridle for riding or driving. This same halter is marketed today in the USA as the ‘Be Nice’ Halter.

Fig 8. The ‘Be Nice’ Halter, a cross-under design for a ground-restraining halter.
In 1988, Allan Buck, a horseman from California, added reins to the ‘Be Nice’ halter to produce a cross-under bitless bridle similar to the Grimsley design except that it did not have the copper wire feature. It is possible that the ‘Be Nice’ halter was itself a development of the Grimsley bridle. If this was so, it would be more correct to say that Buck re-attached the reins to the ‘Be Nice’ halter and removed the copper wire. Buck marketed the design as the ‘Spirit Bridle.’

In 1999, I made some modifications to the ‘Spirit Bridle’ to produce a cross-under bitless bridle that can serve as bridle, halter and lunging cavesson (Figs 9 & 10). At the same time, I published research to explain why the bit method of control contravened the principles of equine physiology and was a hazard to the health and safety of both horse and rider (Cook 1998a, 1998b, 1999a, 1999b, 2000, 2001, 2002, 2003, Cook & Strasser 2003). It may have been this explanation that was needed to persuade the current horse-owning public to abandon their conviction that a bit was necessary to control a horse.

Fig 9. Dr. Cook’s Bitless Bridle (English version). The noseband sits lower on the head than the noseband of a bitted bridle but still rests on bone (the peak of the nasal bone)

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7 ‘The Bitless Bridle.’ The Bitless Bridle Inc. 1200 Nursery Road, Wrightsville, PA 17368 USA. US Patent # 6,591,589. More information available online at www.bitlessbridle.com
Fig 10. The worm’s eye view on the right shows how the cross-under straps permit single rein pressure to be distributed to one half of the head (to signal for steering) or double rein pressure to the whole of the head (to signal for slowing or stopping). At no time is this pressure at any one point other than trivial but the greatest pressure, such as it is, is applied across the bridge of the nose, with less pressure under the chin and on the cheek, and least pressure at the poll.

CONCLUSIONS

After five thousand years, a better paradigm in horse communication has been introduced that, unlike all other methods, is painless. It enhances the safety of horse and rider and improves performance. The cross-under feature, first hinted at in the fifteenth century BC, remains the critical feature of the new concept, now copied in many parts of the world. Unlike the traditional bitless bridles (the hackamores, bosals, and sidepulls) this new design can be used on all horses, for all disciplines, and by all ages and skills of riders. It represents a long-overdue advance in the welfare of the horse and the evolution of equitation. Taking another leaf out Thomas Paine’s ‘Common Sense’ it could be said that the control of the horse is analogous to the government of men. Whereas the bit is a complex method of government, the cross-under bitless method is simple. And like a constitution, “the more simple it is … the less likely it is to be disordered.” As horsemen we should join Paine in asking whether we wish to govern by “force or friendship.”

Reference

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Most of the above references by the author are available online at [www.bitlessbridle](http://www.bitlessbridle), together with many more.