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The Panthenon frieze

History

The Meaning of the Parthenon Frieze in Context of Our Present Equestrian Self-Understanding

The Parthenon Frieze is a low relief marble sculpture made of a consecutive number of chiseled plates originally located in the Acropolis of Athens. It shows the Panathenaic procession, a religious festival honoring Athens held every four years. Here, the upper class promoted its public image to the people. The Parthenon Frieze took 15 years to sculpture (447-432 AD).

From differences in style of the individual plates we can conclude that multiple sculptors were working on it. It is composed of 118 low relief plates (each 40 inches high and between 47.3 and 63 inches wide) and 524 ft. (160 m) in length. 62 of the plates show riders and horses. Over time, decay, destruction and art theft have done great damage to it. In the nineteenth century, British Lord Elgin saved some well-preserved plates from decay. They have been on display in the British Museum in London ever since, where they can be admired.

When it was created, the Frieze was painted and ordained with bridles made of bronze. The colors weathered and soon faded away. The bronze accessories were broken off and

stolen by metal thieves, which is proven by cracks and drill holes.

Art history sees the Parthenon Frieze as one of the most important works of Greek antiquity and bestows it the attribute "classical". The statement, the Frieze makes about classical riding techniques, is valued greatly not only by equestrian lay-persons. Originally, it was said to depict an exemplary way of riding, a characteristic that stuck with it and was mentioned in publications ever since. We have to ask ourselves, however, if the equestrian motifs can actually be considered classical or if they really depict the art of riding. Lack of bridles may have led to the false belief that the riders were only influencing their horses with seat and leg aids, thus creating a centaur-like unit with their mounts. Some articles mention the words joint harmony, classical art of riding or collection with a rider seated "deep within the horse" to describe it. Others wonder about levade and courbette. But can we agree with the songs of praise sung by non-experts in the field of riding?

Greek sources telling us about the Panathenaic procession mention that the riders participating in it were young men of the upper class, who had little riding experience but were craving admiration. They used the horse as a platform to promote and present themselves to the amazed public as brave horse tamers. Not they themselves but professional trainers broke the horses and made them

obedient. The riders were mere pedestrians who only occasionally mounted a horse in order to show off.

In the 1950s, a retired trainer of the Spanish Riding School in Vienna said in a personal interview that Xenophon, in his riding theory, had included the Parthenon Frieze's statement on riding in his critical view of the Greek understanding of training. This was often overlooked by experienced horsepeople, who were impressed by the artwork's mere historical value.

Forceful suppression

Reconstructing the bridles depicted in the images, we can clearly see that the horses were brutally forced into submission and that they acted out of fear and panic. Looseness, suppleness and collection are completely absent. The riders brutally pull on the reins connected to bits that inflict serious injuries. In order to make the horse rear, the head and neck are forced upwards while the lower part of the neck pushes forward turning into an upside-down neck over time. During a halt, the horse's mouth is pulled towards the breast. Stick and club force horses without riders to rear at the long-lines. The result of a head and neck forced into elevation is that the horse's back is pushed down and lowered as it cannot carry the rider's weight this way. The riders seem to be relatively tall in comparison to very small horses depicted in the reliefs. Their sitting bones put pressure on the horse's forehead as they seem to be seated deep within the saddle. Mutual balance is disturbed by the riders' hunchback-like posture, which is floppy and crooked with lowered heads. The tension necessary for collection is impossible. The horse is tormented and seen as an insubordinate opponent who needs to be tamed through pain. There is no doubt

about the gift of observance and truthful account of the sculptors.

Contemporary historians mention that, during the creative process, the sculptors had difficulties to authentically simulate the splashes of blood that were caused by sharp bits and ended up on the horses' shoulders. Their solution was a flick of the wrist that transferred paint from the paint brush onto the horses' shoulders. This comment indicates that brutally used reins were a common custom among Greek riders.

Relaxation combined with forward thrust

Non-violent use of reins and neck stretching accompanied by forward thrust seem to have been unknown in antiquity. During riding history in general, these qualities were not held

in high regard for a long time. Trainers and riders understood riding to be the destruction of forward thrust, backwards-directed force of reins as well as suppression of the horse. Non-violent communication between the rider's hands and the horse's mouth is of (secondary) basic importance for a relaxed self-carriage of the horse. The mouth is the most sensitive part of the horse's body the rider uses. The muscles of head and neck tense up if the nose-line is forced behind the vertical. This habit also prevents the horse from stepping forward underneath its center of gravity, from carrying more weight on its haunches and from elevating its head and neck. Weight is shifted onto the forehead. Trot extensions take into consideration the need to run, which is ingrained in horses through evolution. Next to the

extension posture, they serve as a useful tool to relax tension in animals that need to run (such as horses) after exhausting and confining exercises. However, trot extensions including extended trot are not gaits that can be

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kept up for a long time such as a working trot; a faster pace can only be asked for for a short period of time. If they are used sensibly and logically, for example right after the long suspension phases in piaffe, trot extensions serve as reward and relaxation after an exhausting exercise. Horses as animals that need to run feel free when allowed to move forward like this. With regard to logical riding theory, trot extensions are not ends in themselves when used to achieve suppleness and relaxation. Extreme extension of pace and trot steps used as a show effect are exhausting ends in themselves, however, do not improve relaxation and remain illogical to the horse. An exemplary trot extension extends the horse's frame while the rider's hands gently yield. It conveys looseness despite the tension necessary to increase the length of trot steps. The extension of the suspension phases is achieved by energetical forward thrust originating in the hindquarters. A horse that carries more weight with its back and hindquarters (back mover) tenses and relaxes its back muscles alternately and cross-wise in unison with the diagonal rhythm of the trot steps – its back moves its legs by giving the initial impulse. Its forelegs aim at the point where they are going to touch down. The muscles in head and neck stretch to their natural length without being confined. The nose-line stays in front of the vertical while the head is elevated. An imaginary line can be drawn from nose-line to the point where the forehooves are going to hit the ground. Looseness and self-carriage enable the horse to show extensive suspension phases. The rider sits perpendicular to the center of gravity that ensures mutual balance. He determines rhythm and tempo of the trot steps while yielding the reins.

Excessive trot extensions

A negative example of a rider in trot extensions shows the following characteristics: the rider's upper body is tilted backwards, his sitting bones put pressure on the horse's forehead, he keeps his balance by holding on to strained reins and lets himself be pulled along with his arms stretched forward. He will most likely also force the nose-line behind the vertical. This form of rigid aiding does not loosen tension but instead hardens the muscles of

neck and back and, moreover, irritates the horse's psyche. The rider, so to speak, steps on the gas with the hand break applied while demanding full throttle and extraordinary length of stride. These aids are absurd and do not make sense to an animal that feels the urge to move forward – even though the horse obeys the rider's commands.

As a result of selective breeding programs, a certain type of horse has appeared in dressage competitions that, in extended trot, stretches its forelegs forward in an extreme and almost horizontal manner (similar to Spanish Walk), thus faking long strides. The forelegs step beyond the imaginary line drawn from nose-line to point of contact with the ground without telling where they are actually going to hit the ground. The forehand seems to be running away from the hindquarters. It often occurs that the diagonal pair of legs does not strike the ground at the same time. Instead, the hindlegs strike first, the forelegs follow suit shortly thereafter. The regularity of a natural trot is disturbed, even though we demand that respectable dressage is based on the natural gaits of the horse. The question remains if the excesses of over-bred show trot, which have to be considered unnatural, cause injuries to the joints of the forelegs. Trot extensions become an absurd end in itself for show purposes only. It remains questionable if this happens in the best interest of the horse.

The martyrdom of the horse serving the rider has been sufficiently documented over the course of riding history. A comparative analysis of the riding practices of the past and modern dressage suggests that a better self-awareness and increasing knowledge of the horse have led to non-violent contact to our equine partners. But appearances are deceptive. Sure, legal animal protection casts a watchful eye on the well-being of horses, punishes violations against species- and behavior-appropriate treatment, and brings animal cruelty cases to court. Illegal excrescences originating within riding practice, however, often elude prosecution, even though they must be considered animal cruelty. The exploitation of the horse, against better judgment and driven by commercial interests, has become more and more cunning and incons-

picuous. Despicable training practices such as “Rollkur” (pulling the horse’s head against its breast), usage of draw reins, extremely tight nosebands, seemingly harmless bridles and questionable training tools, officially permitted, torture in a discreet manner. Proponents of “Rollkur” may claim that horses suffering from extensive rein force have won prizes at dressage shows. Now, the question needs to be asked what the judges were thinking when they abetted animal cruelty and publicly declared those riders the winners whose horses were in pain, suppressed and humiliated.

At the Cadre Noir, a delicate use of reins can be observed in the training of young horses. During the first weeks of training, the horse may stretch into an extension posture when-

ever necessary in order to make the additional weight on its back bearable. There is not a single horse with its nose-line behind the vertical. The term “Rollkur” seems to be a foreign word. The impression of “relaxation of horse and rider” sticks with the observer.

Cynical abuse and degradation of the horse to mere sports equipment becomes obvious when we look at the current doping scandal in professional equestrian sports and horses suffering from their owners’ greed to make a profit – completely helpless. The sports horse is silently declared an object of our throwaway-society and approved to be worn out quickly. This review of the violent history of riding poses one question: Has competitive riding become a subtle form of animal cruelty?

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Hyperflexion to Hyperextension

Yielding in the Poll

What Is Right and What Is Wrong?

From Hyperflexion to Hyperextension

Once standard mistakes become false doctrine or religions of riding and horsemanship, horses are the ones that suffer – a critical analysis from a veterinary point of view and with regard to the history of riding.

If we take a look at today’s views on training and some of the “religious wars” that have been caused by certain methodologies, we feel as if we were back in the early nineteenth century – a time when Paul Plinzner’s demand that a horse must carry its head low and have contact to the bit – yield in the poll – (comparable to what Germans now call “Rollkur”) seemed irreconcilable with the absolute elevation forced by hand, which Seeger and Seidler wanted to see.

The objective of every single one of these controversial systems was, of course – and

here the endless circle is completed once again – to create a pleasant, obedient but most of all soft and supple riding horse. As justification of these very different ways of thinking, people liked to quote physics and their principles of leverage in order to give their actions some semblance of being scientific and thought-through.

Despite well-meant efforts, basic biomechanical connections were misunderstood, with the result that many horses were being treated very roughly and – most of all – not horse-friendly or according to classical teachings because of biological impossibilities. German horsemen Seeger and Seidler vehemently positioned themselves against the teachings of Baucher without understanding that this very Frenchman (who was not held in high regard among the Germans at that time) had noticed, accepted, and integrated the all-important biomechanical connections into a

system that seemed logical to his horses. In this regard, Seeger proposed a theory of maximum elevation where the horse had to initially carry its nose horizontally in order to yield in the poll later on and to mechanically shift its center of gravity towards its hind legs. He believed that the horse's spine worked according to the principles of leverage with the neck acting as a two-joined lever.

This is only partially correct because up to a certain point the neck or head-neck position, respectively, do indeed have an important effect on the activity of the back. However, the mechanics work more in the sense of a balancing poll than a lever attached between the shoulder blades.

Plinzer demanded absolute yielding in the poll, which was achieved through rough left-right pulling on the reins in order to teach the horse to yield the painful way. At the same time, he energetically pushed the horse forward towards his hands with strong use of his spurs in order to make the horse's back swing.

Overwhelmed by all these very different ideological ways of thinking, consumers felt rather insecure about which method of teaching they should adhere to. The same mood had a significant influence on military riding, which is why the Prussian Exerzierreglement [army service regulations regulating training and orders for soldiers] was issued in 1882, only to be replaced by the well-known HDV 12 [German army service regulations enacted in 1912]. These acts were supposed to protect the art of riding from major instabilities and to provide the horse with basic training that both improved the animal and was beneficial to its health. Training the horse in this way was done in order to make sure that it could be used by the army for as long as possible.

The modern riding horse – a prodigy of movement

The preceding historical excursion seems necessary in order to better understand the current situation in professional equitation. Over the last couple of decades, horse breeding has progressed by a quantum leap unproportionate to the development of the riders, which

is why the quality of the exterieur (bone structure, muscles, proportions etc.) is by no means comparable to the type of horse that existed in the past.

Especially young riders are often seduced into working the fragile neck of today's riding horses. These horses are large-framed, long-lined rectangular animals with a neck very well positioned for a riding horse. They are able to easily yield in the poll, and their hind legs move impulsively and actively. Back in the days when horses were used in the military, at least one year was "wasted" on training the youngster to carry its neck long and low in order to be able to yield in the poll. Nowadays, it seems as if the problem has been eradicated by extraordinary breeding. How does this affect the rider of a young horse and the training according to classical, i.e. horse-friendly principles?

It is understandable that active, impulsive hindquarters will pose a problem in the beginning because the tempo might not be as controllable as desired. This inevitably leads the rider to look for the "break" in front, which in turn is going to shorten the horse's neck as this easily yields to pressure.

This is bound to happen especially if the horse has not been sufficiently familiarized with the reins, first in ground work, in order to teach it rein, voice, and forward-driving aids. Baucher's bending exercises try to achieve this. However, it is not unusual for a young horse not as steady yet in its contact to the bit to sometimes get short in the neck. This only occurs for short moments and should be possible to loosen by sending the horse forward at any time.

The tendencies to get short in the neck may be tolerated as an intermediate step if the trainer follows his actual goal of training the horse to yield in the poll and relax its lower jaw. However, short bouts may never turn into a steady-state.

Today, time and economical reasons play a major role in determining the speed of a green horse's training. This is why horses are not trained to stretch their necks forward-

downward, which would be biomechanically correct. Their necks are either directed backwards-downwards in order to gain control over horses that already show strong impulsion and cover a lot of ground. Or their necks are forced up and shortened, which makes the development of a swinging back very difficult if not impossible.

Forcing the nose-line behind the vertical causing hyperflexion (German: Rollkur) has negative psychological effects by reducing the horse's field of vision and making it aware of the hopelessness of its situation. The excessive tension it creates in the nuchal and supraspinous ligaments as well as in the longissimus muscle and others ("upper contraction system") forces the pelvis into an upright position, which makes collection in the classical sense (flexion of the haunches and lowering of the croup) impossible. Head positions that are incorrect or often lead to loss of control – forcing the nose-line behind the vertical being one of them – have been reprimanded and considered negligent for as long as professional riding literature has existed.

Simply calling "behind the vertical" by a different name ("hyperflexion of the neck") does not do anything to improve the professional status of this head-neck position. The medical term "hyper" describes movements exceeding what is physiologically (i.e., naturally, causing no injuries) possible. "Hypo", on the other hand, describes a distinct restriction in movement. In this respective case, "hyperflexion of the neck" means a movement of the neck that exceeds what is physiologically healthy – a movement that may very well be called pathological as it constantly crosses over to the pathological spectrum. Forcing a horse's nose-line just on or behind the vertical, mostly with force, sometimes with the additional help of auxiliary reins, may lead to osteopathic lesions of cervical, thoracic, and lumbar spine as well as massive muscular overstressing in the initial phase of training, which in turn causes the horse strong pain.

If a horse is hyperflexed over a long period of time, this not only results in an unaesthetical and degrading picture of a horse to look at, but also needs to be questioned with regard

to animal protection issues. The horse is not only in pain but suffers which, by definition, means that it is exposed to psychological and physical pain over a long period of time.

Correct elevation or hyperextension?

In contrast to hyperflexion discussed above, hyperextension describes a method where the rider tries to specifically elevate the neck with his hands positioned very high. This is supposed to positively influence the horse in shifting its weight onto its hindquarters.

There is a reason why classical teachings clearly distinguish between "active", "absolute", and "relative" elevation. The latter is a result of the mobility of the haunches in the course of collection work and serves as an indicator for the ability to collect a horse at a specific point in time.

Active elevation, in contrast, is mechanically created by the hand of the rider. It does not mirror the actual mobility of the horse's haunches, which leads to the risk of overstressing the sensitive area connecting the lumbar spine with the sacrum and to a lowering of the withers between the shoulder blades. Active elevation may never be confused with absolute elevation where the horse carries himself and, thus, reaches the highest elevation possible, which, in turn, enables it to execute exercises in highest collection.

Active elevation of the neck achieved by hands held high and without yielding in the poll is falsely attributed to Baucher's statements in "Second Manier", an update of his original teachings. Baucher was of the opinion that the ability to position the head and neck constitutes the basis that allows the horse to evenly distribute its weight on all four legs. In his "Second Manier", Baucher only asks for "Cession de machoire" (yielding in the lower jaw) with the neck held higher than usual. This, however, is to happen irrespective of yielding in the poll in order to make sure that all joints really are flexible.

The positioning described above is only meant to be used for short periods of time like riding

in an extended, stretched posture. Once the horse had relaxed its lower jaw and yielded in the poll, the hand was lowered immediately and the contact to the bit eased.

Today, you can often observe riders using this very effective tool to position the horse's neck in a wrong way, presenting a false impression of *Légèreté* riding. If the position of the neck has only been achieved by the rider's hands held high, this does not result from activity of the muscles in the area of the base of the neck and withers, even though this would be correct according to French tradition and from a biomechanical point of view. As a biomechanical consequence of the incorrect way, the back has to be lowered, and the pelvis is stretched because the longissimus and other back muscles contract. Impulsion is significantly reduced and the horse cannot actively step forward anymore.

Many years of experience as a specialized veterinarian and trainer have taught me that real and, most of all, biomechanically correct collection is only possible if the horse is willing to yield in the poll in a supple and relaxed manner. It can only be supple if its jaw has been loosened by "*Cession de machoire*" as described earlier in the text. Have all of these prerequisites been fulfilled, the horse's poll will be relaxed enough to allow the rider to easily position the head and neck. The poll will be the highest point of the horse and the nose-line slightly in front of the vertical. Only if this posture is a given, can the haunches be influenced in a meaningful and biomechanically understandable way as the upper and lower contraction systems with their muscles and tendons are being used.

Training of the abdominals – a flaw in reasoning?

The idea, that you could strengthen and tone the horse's abdominal muscles by forcing it to carry its neck low down, is a biomechanically wrong train of thought. Horses as quadrupeds are very different from us humans, who are bipeds. As a result, we need to pay special attention to their statics and distribution of weight.

As a conclusion of the biomechanical effects of the extreme head-neck positions discussed above, I, as a veterinarian, conclude the following:

1. The danger of a poison is determined by its dosage! Helpful tools to exercise horses should not be used excessively or distorted because taken out of context, they hurt more than they help. No dogmatism in horse training!
2. With each step of the horse's training, its individual performance capacity and anatomy must be kept in mind. Otherwise, physical and psychological problems are inevitable.
3. From a biomechanical point of view, every extreme posture is problematic, especially if it is held over a long period of time or forced upon the horse mechanically. Collection with flexed haunches in the classical sense is impossible if the head-neck-position is not physiological. As a result, real impulsion with a supple back becomes impossible – the horse shows tense steps, compensates the inability to bear weight on its haunches by using its hocks, or has a tense back.
4. Especially in a young horse, short periods of time in which it gets short in the neck and tight in the throatlatch may be tolerated if this can be corrected by the rider and if the classical, horse-friendly way of training is pursued.
5. The rider's influence already starts in the mouth of the horse. This is an important reason why it may not be prevented from "*Cession de machoire*" by nosebands fastened too tightly. Only a horse with a relaxed lower jaw can really yield in the poll and develop "*Légèreté*" as there are close muscular connections between jaw and poll. As a result, the poll stays in an "open" (relaxed) position and allows the rider to influence the haunches by way of rein aids.
6. If anatomically possible, a head position is desired where the horse's nose-line stays slightly in front of the vertical and the poll is the highest point of the horse. This can be achieved by appropriate exercise according to classical German or French training methods.

– Dr Robert Stodulka, DVM specialized in physiotherapy and rehab medicine. Scientific director of the EDRR (European Center for Documentation of Riding Culture and the Art of Riding) –

When does a high or low position of the neck become dangerous?

by Eberhard Weiss, EDRR (European Center for Documentation of Riding Culture and the Art of Riding)

Head and neck are the most important tools of the horse to keep its balance. Their use is synchronized with the movement of the legs, which allows the legs to live up to their full potential. This can be observed in situations of imminent loss of balance or buckling upon landing after a jump, which every rider must have observed at least once in his career. The additional weight of the rider on the horse's back assigns the longissimus and the other upper neck muscles a second meaning as power lever. To the natural function of balancing pole, riding assigns the neck an additional function of power. The goal of useful training serving every discipline of riding is to develop the horse's ability to use its neck completely for these two purposes. This allows the horse to carry the rider safely and to protect its joints and tendons. During the course of its training, it learns to use its hindlegs in coordination with its head and neck in order to balance its own weight as well as the rider's. If the horse uses its back naturally, the result of the ability just mentioned is relative elevation, the perfection of the interaction between head, neck and hindquarters. A prerequisite for this interaction is flexibility and relaxation in the poll, i.e. a specific angle of neck and head that enables the horse to freely chew on the bit, relax and yield in the poll. The nose-line is positioned slightly in front of the vertical while the poll is the highest point of the horse. The open angle constituted by head, poll and neck is an imperative criterion for full flexibility of the lower jaw and may not be reduced (shorten the neck). It may be increased to its full capacity, however, if need be (stretch forward). This requires a riding

style that is characterized by a unobtrusive, reactive and patient use of independent hands. "The hand is supposed to be friendly, willing to give in", as Richard Wätjen once described it. Among young horses that are broken in, you hardly find one that trustfully accepts the bit right from the beginning. Usually, young horses try to hide behind it and show restrained movements. It takes time – sometimes more, sometimes less – for the horse to trust the unobtrusive hands and to dare solve its balance and movement issues in a way that uses the entire spectrum of functions its neck and head offer – this might be full contact to or even a brief "taking of" (leaning on) the hands. This behavior must not be considered disobedient as long as it is not a permanent state!

Only if the horse trusts the rider's hands can he control it by positioning its head and neck. The rider needs to get the horse to relax its poll and to stretch its entire top-line. This is the key to suppleness and looseness of the back, which makes it possible to bend the horse and influence its hindlegs: the rider is able to control the movements of the hindquarters which are a major power source. This can only be achieved without the use of force in the form of tight nosebands, bits that are positioned too high or are too sharp, or mechanical auxiliary aids. Only trust in the hands of the rider and in the bit will allow working the horse's joints and create trustful ease of movements. This is very different from the emptiness that a rider feels in horses that have been trained "from front to back" and are short in the neck – or horses with "tortured" necks and stiff polls. Trust in the rider's hands creates a neck stabilized in the withers that makes a relaxed poll possible. A neck that is unstable or shows a broken neckline will never make the poll accessible, leaving it stiff.

Concluding from what has been said above, we can say that both a high and a low position of the horse's head and neck can become dangerous when relative elevation is lost, i.e. absolute elevation or a low head position are forced upon the horse by the rider's hands, from which the horse can not free itself or has lost the courage or will to try and do so. Learned helplessness must never violate the

horse's psyche or movements! All of the rider's demands with regard to neck and head position must be the result of the horse's ability to use its entire body. This necessitates a rider whose seat has more control over the horse than his hands and whose hands allow the horse to act on and understand his commands. A neck-head position is safe only if it can be maintained without active influence of the rider's hands. In order to test this, the horse needs to be able to maintain a working posture and be controllable when the reins are being given to it. Just like in humans, the posture of neck and head expresses the horse's mental state and the way it perceives its surroundings, including people in general and its rider in particular. It may express either soulless riding or the harmonious will of both horse and rider to move forward.

"All forms of art and science have their own principles and set rules! To follow them leads to new findings, which in turn results in the highest form of perfection! The art of riding only seems to require practical training. However, practice without principles means nothing more than skills acquired by training – a superficial appearance, a false shine fooling the semiliterate. The skill of the rider and the impressive movements of the horse merely mask poor training ..." – Guerinière, 1735

The predisposition of the horse determines the correct extend of training

by Wolfgang and Christin Krischke

A horse in its actual state of beauty and health can be observed when it is playing exuberantly in the pasture or trying to impress other horses. Even though this natural beauty impresses us over and over again, what today's dressage events propose to be "pretty" rarely corresponds with nature. With this, we do not mean the lip service the German National Equestrian Federation is paying, which generally shows good intentions. We are talking about the riders putting the intentions into practice, the judges judging the performance,

and the masses used to and content watching it. The purpose of riding today is to promote the horse's physical and psychological well-being as much as possible in order for the horse to take advantage of it – with regard to both health and self-confidence. No human objective justifies constantly inflicting pain or indisposition on the horse. Every method that causes it physical or psychological pressure must be reconsidered and replaced by a more adequate one. This is actually relatively easy to do: In order to maintain the horse's natural beauty under the rider, you have to train it in movements that it would show in the pasture. As a result, it is going to stay healthy and steadily improve its fitness, athleticism, and motivation. Moreover, learning never ends: The horse is going to build on the skills the rider has taught it, thus broadening its repertoire of natural movements and showing us what it would like and be able to do next while playing in the pasture.

Let us take a close look at a horse playing in the pasture: In what position does it carry its head? For example, when it strikes off into canter, turns, proudly lifts its tail, or trots loftily, its head will be held high with its ears marking the highest point in the horse and the nose-line well in front of the vertical. When it snorts while standing at the fence facing its neighbor, when it paws angrily, bucks or jumps up joyfully, the head will be held lower down (with a broken neck-line), its poll will be "open" (exposed) and its neck might be slightly curled up. When it gallops very fast, is preparing to roll on the ground or drives forward other horses, its head is positioned below the line of the withers and stretched forward. Are you able to name these behaviors? Equus caballus peacefully unites all of the extremely opposing theories about the use of absolute elevation, hyperflexion, and extension posture. As a logical consequence, the rider who follows nature's model and manages to elevate and let the horse stretch in the respective exercises will enjoy his horse the longest. The greatest benefits can be achieved by interchanging "ups" and "downs" in short intervals – tension is followed by relaxation – muscle mass builds up, balance and self-carriage improve, yet the horse is never asked to do more than it is able to. A rider with an

eye for what he can ask the horse to do and the ability to put it into practice is hard to find, however. Most of them are occupied for years learning to sit correctly without depending on the reins as clueless trainers made them elevate the horse or shorten it in the neck. For beginners and the average leisure rider, the extension posture is the healthiest and sometimes an absolutely desirable yet only rarely expressed goal – for both horse and rider. The less than perfect seat often observed in riders even on a professional level reveals incorrect seat training and a lack of ability to use the aids and let them have an effect on the horse. In this case, we did not use the term “forward-downward” on purpose as it is often misinterpreted and simply transformed into a “downward-backward” (hyperflexion). The statement, that hyperflexion NEVER occurs natural-

ly in behavior meant to impress other horses, is incorrect. However, hyperflexion occurs very rarely, is only shown in tense movements for a short period of time, and only in the highest degree of excitement or arousal (= tension), often in combination with head shaking. The horse is psychologically excited and rolls up into a ball. You cannot manually achieve this state of excitement, and “rolling-up into a ball” and head-shaking only have negative effects on training. You can see that a rider is thoughtful and reflective – no matter on what level of training he currently resides – if his or her horse always yields in the poll (even if only slightly) and his or her seat is relaxed, passive and does not require constant aiding.

- Wolfgang and Christin Krischke, Royal Riding School of Bückeburg -

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Legendary horses and riders

Alois Podhajsky (1898-1973)

by Arnim Basche

The grandseigneur is a figure threatened by extinction. At horse shows, you hardly see him anymore. Even worse: For most people, the term is a foreign word they do not know. This is why it is even more important to remember a man who personifies all of the characteristics the term implies - in regular life as well as horseback. Alois Podhajsky was a great man in every situation! He did not pretend to be of polite society; he was a person rather, whose inner culture was always present for everyone to see. A highly gifted trainer and rider, he made no compromises fighting for the traditional, classical art of riding. Especially these days, Podhajsky's legacy should be held high. In times of quick, superficial training methods and the need to be profitable, people are thinking twice about traditional principles and more often than not cast them aside. Dressage as a sport has moved far away from a

horse-friendly training method and turned its back on the Principles of Riding.

In 1898, Alois Podhajsky was born in Mostar, Herzegovina, which at that time belonged to Austria. As the son of a cavalry officer, he came in contact with horses at a very young age. His gift as a rider was discovered during his time in the military. This is the reason why he was transferred to the Riding and Driving Academy of the Austrian Federal Army in Schloflhof after World War I, which is comparable to the Army Riding School of Hanover. A couple of years later, he was called to the Spanish Riding School where he was influenced strongly by director Gottlieb Polak. From 1939 through 1964, he himself finally served as director of this world-famous institution that is synonymous for Vienna as much as St. Stephen's Cathedral and the Schmelz [a sarcastic, morbid, grouchy, sometimes evil but overall friendly form of humor typical for the people of Vienna]. Once there, he created the working quadrille, which is still ridden today,

and trained riders such as Norbert Tschautscher, Arthur Kottas-Heldenberg, and Hubert Eichinger. One of his greatest deeds, however, was to save the Spanish Riding School from the approaching Red Army in May of 1945, and to hand its command over to the American general George Patton - who, in a spectacular operation, had brought the horses of the Lipizzan stud Piber to an area in Germany occupied by the Americans to save their lives.

Apart from magnificent success at Grand Prix level, the history books of riding consider Alois Podhajsky's most important milestone of his sports career to be the bronze medal he won at the Olympic Games in Berlin in 1936 riding NERO. He was a Counselor to the Austrian state and climbed up in the military hierarchy to become a colonel. He made ten major contributions to professional equestrian literature, *Complete Training of Horse and Rider* being the most important. Alois Podhajsky died in 1973.

Antoine Pluvinel de la Baume states in his master piece of equestrian science *L'Instruction du Roy en l'Exercice de monter à Cheval* (German: *Neuauffgerichte Reut-Kunst*, English translation: *The Instruction of the King to Ride on Horseback*) that in order to perfect an art you need to have the skill to start out in the correct way, it is advised to get to know a horse's personality during the first couple of exercises you teach them. This is difficult as the rider has to use his mind instead of just weight or leg aids, and he has to make sure the horse does not get annoyed. If possible, he should not stifle its gracefulness which is like a fruit blossom, a blossom that never blooms again if it has been picked.

This demand of a great horseman, who taught three French kings to ride and was the first to practice a form of animal psychology, was also shared by Alois Podhajsky. He, too, looked at equus caballus with sensitive understanding and regarded it as a partner and a friend. He would never even have thought of considering it replaceable sports equipment - and thus degrading it to the level of a tennis racquet or a soccer ball. "Every successful trainer needs to know his student very well. The rider needs to know his horse, too - with regard to its

physical as well as mental predisposition. Not only does he need to be familiar with the anatomy of the horse and the functions of the respective muscles and joints, he also has to be a psychologist in order to imagine the feelings and reactions of his four-legged partner", Podhajsky states in his book *My Horses, My Teachers*.

In this way, Alois Podhajsky developed a really close relationship with his horses, which might even be described as love. The story of NORA, with which he had great success as a young rider, proves this statement. He writes how sad it made him when he had to part with the mare after being relocated. He tried to purchase her privately, which was prohibited. When he finally learned that NORA had been sold to a butcher in Vienna, who boasted with her expressive piaffes and passages in the city's Prater, Podhajsky felt great pain - a pain great enough for him to leave a merry social gathering when he got the news.

Most of the time, Alois Podhajsky rode rather plain, almost ordinary-looking cavalry horses - and those that had been rejected by other officers for being too difficult. This applies especially to NERO, a German thoroughbred. In 1932, the army's supply inspector offered him the horse for competitions in addition to the two service mounts that Podhajsky already worked. The commander of the institute for military riding instructors had refused the horse because it did not like to jump or have the necessary impulsion for dressage. Since the distribution of horses within the Austrian federal army was rather modest, Alois Podhajsky seized the opportunity and took NERO in for training. The effects of his decision started to show after only a few days: "What kind of horse did you get yourself? All of Vienna's riders are laughing about the "sausage" you have there", Ernst Lindenbauer commented, who was the director of the Spanish Riding School to which Alois Podhajsky had been deployed to at that time. Lindenbauer was mistaken, however; as the "sausage", which really did not impress with its beauty, was going to be formed into one of the most brilliant dressage horses of the pre-war era.

At a show in Budapest three years later, Alois Podhajsky and NERO already won against Europe's best riders in the FEI's Grand Prix de Dressage. Commenting on the event, the great horseman Gustav Rau wrote that the biggest surprise of the day was the victory of NERO, belonging to the Austrian army administration, under cavalry captain Podhajsky. "This thoroughbred gelding, whose future greatness could not have been foreseen in Thun in 1934, positioned itself in the front rows of Europe's dressage horses. Once again, nature and art have formed a horse and rider that bring you joy. In both of them, the old tradition of Austrian riding in its entirety has been awakened."

This extraordinary achievement made horse and rider one of the favorites in the battle for a gold medal at the Olympic Games in Berlin in 1936. Alois Podhajsky must have found himself standing in the shards of a shattered dream, when he only won bronze placing third after Lieutenant Colonel Heinz Pollay on KRONOS and major Friedrich Gerhard on ABSINTH, even though many experts saw them as the winners. According to German sports magazine Sportwelt, their performance was definitely enchanting, the rider's seat exemplary and the rein contact very light. Gustav Rau complemented the two Austrians on the many highlights of their show, but also saw a few distinct mistakes. In his book International Equitation at the Olympic Games of 1936, he concluded: "After his triumph over Germany's top horses in Budapest in 1935, the gelding slightly disappointed his audience ... In 1936, his movements did not show the same suppleness as those of KRONOS and ABSINTH ... Because of these deficits - though small - they could not win." Based on this statement, it seems a little tragic that Alois Podhajsky and NERO won all dressage tests at a competition in Aachen, Germany, ten days after their Olympic performance - and against most of the Olympic riders at that.

Podhajsky was of the opinion that dressage, observed from a classical point of view, peaked in 1936. He believed that the Grand Prix at that time "satisfied the principles of classical riding in every regard as it left enough room for the basic demands a dressage horse

had to fulfill: clear gaits, impulsion, looseness/suppleness, etc." After that point in time, Alois Podhajsky got more and more uncomfortable with the conceptual design of the tests, which caused tension in the horses as a result of an inharmonious sequence of exercises.

In 1948, Alois Podhajsky once again aspired to win a gold medal at the Olympic Games in London, this time with Hungarian half-blood gelding TEJA. And again, he had to deal with disappointments as piaffe and passage, TEJA's specialties, were taken out of the test. Alois Podhajsky always felt that the correct execution of these exercises was proof of a horse's collection and its advanced training. What might he have to say about many of the piaffe and passages we see performed today? He did not completely agree with the inclusion of one-tempi changes in Grand Prix tests. In his work Complete Training of Horse and Rider he notes that they belong to those controversial exercises many experts reject as artificial or circus-like. At the Spanish Riding School, as well, the old and trusted head trainers disagreed on the inclusion of the one-tempi changes. Speaking of artificial or circus-like: What would Podhajsky have concluded after observing our current freestyles?

Alois Podhajsky was the personification of the classic rider at his best. For the benefit of both his horses and students, he united all the principles of the past with his own findings creating our modern art of riding. Unfortunately, even at that time he had to realize that only a few riders knew their horses and were familiar with the causes of their behavior. "Everything has become contemporarily more superficial ... Today, the well-grounded, established teachings of the old horsemen are being brushed aside because their methods are supposedly out-dated and take too much time in a world that demands quick success. What is the result of this 'quick-work'? The standard is lowered to mere distortions! Every top performance needs to be built up in a well thought-through and structured manner. I have learned that the teachings of the old masters can be of great help. If someone believes to have found a new way to success, he can be assured - if the way proves to be a

good one - that he accidentally or instinctually did what our forefathers have already done", Podhajsky in *My Horses, My Teachers* scolds all of those who mistake the teachings of classical riding for a of book fairy tales - only to force their horses into hyperflexion, to treat them like slaves, and to rob them of their personality. The will to succeed, to earn a medal or money has left many people unrecognizable. Even at the Spanish Riding School, the merry atmosphere of rococo-times has long been a thing of the past. Management changes have increasingly turned the School into a touristic attraction. Among other concerns, the trainers are worried about the increasing number of show performances for

stallions in training as the institute needs more income. In this way, a brilliant cultural asset, the whole world envies Austria for, keeps losing its shine. At least, in Vienna one still follows the classical teachings of riding. Without question. It serves as the best example to prove that all the discussions we have today about the correct training of a horse are unnecessary. Everything has long been defined. Not only by Pluvinel, Guérinière and others, but also by Alois Podhajsky, whom we can safely call an icon of the art of riding.

He did not humanize horses, though. More than anything, he tried to "horsify" himself. In this way, he became an icon of the art of riding.

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The correct seat

A correct seat is the basis of correct aids and successful training of dressage horses.

A correct seat is the mother of all aids and the basis of the rider's influence on the horse. The perfection of seat and influence has to be the goal of any form of schooling a rider. The more balanced a rider is seated, the more he can feel and follow the horse's movements.

An onlooker, who does not know anything about riding, might think that keeping one's balance cannot be particularly difficult – which is true as long as the horse merely moves at a walk or does not move at all. To be able to develop and keep a balanced seat at the trot is probably one of the most far-reaching and important movement-related events every beginner will experience. Canter causes a similar physical experience.

It takes more than just a few lunge lessons for a rider to be able to learn how to harmonize his center of gravity with that of the horse at every gait while finding his balance in move-

ment. In some cases, it takes years of practice. However, even an experienced rider is aware of the importance of seat training. Legendary former director of the Spanish Riding School in Vienna, Alois Podhajsky, once wrote: "A supple and a slightly clingy yet flexible seat which, at the same time, is upright and deep is imperative to being able to give the correct aids and to not disturb the horse's balance. However, this kind of seat is also necessary for aesthetical reasons. The first impression of a rider should already reveal that riding is an art. In all movements, horse and rider must portray a harmonious picture of perfect fusion of two living beings ..."

At the Spanish Riding School, every rider is trained on the lunge line until a correct seat has been developed and stabilized. Usually, this takes between half a year to a year. Often, an advanced rider has to go back to lunge lessons in order to eliminate mistakes that have developed over time." Even today, nothing needs to be added to this statement.

Therefore, the goal is a seat as relaxed as possible. Balance cannot exist without relaxa-

tion – any physical or mental tension in the rider prevents a safe balanced seat. Under the condition that the rider is sitting on a relaxed and loose horse, his own relaxation becomes apparent:

- At the trot and canter, they stick to the saddle effortlessly, softly and comfortably.
- They can maintain their posture without special physical effort while their legs touch the horse's sides in a relaxed manner.
- The natural posture – from head to toe – does not show any kind of tension, which allows their entire body to follow the movements of the horse's back.

If balanced, the rider does not disturb the horse. As a result, he will be able to feel the

horse's willingness to maintain mutual balance. Riding one-handed is a very useful tool to check if one's seat and posture are correct.

Important: In order to follow the horse's movements in a supple way, the flexibility of the seat is decisive. The relaxation of shoulder, elbow and wrist prevents the rider's body movements to be transferred to his hands, which would be undesirable.

The safety and stability of the seat depends on the harmony of the horse's and rider's balance and center of gravity. Constant and regular breathing is also very important. To breathe in and out in a calm manner relaxes both horse and rider.

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Equestrian gymnastics for Body and Soul

The Pelvic Diaphragm – the Body's Control Center

Equestrian Gymnastics for Body and Soul

No longer a taboo issue in equestrian sports – A natural and relaxed seat is characterized by an upright spine posture, elbows that lightly touch the upper body, quiet hands, calves that nestle up flat against the horse's body, and heels that are kept low. To achieve suppleness in following the horse's movements, the rider needs to mobilize his spine and pelvis. So far, so good.

In order to understand this article, you need to get acquainted with the human pelvic diaphragm (also called pelvic floor) and the muscles attached to it. For many people – including riders – this part of the body lies in more of a gray area. The reason might be that it is invisible from the outside and does not

move joints. Even though the pelvic diaphragm muscle complex operates involuntarily, i.e. fully automated, it is essential for riding.

This article opens a whole new chapter in equestrian sports by discussing a very special topic. Since the pelvic diaphragm is hidden away from sight inside our bodies, we do not pay much attention to it in daily life. In our culture, it is a neglected region of the body that has often been attributed unnecessary feelings of shame. Luckily, the doors towards taking the taboo out of this topic are slowly beginning to open.

Everyone should familiarize themselves with the group of muscles in the pelvic area. These muscles might not be visible, but you can feel and train them. They are located close to our center of gravity – vertically and horizontally. The pelvic diaphragm serves as a control center where physical and psychological connections are made. In this area, vital functions are

being organized, executed and forwarded. The pelvic diaphragm is life's very drip and scale pan.

Including bony parts, joints, tendons, sinews and muscles, the pelvis – in its entirety called pelvic girdle – forms the protected center of gravity. The pelvic diaphragm constitutes our body's hub and mirrors our often conflicting emotions including all forms of experience our senses have to offer. It is a source of power and weakness, tension and relaxation. The pelvic diaphragm mediates between body and soul and establishes the balance between need and satisfaction. It is a place where angst and emotional distress are often saved to memory. In order to effectively include the pelvic diaphragm (not only) in training, you have to face, know, and sometimes solve emotional issues.

Emotions "trapped" in the pelvic floor may cause tension in diaphragm (phrenic), shoulders, and back. Once the pelvic floor has been strengthened, shoulders and back are able to better relax, which affects other regions of the body as well.

Exercise and emotional awareness go hand in hand in this case. Weakness of the pelvic diaphragm always causes a loss of energy in general, which is why it should be our goal to maintain one's own vitality and control the pelvic floor in order to free life energy.

Hardly any sport (consciously or involuntarily as in mental exercise) can do without the muscles of the pelvic diaphragm. No one really pays attention to this fact including professional equestrian literature on fitness of riders. In order to make up for this lack of interest, sensitize people to understand this issue and to broaden the knowledge about it, another more extensive treatise is necessary, which includes scientific research based on the latest findings. Prof K. Lewit, MD, of Karls University in Prague, has essentially contributed to further enlightenment on the topic. For living beings that walk upright like us humans, the pelvic floor is of central importance: its muscles close off the pelvic opening. This function is gender-neutral – with small differences only. The pelvic diaphragm is attached

to the bony pelvic girdle and looks like a hammock. The musculature in this area consists of a palm-sized (in diameter and thickness), three-layered muscle plate, which is made up of muscle fibers and tissue. It supports, carries and holds the internal organs of the abdomen and keeps them in place. This group of muscles also controls the genital orifices (closing/opening functions). The connective tissue of these grid-shaped muscle layers tends to weaken, depending on gender and hormones. With regard to function, tensing these muscles is just as important as relaxing them.

The muscles of the pelvic diaphragm form the most perfect supporting structure in the human body with regard to functionality. They minimize load, co-create movements for precise coordination, direct neural information by means of receptors and are responsible for breathing and the upright posture in humans. Another special feature of this net of muscles is that it is linked to (almost) all adjacent muscle groups, for example: hamstrings (and other thigh muscles) and gluteal muscle, deep abdominal and back muscles, iliopsoas, gluteus medius and gluteus minimus (hip abductor), adductors as well as pubic bone and sitting bones. The sitting bones (tuber ischiadicum) – two small vat-like bones – are about 2 inches (5 cm) long and located within the gluteal muscles. They are connected to the pubic bone and play a pivotal role for the rider's seat, in regard to which they are often mentioned. They are directly connected to the muscles of the pelvic diaphragm, are activated by them and reflect the upright posture of the upper body. Moreover, a muscle-tendon attachment connects the sitting bones to the tail bone, which in turn directly connects them to the lumbar spine. This means that the lumbar spine is significantly influenced by the muscles of the pelvic diaphragm. It also plays an important role in an adequate posture as it tilts and erects the pelvis.

The musculature of the pelvic diaphragm acts as coordinator for the interactions of all muscles. The upright posture of human beings, which receives its stability from the spine, is a) achieved by the interaction between pelvic diaphragm and the deep abdomen and back

muscles – which work automatically/reflexively or consciously/specifically – and b) controlled by local muscles. Moreover, the pelvic floor partially stimulates breathing by means of reflexive tension and relaxation that move the entire surface of the abdominal cavity and the diaphragm.

Research shows that positive chain reactions, which originate in the pelvic diaphragm, affect the body all the way down to the toes as well as up through the shoulder girdle to the facial muscles – especially the muscles of mastication. This interaction (action/reaction) of the muscle chains (German: Spiraldynamik, i.e. three-dimensional mobility) allows a human being to better axially adjust his posture, i.e. he can find his (perpendicular) balance more easily. The muscles of the pelvic diaphragm in untrained condition might either be too weak or too tensed up, which directly or indirectly affects all adjacent muscle groups. This is why it is of utmost importance to include the issue of the pelvic diaphragm in schooling of riders. It has been shown that all kinds of blockages and dysfunctions originate in this area. I believe that a huge percentage – at least 95% – of all problems related to riding result from a suboptimal function of the pelvic floor. Thus, it plays a key role in the value of our movement system as opposed to all other groups of muscles. Riding, with its movements and specific seating posture, exerts considerable pressure in the area of the small pelvis because of the dead weight of the internal organs located in the abdominal cavity. Here, the carrying,

supporting and holding functions step in to take off pressure. Using the pelvic diaphragm specifically activates the small group of muscles located around the pelvic girdle in the lower area of the lumbar spine, the deep back extensor and the deep abdominal muscles – lateral and diagonal, in particular. This is why athletes (riders in particular), while exercising, should always be aware of the muscles of their pelvic diaphragm and the fact that they have to strengthen them. As a consequence, signals and appearance of their bodies are going to be strongly influenced. Whoever consciously and actively integrates these muscles into their daily life and training, in particular, is going to find the adequate muscle tone necessary for riding much more easily – inner (essential) tension accompanied by outer relaxation.

Especially in riding, actively integrating the muscles of the pelvic diaphragm may give you the essential experience to improve your seat. The upper body is able to optimally straighten up without tension. Once activated, the musculature retains a basic muscle tone which, if kept up, will positively influence and train body awareness and sense of balance.

Most importantly, keep the balance between tension and relaxation and achieve inner, measured energy and outer, visible relaxation. Improve your muscle awareness and relaxation with the following five top exercises, specifically developed for PIAFFE readers. These basic gymnastic exercises have been brand-named “The Five Pioneers”.

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The art of Horse-feeding

*At the end of the eighteenth century, highly educated horseman Baron Carl Gustav von Wrangel one of the most important authors and horse experts of his time published the two-volume classic *Das Buch vom Pferde* (The Book About Horses). In his work, he describes in full detail the extraordinary know-how and*

most of all the practical knowledge gained through daily work with the horses. A guide for every horse owner and enthusiast even to this day. In the first chapter of the first volume called "Theory of Feeding", we find the following remarkable statements:

'The nutritional value of the various feedstuffs should not be determined by means of chemical analysis only. Every feed has to contain a certain amount of nutritional ingredients which is not to say that the feedstuff with the highest nutrient content is most usable to the animal in its diet. In order to judge the practical value of a feedstuff, palatability, digestibility, absence of any unhealthy characteristics whatsoever and many more aspects need to be considered. Over the last couple of decades, extraordinary progress has been made in the chemical and microscopical analysis of food- and feedstuff, and lots of different components have been discovered. The continuous work in this important area keeps revealing more and more substances essential to the maintenance of the animals' bodies. Many of these substances occur in minute amounts and could only be detected through highly advanced technical equipment. Partly, they are of no noticeable influence on the horse's diet, and the value of their discovery is mainly scientific.

Reading this excerpt, you might think this horseman living more than one hundred years ago already knew that proper horse feeding was not just based on oats, hay and chaff. Traditionally, horse owners used to live in the countryside. Recently, however, an increasing shift towards an urban class of owners could be observed all over the country. The result of this movement is insecurity and often plain ignorance on the part of the owners with regard to most of all keeping and feeding their horses.

At first glance, the equine feed industry now offers an overwhelming number of products. Presented with the variety of available feedstuffs, horse owners find it more and more difficult to decide, what their horses really need in order to stay healthy and fit for many years to come.

In addition to this, we keep forgetting that a horse, based on the anatomy of its digestive tract depends on a continuous feed intake. Its ancestors used to live in the steppe primarily eating plant material high in fiber. Our modern horse's eating behavior and digestive system have not changed since, which means

that it would graze 12-16 hours a day while slowly moving forward if it was not for us humans.

Horses can no longer meet their requirements for energy, active and vital ingredients because of the decreasing biodiversity in roughage. Based on this important fact, a Swiss named Moritz Spring had the idea to invent a feedstuff called muesli that he started to sell under the brand name 'marstall' more than 35 years ago a complete premixed feed that revolutionized the equine feed industry. Moritz Spring had a clear vision of the future of horse feeding, but he could not predict the effects his pioneering feat would have on the equine nutrition industry.

PIAFFE talked to Jörg Schwägli, head of feed product development of the company marstall, about the most important issues related to horse feeding.

If a horse had the ability to talk, what kind of feed do you think it would prefer?

Because nowadays people tend to humanize horses very strongly, I would say that in the beginning, the animals would probably prefer an improper feed, something that tastes rather aromatic and sweet. Only after one or two days, they would start eating real horse feed: biodiverse, long and stemmy "steppe grass", i.e., diverse hay appropriate for horses and pasture grass.

How can you help a barn manager make sense of the vast choice of feedstuffs to properly meet the needs of the horse?

A barn manager needs to help himself by getting information and support from a nutrition expert he trusts, thus gaining the basic knowledge necessary. In this way, he is able to decide by himself how to properly take care of his horses according to their needs as a species and as animals and what kinds of feedstuffs he should use to achieve this. A very responsible task!

Which nutrients does a riding horse require if kept according to its needs?

All of them basically, but always adjusted to its living conditions and, most of all, the work it does. Horses used to find enough of the necessary nutrients in biodiverse pastures, which is still the case in alpine pastures or other areas that remained in their natural state. Only a few horses, however, still have access to these kinds of meadows. During the development of our optimized complete feed 'marstall Optimal', we were able to find and understand these conditions in the area of the 'Hundsmoor' in the Lower Allgäu (southern part of Germany).

Are the ingredients of a complete feed generally sufficient to keep a horse healthy and fit? When putting together a feed mixture, what do you have to take into consideration the most with regard to the basic nutritional requirements of a horse?

A very complex question. If such a complete feed has been reliably mixed, all ingredients and supplements should generally be found in a sufficient amount and in the right ratio. Given this prerequisite, it all depends on how much of it is fed to the horse in relation to its overall diet. The production company's feeding recommendations tell you a lot about the quality of a complete feed, e.g., if you should feed 3.3-4.4 lbs (1.5-2 kg) or 6.6-11 lbs (3-5 kg).

Basic nutritional requirements, first of all, mean the two main components energy and protein. However, crude ash, crude fat, and crude fiber should always be listed so the basic quality of a mixed feed can be determined.

What ingredients are indispensable in a mixed feed?

In addition to the main ingredients (energy, protein, etc.), macro minerals, trace minerals and vitamins should be included according to the latest nutrient requirement norms. Not

only the total amount of the individual ingredients is essential, but also the interaction between them the ratio e.g., Ca:P is about 2:1.

What recommendation can you give for a riding horse with regard to the function of and supply with minerals, vitamins and trace minerals?

Thanks to scientific work, today we have a standard value for the requirement of every component of these three substance groups, i.e., amounts for optimum nutrient supply tailored to weight/breed (maintenance requirement) and work. These standard values are listed in detailed official charts. A daily ration is only complete and balanced if all of the about 30 individual components can absolutely, relatively, and according to the standard value for the requirement be found in the feed.

Attention must be paid to how well the substances can be digested by the horse and in what form they are found in the feed, i.e., how biologically usable they are for the organism.

Does a riding horse doing average work and receiving a good complete feed need an additional mineral block or a mineral supplement readily available in its stall?

Feeding our complete feeds according to our recommendations (see packaging/catalog), usually no additional mineral supplement is necessary. Yet a natural, pure (sodium chloride) salt block may or should be available to the horse at all times or at least during summer season.

What is the difference between complete feeds that retain the grains in their original form ('Sweet feed', 'muesli') and pelleted mixtures?

- First of all their shape, of course. While the individual components of Sweet feed or muesli are loosely mixed, pelleted feeds consist of compact pellets of 0.12-0.59 inches (3-5 mm) in diameter.
- Secondly, they differ by ingredients: Sweet feeds usually consist of whole kernels, while pellets often contain byproducts of grain processing.
- Thirdly, they differ by the manufacturing process. To achieve a highly improved nutrient digestibility, 'marstall' (among others) treats its grain kernels with the so-called hydrothermal process. This means, the nutrients of every single grain kernel are made digestible and usable for the horse by moisture and heat (targeted vaporization followed by a cool-down phase, drying and flocculating). The nutrients are thus physically 'pre-digested'. In the case of barley, this process increases the starch digestibility from 20% to around 70%! In the pellet production process, the individual ingredients come in meal-form and are mixed together. Afterwards, at medium pressure and about 140°F (60°C) the mixture is being pushed through a mold and formed into pellets. The nutrients are only partly solubilized and made digestible for the horse.
- Fourthly, the two forms of feed differ by how the horse chews them: a flaky muesli structure has the horse chew and salivate much more strongly, which is very important for the digestive process. Pellets may lead to pharyngeal obstruction or choke in some horses, especially in hasty eaters that bolt their grain.

What does crude protein, crude fiber, and crude fat mean with regard to their chemical composition?

Crude protein (CP): In colloquial German, it is often called 'egg white'. The crude protein content of a feedstuff is measured by analyzing its nitrogen content. Since protein on av-

erage contains about 16% nitrogen (N), the calculation goes as follows: $N \times 6.25 = CP$. In addition to pure protein, all nitrogen-containing non-proteins (e.g., sal ammoniac) can also be found in crude protein.

Crude fiber (CFi): Crude fibers are the most important roughage for the horse. Even though they may only be of little nutritional value, to the horse they are of utmost importance for a smooth digestive process. CFi is basically made up of the frame carbohydrates of a plant's cell wall: pectin, hemicellulose, cellulose, and lignin. These substances are grouped together as the so-called NIFPs (neutral, insoluble fiber parts).

Crude fat (CFa): This group encompasses fats and fat-like substances like fatty acids, fat-soluble vitamins, waxes, etc. In plants high in fat like linseed or canola, CFa is practically identical with fat in the basic sense. The CFa-content plays a rather secondary role in a horse's diet and is specifically used as an energy supplier for high performance horses.

What information does the feed bag label give you with regards to the substances above?

According to German feedstuff laws, information for the following substances is mandatory and has to be declared on the label: crude protein, crude fat, crude fiber, crude ash, calcium, phosphorus, sodium (in percentages), the additives vitamin A and D (in International Units) as well as vitamin E and copper (in mg). 'marstall' sets great store by transparency and information for the customer and thus declares more than 20 additional substances, which is far more than required.

According to which criteria can I calculate my horse's energy requirements for daily work?

According to the two factors weight (LW = live weight) and the work the horse does. After

these two factors have been defined, the energy requirement (in MJ) can be found out from special official charts.

There are different ways to measure weight, but the only reliable one is to actually weigh the horse. 'marstall' offers a mobile horse scale to customers to weigh their horses. In order to measure the amount of work, one needs objective knowledge of the criteria. The support of a professional would probably be helpful. 60 minutes of walk plus 30 minutes of trot per day i.e., one and a half hours of riding daily is still defined as light work.

Which principles or aspects, respectively, have to be considered with regard to the daily feed ration?

It is important to keep in mind that horses have always been constant eaters and should, therefore, mainly feed on biodiverse, long and stemmy "steppe grass" (hay/straw/pasture). Exactly these two facts lead to most of today's feeding mistakes: very often, horses are only given hay twice daily and have to stand around in their paddocks 'empty' for the rest of the day. However, breaks in between feedings should only last about three to four hours at the most. It is also important not to feed grain right after riding and to give small portions several times a day.

What criteria play a role in feeding a horse according to its needs?

In order to feed a horse according to its needs I must be able to calculate its energy requirements. Weight/breed (maintenance) and amount of work determine the requirement for every single nutrient, i.e., energy, protein, minerals such as calcium, trace elements and vitamins as well as the individual amino acids. In total, this amounts to more than 30 single nutrients. Since this is not an easy endeavor, "marstall" offers every one of its customers to calculate the rations their horses require free of charge. On www.marstall.eu, every cus-

tommer can download a check list, which he has to fill out (information concerning the animal, its living conditions and previous feeding) and send back in order to receive a diet plan precisely calculated and completely tailored to the horse's needs. This also includes a consultation.

When is a horse too fat or too thin, respectively? Does objective basic data exist with regard to this question?

Back in the days, barn managers used to feed their horses by eye. Many horse owners today do not have this gift anymore. In 2004, Prof. Dr Kienzle and Dr Schramme developed a so-called Body Condition Score (BCS). They measured/assessed (contours, bone protrusions, fat deposits) and assigned numbers to six different points on the horses body (neck, shoulder, ribs/croup, chest, hip, tailhead). A BCS of 5.0 is considered normal and good, 1.0 means emaciated and 9.0 morbidly obese. BCS measurements and assessments should always be done with the help of a veterinarian or specialist.

What kinds of feeding-related chronic diseases are there?

Numerous books have been written on this topic. In general, we differentiate between diseases caused by: a) improper choice of feedstuffs or amount of feed, respectively, b) spoiled feedstuffs or lack of hygiene, respectively, c) incorrect feeding technique and d) incorrect watering. Some examples:

- a) adiposis, laminitis, azoturia, diarrhea, peptic ulcers, etc.
- b) poisoning, colic, coughing, diarrhea, etc.
- c) stool water [separate defecation of droppings and intestinal water], false fermentation, peptic ulcers, laminitis, colic, etc.

d) impaction (colic), stool water, electrolyte deficiency, etc.

cise, interesting workouts, minimize stress in general, etc.

Which factors play a special role in feeding hygiene?

If we proceed on the assumption that the feed reaches the customer in perfect condition, subsequent storage is decisive. As the saying goes: "Store in a cool and dry place." A feed bag may never be stored on a stone floor or leaning against a stone wall. This draws moisture towards the feed and leads to spoilage mold. Moreover, feed should always be stored in a tight and safely closed container as to protect it against flies (moth infestation) and mice (carcass, feces). Spoilage in its first stages often goes undetected. If the feed is given to the horses anyway, even small amounts can do great damage. Preventive measures in storage technique are advised!

What recommendations can you give with regard to horses that are prone to colic?

Colic usually is the result of various factors. With these horses you have to pay special attention to feed and keep them according to their needs as horses.

Feeding: Meet the horse's needs as a constant eater i.e., split roughage into four to six daily servings. A horse should never go more than three to four hours without eating as this can cause hyperacidity in the stomach. Never feed grain on an empty stomach, splitting it into several small servings a day. Do not feed any grain two hours before and after a workout. Moreover, horses prone to colic should be fed mash three times a week.

Stable management: Stress has negative effects on the stomach. As a consequence for horses in general, but especially for those that are prone to colic, is to keep them in a horse-social environment: prevent jealousy of feed, provide contact to other horses, regular exer-

What symptoms point to laminitis caused by improper feeding?

The symptoms of laminitis caused by improper feeding are very similar to those of other causes of laminitis (poisoning, exertion, foaling). Laminitis related to feeding usually has the following causes:

- Grains and concentrates containing too much unprocessed, hard to digest starch per serving (>5.5lbs at one time), entering the colon.
- Grass high in fructane combined with unfavorable pasture conditions causes more than 80% of all cases of laminitis. Early detection of an upcoming laminitis attack is not easy for the horse owner. Only a progressed infection of the laminae causes clear symptoms of laminitis: the hooves are hot to the touch, a tense and careful walk might be observable, increased sweating and pulse when taken at the pastern. This is when the vet should be called immediately! Until the vet arrives, the owner should keep cooling the horse's hooves with water.
- There are special demands on 'rehab-feed' after a laminitis attack. We have developed "Vito", a complete feed that is specifically sugar- and starch-reduced, as well as "Huf-Regulator", which is specifically designed to positively affect the laminae.

What does "diet feedstuffs" mean?

These feeds serve the purpose of meeting the special nutritional requirements of animals that suffer from or are expected to suffer from pathological symptoms. Usually in the area of digestion, bronchi, skin/coat/hair, liver, and kidneys as well as metabolism.

Which marks of quality are of essential importance for feed producers with regard to quality assurance?

In Germany, these would be ISO 9001:2008 and HACCP (Codex Alimentarius). marstall's German production sites are additionally QS-certified.

There is a wide variety of specialized feedstuffs on the market today that are each supposed to cure one specific problem: to cure respiratory problems and to strengthen the immune system, improve metabolism and digestion, increase stamina and muscle mass, for coat- and skincare. How important are these feedstuffs as a supplement?

If they make health-related statements, producers have to comply with the regulations of the German feedstuff laws. If supplements or special dietary feedstuffs are not just fed to calm an owner's bad conscience but have a positive effect on the horse, I find them very useful. More than one desperate owner found a solution to his horse's problem feeding a supplement. However, it is often very difficult to separate the wheat from the chaff.

Which indispensable information should a feed bag label contain?

In addition to the legally required declaration of certain ingredients and additives (see Question 10), easily understandable, detailed and reliable specifications with regard to feeding should be made. How to use the feedstuff or product with his own horse is, after all, what interests the customer the most.

Are there aspects related to animal protection that a feed producer needs to pay special attention to?

Ethical principles demand that the feed guarantees a nutrition meeting the horse's needs. For us, this aspect of animal protection goes without saying. In detail, this means: The feed has to be hygienically impeccable. It must not do the horse any harm, neither during nor

after eating. The feed should be very good to digest and be structured in a way that makes it necessary for the horse to chew it for a long time.

The feeding recommendation and consultation should also guarantee that the recommended total feed ration meets the horse's needs, reflects its workload, is complete and digestible.

The company 'marstall' adheres to the latest proven scientific findings and offers the right product for every horse. Can a horse owner and especially a competing rider be sure that a feedstuff produced by you does not contain any doping-relevant substances?

We do not add any components in doping-relevant combinations to any of our feeds or products.

Of one the biggest problems in practical feed retailing is to support the customer with a competent, professional and most of all individual consultation. As a pioneer in modern horse feeding you have probably thought a lot about how a competent customer consultation should go. What is your experience and what is the biggest problem?

Because of the vast variety of products and the complexity of the matter, it is understandable that retailers do not have the capacity for individual consultations. The customer is advised to contact the company's consultation service hotline directly. I usually divide a consultation into three steps:

- 1) To note the current state of horse/living conditions/feeding.
- 2) Ask for the customer's goal and wishes.
- 3) The consultation itself. This might be a simple piece of advice or a feedstuff analysis with ration calculation and can thus vary greatly. The most important point is that the consultation is always in the best interest of the horse!

The biggest problem for the consultant is when the customer has very little knowledge about what his horse is actually being fed.

Looking at the vast and diverse feed choice in stores these days you get the impression that the temptation to give your horse too much of the good stuff can be strong. Could it be that we cause obesity or even death in our horse because we put too much food "on the table"?

Overfeeding in horses is indeed a problem that results, in the most part, from ignorance with regard to equine nutrition and from the humanization of the "pet". Neither of these practices meets the horse's needs!

Ever since 'marstall' was founded, our motto has been: "Less is more!" This we achieve with our hydrothermically solubilized and balanced

complete feeds that guarantee an excellent nutrient supply and a very low amount of additives. This gives the horse time and space to eat more roughage.

After years of experience, do you have any rules of thumb to achieve an individual and reasonable horse diet?

Lots of servings of roughage given throughout the day. This method is essential to the horse's physiological metabolism and its psyche i.e., to keep it busy! Once this condition is met relatively small yet specified servings of supplements will complete the daily feed ration in a horse-, animal-, and performance-friendly way.

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A way to improve your horse's well-being yourself

Acupressure - The horse world has benefited strongly from the advances in modern medicine. The advantages of alternative treatments such as physiotherapy, chiropractics, acupressure, and acupuncture are no longer being questioned. In contrast to acupuncture, acupressure can be applied by any lay-persons, provided that they have been trained by professionals. The following article is a practical contribution to this topic and describes simple yet effective exercises for daily use. Ten minutes a day usually is sufficient to improve the well-being of your horse and to expand its performance potential. Moreover, this treatment strengthens the horse's self-perception which in turn leads to an increased mutual trust between horse and rider. Dr Astrid Reitz, DVM, is an internationally certified acupuncturist IVAS and chiropractor IVCA with a doctorate in acupuncture.

Acupressure, in the same way as acupuncture, is based on traditional Chinese medicine. In acupressure, certain acupoints are being massaged with high or low pressure in order to

stimulate them. This can be done by anyone who has been trained. Acupuncture, in contrast, should only be applied by professional therapists as its very strong effects might not be grasped by the lay-person. In comparison, acupressure with its gentle effect gives us the opportunity to assist healing processes as well as any form of therapy: e.g., strengthen the immune system, relax tensed muscles and reduce pain. This method also proved to be very helpful in competition preparation and competing itself. The improvement of life quality through acupressure benefits all horses, no matter if they are used for breeding, leisure-time or sports or if they have just gotten older.

Preparation

Before you start treating your horse, you have to determine what exactly you want to achieve: do physical or psychological problems already exist, do you want to improve your horse's well-being and performance in general, or do you want to prepare it for an upcoming

ing stressful situation and support it during that period of time? This might make sense for a change of stable, competing, long transports or trail rides, etc.

If a physical problem already exists, it is advised to consult with an experienced acupuncture therapist. Acupressure might not be able to heal, yet support any kind of therapy very effectively. Once you have defined what exactly you want to achieve with acupuncture therapy, you need to find the right acupoints for your horse or a combination of points, respectively.

In the beginning, you as a lay-person should be treating no more than five different acupoints. Since every point causes several reactions and a combination of them might neutralize the effect, I advise to only treat a few points and observe the reaction of the horse.

Treatment technique

Generally, acupoints can be massaged with index finger, thumb, knuckles, or the palm of your hand. You should make your decision based on the location of the respective point and the nature of the tissue as well as the reaction of the horse. You can check the effect of acupressure by looking at the horse's reaction such as a satisfied facial expression and a relaxed body position. This is why, out of the corner of your eye, you should always observe your horse - especially its face! As soon as it starts to relax, you hit the right spot and are using the perfect amount of pressure! Watch out for signs such as lowering of the head, chewing, yawning, licking, and sighing. It is also a good sign if the corners of the horse's mouth relax or the ear on the same side on which acupressure is applied is slightly tilted - or, even better - the eyes close in total relaxation. In the beginning, it might take some time until you and your horse have gotten used to acupressure. After the second or third treatment, however, you should clearly see the horse relax.

Treatment methods

In acupressure, we distinguish between three methods of treatment:

The Balance Method - as the name suggests - focuses on the balance of energies. Therapists like to use it for relaxation, and it is well suited for a beginner to gain experience in acupressure. A pressure point is at first lightly touched before the pressure is increased under circling clockwise movements with the hands. Once optimal pressure has been reached, it is kept up for about one minute.

The Yin-Method is mainly used to calm down the horse. One specific point is being intensely massaged in clockwise circles for at least two minutes applying strong pressure. Because of its calming effect, this method is used to treat the pressure point Liver 3.

The Yang-Method has an invigorating effect and mobilizes energy. A pressure point is being massaged clockwise for a short period of time (about 30 seconds) applying light pressure. This technique is ideal to treat the acupuncture point Kidney 3 in order to strengthen self-confidence.

In short, we can say that an acupoint is being treated for approximately 30 seconds to two minutes. The duration depends on the respective technique and the reaction of the horse.

The following procedure has been proven to be an effective process of diagnosis and treatment:

First, start to check points Gall bladder 20, Bladder 10, and Colon 16 for sensitivity to pressure. Since tensed muscles in the area of poll, neck, and back are very common among horses, it is advised to check on these points regularly. Pain at these points results from a blockage of the respective meridian and, therefore, should be treated. As a next step, you check your horse's girdling vessel for sensitivity to pressure. This extraordinary meridian runs in between the horse's forehead and hindquarters like a belt - hence the name. Place a hand on the bony prominence on the horse's hip, your fingertips pointing forward.

Then cup your palm lightly and apply slight pressure to the upper lateral stomach wall with your fingertips. If a blockage exists at this point, the horse will step aside, show aversion or seem annoyed, or lift its hindleg. Sensitivity to pressure in this area can be treated at the point Gall bladder 41 on the girdling vessel. This point is treated for 30 to 60 seconds. Afterwards, check the girdling vessel again - if Gall bladder 41 had been correctly identified, all sensitivity to pressure vanishes. If not, repeat the procedure.

Combination of acupoints

In acupuncture and acupressure we differentiate between near points, far points, and psychological points. Near points are located in the area of the blockage, where symptoms are visible. In case of a knee injury, acupoint Stomach 36 would be considered a near point. Far points are located in the area of the four legs and are further away from the blockage. If we, again, take the example of a knee injury, Large intestine 4 and Small intestine 3 would be considered far points, as they are located on the front legs.

The use of psychological points facilitates psychological harmonization and varies with the type of the horse e.g., Liver 3 helps with aggression and over-exaggerated reactions, Kidney 3 strengthens self-confidence in fearful horses, and Spleen 6 treats strong laziness.

For acupressure beginners putting together acupoint combinations, it is advised to pick one near point and one to three far points at a time. If a psychological influence is desired, an

additional point must be added. As mentioned before, in the beginning no more than five acupoints at a time should be treated as to make sure that the effects on the horse remain clear and easy to grasp for you. Independent of these five points, a balancing of Yin-Yang can always be done after each treatment.

If you are in a hurry: Ting-point massage

If you happen to be in a hurry but want to do your horse some good, you can do the so-called Ting-point massage. Ting-points are located in a depression approximately one finger's width above the coronet of each leg. Since they are the beginning or the end point of meridians, massaging them harmonizes these meridians and balances energy. In a rather unspecific acupressure treatment, you can massage the entire coronet by taking the skin between your index finger and thumb. For a specific treatment, move your index finger along the depression above the coronet and massage those points that feel clearly different from the surrounding area. Usually, you will find a small depression your finger slides into, but it may also be a point where the skin is thicker and condensed. You should also look out for differences in temperature as some points may be warmer or colder than the surrounding area. These noticeable points indicate a blockage in the respective meridian and should be treated for about 60 seconds to harmonize them. Without spending a lot of time or energy, you have done something to harmonize the energy of your horse.

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The Correct and Easy Way to Learn Riding

The Journey is the Reward

Series - Part 3:

11 Core Exercises for Incipient Collection and Lateral Work

The caption "11 Core Exercises for Incipient Collection and Lateral Work" says it all: The exercises described in this article are based on The Principles of Riding and, thus, the Training Scale and the respective levels of training and competing (First through Fourth Level or Grand Prix, respectively). This article describes exercises on a level between First and Second including preliminary practice of Third Level (except for flying changes). It connects to the previous piece on schooling and gymnasticizing a young horse, where the basis for the first three steps of the Training Scale was established: rhythm, suppleness and contact. These aspects will now be consolidated to develop the last three out of six steps defined by the Training Scale: impulsion, straightness and collection.

A short excursion on developing the basics: Learning exercises and parts of a test (sport scientifically called "acquiring skills and knowledge to follow through on actions") - muscle memory - always follows the same pattern: new exercises are acquired and developed (acquisition and development), then maintained (maintenance or customizing, respectively) in order to render them changeable at will and useful (changing and perfecting). This is why I often use the term development of different techniques, exercises and parts of tests to describe the first step of learning new motion-skills. Only afterwards can we consider deepening our understanding of what we have

learned and maintaining it in order to be able use it in any way we want - automating it.

Sport scientists call these steps:

- Rough-cut
- Precision
- Perfection

These are the essential steps in any learning phase and a must-know for every rider and trainer!

As trainer of a horse (or rider), I need to know on which one of the three steps my horse (or rider) is currently standing. Is it still in a phase of developing a new routine or has it already passed this step? Can I be certain that the basic requirements are fulfilled and, thus, introduce the next steps, or do I have to work on creating a basis/rough-cut? My daily and individualized training depends on these factors.

In sport science, there are three additional methods to make learning easier:

1. from easy to difficult
2. from slow to fast
3. from simple to complex

Some examples:

1. If I want to ride canter-halt transitions, I have to train and master easier canter-trot transitions first before I can start practicing the more difficult version.
2. If I want to school shoulder-in, doing so at a slow gait - the walk - is preferable in order to adjust the aids and get a basic orientation of the procedure. Only afterwards should the exercise be trained at a faster pace - the trot.
3. If I want to train a turn on the forehand, I split up this exercise into smaller, simpler steps. I practice and repeat these and offer the horse support from the ground. This I reduce successively before I put all of the small steps, which the horse is now able to perform, back together to end up with the actual exercise in its entirety.

The trainer needs to be able to accurately assess the level of training. Which exercises are simpler, which take more time and which are easier to school? Which steps have to be taken first in order for the next to follow? This methodical know-how is essential for adequate training.

Other aspects that determine daily training are the following:

- The natural predisposition of the horse - I have to find out in how far my horse will be able to perform a certain exercise. Which of the exercises will be possible for it to do and which will not. Not every horse is able to be a high-performance dressage horse. The trick is to find the horse's talent and specialty.
- The horse's conformation - I need to know how to detect conformation problems and deal with them accordingly or take them into consideration, respectively. An example: My riding horse was born with a straight back and can only to a certain degree bring its haunches underneath its body and towards its center of gravity by itself. As a result, it is genetically determined that collection will be difficult for this horse to achieve if not impossible. As a trainer, I have to find out where this horse's

natural limit is going to be in order to adequately train and not ask too much of it.

- The horse's psyche must be taken into consideration on a daily basis - Is my horse feeling fine and comfortable? What about its expressions and ear movements? Does it express inner relaxation? Is it content?
- Always pay attention to the development of the horse's physique and stamina - What does the coat look like? How does its musculature develop? Do muscles grow in the right places? How much can I ask of my horse? Is it in good enough shape? Can training be intensified? An important indicator for the fact that my horse feels content is its appetite. If all of a sudden, it is not hungry anymore, something will most likely be wrong with it.
- Check on the horse's fitness on a daily basis - How intense may training be? Is my horse ready for a normal or more intense training session or is it still tired from the day before? Can I expose it to new stimuli, do I have to stick with training at maintenance level or even just ask for some suppling exercises?

All of these ways to look at training reveal how big of a responsibility humans have towards horses! The Training Scale is fascinating and amazingly logical in itself. Many countries rightfully envy the Germans for this training tool. However, the schooling of a horse does not proceed by rote. Even though the Training Scale seems to be showing a straightforward pattern, daily practical work proves otherwise. A horse always needs to be regarded as a whole (in a holistic way), detours must be put up with and training needs to be adapted individually on a daily basis. Only then are we doing right by the horse and have correctly understood the Training Scale!

The last article described, as mentioned above, how to develop a rough-cut of rhythm, suppleness and contact. Now, we are going to specify these aspects and develop the rough-cut of the last three steps of the Training Scale: impulsion, straightness and collection.

The development of a rough-cut of collection is called incipient collection in this regard.

Goal of all exercising work and training is a supple horse that obeys and trustfully executes what is asked of it.

What does incipient collection mean?

In horse training, essential characteristics of incipient collection are increased activity of the haunches and their ability to carry more weight - the result is relative (true) elevation. Exercises you can school to test this would be counter-canter and turn on the haunches. But we will be dealing with this later.

It is not difficult to find ways to school and practice the respective exercises (rein-back, turn on the haunches, counter-canter, etc.). It is difficult, however, to gymnasticize and train a horse in a way so that the exercises become the result of the schooling. Only if this is a given, do these exercises make sense. They are the result of correct preparation and training and not ends in themselves.

What does correct training mean?

Correct training means age-appropriate, individual schooling and training of the horse. Age-appropriate is to say that you need to give the horse enough time to physically adapt to future exercises. Individual means that, despite a general goal and plan, you have to consider the horse's state of health on a daily basis.

For example, today I have planned to start my training with counter-canter, but then I realize that my horse's muscles are tense and that it cannot even perform simple changes in preparation. I have to change plans and try again at a later point in time.

In order to make training decisions like these, the rider must have more experience than the horse. Only then can he decide appropriately. He needs to have a set plan for the respective

horse he is going to train, sufficient theoretical know-how and practical experience.

This is my point of view, which I have already taken in previous articles and which is still valid. An inexperienced horse needs an experienced rider! As a general rule that also applies to this training phase - and I like to repeat myself here -, we have to focus on seeing the horse as a whole. This is very important. Do not develop certain body parts of the horse separately, but train movements in their entirety, as a whole. The development towards a back mover (horse that uses its back and haunches to carry its weight) is essential, not the one towards a leg mover (horse that fakes active hindquarters, but does not use its back and carries all its weight with its legs).

A horse whose back swings, that is balanced, ready to stretch, content, and relaxed is what needs to be our goal in daily and overall training!

Next to incipient collection, this article deals with elements of lateral work. These are forward-sideways movements with an even, longitudinal bend throughout the horse's spine, which are based on sufficient collection. Leg-yields, we already talked about in the last article. They form the basis to develop lateral work.

The following eleven exercises build up on each other logically. This I will explain in particular:

1. Diagonal aids in leg-yield at walk and trot
2. Basis of lateral work - shoulder-fore
3. Development of bend and first steps towards straightness
4. Half-halts - the key to success/beginning of transition work
5. Canter-walk/simple lead changes
6. Development of counter-canter
7. Improvement of contact

8. Development of impulsion and forward thrust
9. Beginning to collect with help of shoulder-fore and transitions
10. Consolidation of diagonal aids - preparatory exercises for travers (haunches-in) and renvers (haunches-out)
11. Development of turn on the haunches and half-pirouette in the walk

1. Diagonal aids in leg-yield at walk and trot

What?

Exercise 1 has two intentions: First, to school diagonal aids and second, to further develop leg-yield.

Diagonal aids mean that the rider uses inside aids and the respective diagonal outside aids combined. The inside leg works together harmoniously with the outside rein, the inside rein with the outside leg. In addition, the weight aid is either applied equally to both sides or harmonizes with the outside rein. The rider shifts a little more of his weight to the inside.

Leg-yield has already been explained in the previous article. It is important to know that it is a forward-sideways (lateral) movement, executed on two tracks. The horse is flexed but not bent. The inside feet evenly step over and in front of the outside ones. The horse is only flexed to a degree where the rider can just see the corner of the inside eye and the rim of the nostril.

Why?

Leg-yield has two functions: It improves the suppleness of the horse and the coordination of the rider. Since diagonal aids are especially used in leg-yield, this exercise is perfect to school them. Through intense training and

development of diagonal aids, we found the basis for future collecting lateral work. This is why they need to be practiced at an early stage of training.

How?

This exercise is first trained at the walk since walk is a gait without impulsion and easier to sit. Once the rider is able to perform the exercise correctly and reliably, it may be practiced at a trot with impulsion. This requires a greater amount of coordination.

In order to practice a sequence of exercises, you can start by leg-yielding back to the track starting at center line (for now, do not leg-yield away from the track afterwards); practice this exercise in both directions, always paying attention to a slightly leading forehand.

If this exercise can be performed correctly, you can move on to practicing it at the trot. It works best if you go in the direction in which the horse is flexed anyway, i.e. if you are tracking left and turning onto the center line, leg-yield right and back to the track so you do not have to change flexion from left to right. Later on, we will intentionally move in the opposite direction or both directions, respectively. As a last step, you will add leg-yield away from the track.

2. Basis of lateral work - shoulder-fore

What?

Shoulder-fore is a preparatory exercise to develop lateral work. All lateral work is characterized by forward-sideways movements and even, longitudinal bend throughout the horse's spine. In shoulder-fore, the horse's inside hind leg steps in the direction of a point between the forelegs. However, its outside hind leg follows in the same track as the outside foreleg. This results in a slight bend in the ribs, which looks as if the horse's inside shoul-

der slightly moves to the inside. This is not the case, however.

A basic requirement for shoulder-fore is a horse that is bent, i.e. shows an even, longitudinal curve of the horse's spine.

The rider needs to give the following, diagonal aids (as practiced in point 1): the inside rein flexes the horse while the outside leg regulates (diagonally) and the inside leg activates the horse's inside hind leg, pushing it in the direction of the outside rein (diagonally). The weight aid plays a supporting role by putting more weight on the inside. Most important are the outside aids.

Why?

As a preparatory exercise for lateral work, shoulder-fore plays a special role. The horse's feet move on fewer tracks than in leg-yield, for example, which encourages the horse to bend itself. Bending work improves the horse's suppleness, prevents the hindquarters from escaping sideways and furthers straightness (see next point), which, in turn, is a prerequisite for future training (collection). Shoulder-fore also requires that the rider is able to coordinate his aids and has an independent seat.

How?

In order to proceed from easy to difficult and from slow to fast, we will start practicing shoulder-fore at the walk, which is easier to school as it is slow and has no impulsion. Initially, you should only train the exercise along the wall on the long sides of the arena in order to provide the horse a little support/contact in the form of the wall.

Through practice at the walk, we develop a rough-cut of the exercise (aiding, degree of bend). The feedback of a trainer is very helpful to a beginner, while the horse receives its own feedback through the praise or corrections of the rider. After having repeatedly practiced this exercise at the walk, the rider may pro-

ceed to schooling at a trot and, later on, at a canter.

In practice, riders usually ask for too high a degree of flexing. We are not schooling shoulder-in, however. We only want to encourage the inside leg to move in between the tracks of the forelegs.

3. Development of bend and first steps towards straightness

The terms bend and straightness are not contradictory but an essential part of the horse's training. A horse needs to be bent in order to become straight. I will further explain these terms in the course of this article. Even though straightness is one of the last steps of the Training Scale, I am going to explain the initial bend work and, thus, the beginnings of straightness - especially on curved tracks.

What?

Straightness means that the horse's hind feet step into the tracks of the fore feet so that all we can see over time is two lines in the sand (inside or outside pair of feet, respectively). This is the case on straight lines as well as curved tracks, i.e. the horse needs to bend in order to adapt to the curved line and keep its hind legs aligned with its front legs. This is what we call straightness!

The horse is born with a weak and a strong side and, consequently, avoids carrying weight on its weak side. It needs to learn how to balance itself appropriately and to equally work the tendons and muscles on both sides of its body.

Why?

Straightness is important for many reasons:

- it prevents one-sided wear of the horse;
- it optimizes forward thrust;

- the horse is "on the aids" more dependably and responds to them;
- the horse learns to step forward towards the bit equally on both sides;
- it leads to collection.

How?

In order to achieve straightness, it is essential that the horse is able to dependably perform shoulder-fore. This is the reason why it was practiced in the previous exercise. It forms the basis for all lateral work. In the previous exercise, shoulder-fore was mainly practiced on the long sides of the arena with the walls as support. Now, we want the horse to move away from the wall in order to practice on curved tracks.

Usually, we use circles and voltes as well as single- and two-loop serpentines. This is not about a specific exercise, however, but about the ability of horse and rider to adapt to the respective line/curve. The rider needs to get a feeling for the outside hind leg of the horse. He needs to be able to feel when it steps forward towards the outside foreleg or if it escapes to the side. The rider has to coordinate his aids (i.e. inside rein and outside leg, outside rein and inside leg) in order to bend the horse correctly.

You need to pay special attention to the outside regulating leg, which has to be used adequately. With its outside hind leg, a horse tends to evade taking on weight so it escapes to the outside. The rider needs to be able to find the right amount of pressure to keep it on track without the horse tensing up or overcompensating by moving its haunches to the inside. Since every horse has a weaker and a stronger side, this core exercise is part of daily practice and needs to be repeated over and over again. Only if straightness has been developed, can the haunches carry weight equally and collection is sufficiently prepared.

4. Half-halts - the key to success/beginning of transition work

What?

Half-halts are the combination of all aids, i.e. weight, leg and rein aids. The rider pushes the horse forward with both legs and braces his lower back, weight distributed evenly on both sitting bones. At the same time, he uses a carefully measured asking or non-yielding rein aid, which is followed by a yielding rein aid and ceasing of forward-driving aids. This makes controlled riding possible.

A halt always results in a complete stop of the horse - everything else is called half-halt.

Why?

- Why is half-half so important?

With the help of half-halts, the rider is able to control his horse and make it respond to his commands.

- What does "respond to his commands" mean?

A horse is responsive when it obeys the rider's aids. This means that it is prepared to accept aids obediently and without force, lets forward-driving aids pass from its haunches through its back all the way to its neck - and the other way around, lets reins aids travel from its mouth through poll, neck and back all the way to its haunches. This is what I mean by responsive horse. This is the decisive characteristic of a correctly trained horse!

There are four functions fulfilled by half-halts:

1. to transition from one gait to another;
2. to recall a horse to attention before a new exercise;
3. to shorten or lengthen strides or steps within a gait;
4. in order to improve self-carriage and collection during movement.

How?

- How do I perform a half-halt?

The most important thing for a half-halt to work out correctly is the intensity of the aids. Since three types of aids (weight, rein and leg aids) are interacting simultaneously, there are many ways to apply them in incorrect or correct intensity. The most serious and common mistake is a too much of rein aids as this stops the entire movement of the horse, blocks the haunches and keeps the horse from stepping through underneath its body.

Another big mistake is to use too much of all aids together. The more you yield, the more you need to push forward until no increase is possible anymore. The Principles of Riding are telling us: We are supposed to always apply light and soft aids, increase the intensity when necessary in order to immediately return to lighter and softer aids. The goal is to keep the horse sensitive and not to desensitize it.

- How do I school half-halts?

Schooling half-halts comprises several phases:

Firstly, in form of transitions from one gait to another; secondly, to recall the horse to attention before new exercises; and lastly, in form of transitions within a gait or as a tool for collection, respectively. Here, too, the principle of moving from easy to difficult, from simple to complex holds true.

I have already talked about the beginning of transition work in the last article (point 7). First, transitions from a higher gait to the next lowest are practiced, i.e. trot to walk, canter to trot. Usually, we begin with trot-walk transitions as it is easier to transition into a gait without impulsion. The rider is asked to apply the lightest aids possible in order to keep the horse sensitive (as described above).

In order to find out the correct intensity of aids, we learn by doing. We transition from trot into walk several times while using different levels of intensity for every one of the three aids - sometimes, we emphasize weight

aids; another time, we concentrate on leg aids; and at the end, we look at rein aids. In this way, the respective aids are being schooled and perceived. A basic principle also holds true here: As much as necessary, as little or light as possible. The goal is to school the horse with light aids and to harmonize forward-driving and regulating aids.

5. Canter-walk/simple lead changes

Once the first transitions can be performed dependably, we proceed to canter-walk transitions in order to develop simple changes (canter-walk-canter transitions with change of lead). The first four steps of this article form the basis necessary to practice these advanced exercises. A simple change (of lead) is already part of a First Level dressage test.

What?

To perform a transition from canter to walk is nothing more than a half-halt. In a simple change, you need to transition from canter to walk as soft and fluent as possible in order to strike into canter again after three to five steps. In preparation of each of the exercises, the rider needs to half-halt.

Why?

Canter-walk transition are a legitimate part of this training phase as they already require a little bit of collection and prepare the horse for further schooling. The horse needs to learn and be able to shorten its canter strides before the exercise. The better the horse is able to do this, the easier the transition will be. The rider needs to learn the correct intensity and interplay of the aids.

How?

Based on the transition from canter to trot, the transition to walk is developed as follows:

- Canter-walk transitions performed towards a wall (preferably on the short sides of the arena as the horse uses the wall as support). If you only have access to a show jumping arena, you may use jumps as lateral restriction; the horse should be provided with an optical barrier. Try to shorten the canter strides a little before the transition.

- Canter-walk transitions performed towards a wall with emphasis on fluent transition with soft rein aids/hands; gradual and "fading" transitions are explicitly permitted.

- Continued practice with emphasis on soft use of rein aids; however, less and less gradual and "fading"; immediately think of long strides.

- Pay special attention to applying non-yielding rein aids - do not just pull backwards. Only apply leg aids when the horse has started to walk. If you push forward too soon, you will have to yield too much in front - misunderstandings are going to arise (the weight aid is applied equally on both sides without the rider tensing up).

- Perform transitions frequently and - most importantly - keep canter phases very short. Usually, the rider canters for too long so the horse picks up speed which makes the transitions more and more difficult as the horse is too fast. In this initial learning stage, the horse almost needs to be too slow at the canter.

- Once the horse gets more confident, transitions can be performed at any point in the arena. However, you should still be moving on curved tracks and only later progress to straight lines. Always follow the principle: from easy to difficult.

- Once the horse is able to dependably and correctly perform canter-walk transitions, you may start practicing simple changes, i.e. strike off into canter again after a few steps (the number of steps does not matter at this point).

6. Development of counter-canter

What?

Counter-canter means that a horse tracking left moves at a right-lead canter and a horse tracking right moves at a left-lead canter. The horse needs to be able to collect a little and to have excellent balance. The rider must be experienced in performing the exercise and have the methodical skills.

Why?

Counter-canter practice improves the balance of both horse and rider. The horse needs to learn to balance itself more to the right when performing right-lead counter-canter and to the left when on the opposite lead. This is possible only if the horse is prepared to collect a little at the canter and if the rider has adequately practiced his preparatory exercises. An advantage of counter-canter is that it is not as easy for the horse to escape to its new inside (the inside is always the side to which the horse is flexed) because of the wall. This supports straightness. In addition, "nothing prevents us from actively working the horse's outside hind leg, which improves impulsion and the roundness of the strides" (Steinbrecht, German edition: 1995, 234).

How?

In order to school counter-canter, we have to options:

1. In canter, ride a half-circle and back to the track in a flat angle.
2. Strike off into counter-canter on a long side.

Both ways make sense and are useful. It should be for the experienced rider to determine which way he thinks best for his horse. The first option might lead to too much impulsion, which is why I prefer the second one.

The procedure usually is the following:

- The first time you ask for counter-canter, only ask for one long side and do not enter the corners.
- Try to somewhat control and shorten the strides in counter-canter. Flex the horse a little more than usual and apply explicit aids (more pressure from the outside leg, a little more flexion and weight aids to the inside).
- Once counter-canter was performed successfully, you may add one corner to the long side. Practice this repeatedly, maybe striking off into counter-canter before the first corner of the long side.
- Once rhythm and balance are strengthened, you may add the second corner.
- Practice on both leads including enough breaks for the horse to relax. Do not keep at it for too long, rather try again the next day.

7. Improvement of contact

Contact is part of the early training phases (next to rhythm and suppleness) and of a horse's basic training. It is of essential importance in every single phase and runs through the entire training like a thread. Without contact, classical training would be impossible.

What?

- What does improved contact mean?

Contact (defined as a soft and steady connection between the rider's hand and the horse's mouth) has already been discussed and thus established in the previous article. Through further training, we will now try to provide the horse with improved, more dependable contact. You must never mistake contact for "head down".

Contact always needs to be understood as an entire-body movement. It is not merely achieved through rein aids but also defined by leg and weight aids. The horse is chewing on the bit and able to step towards and look for

it. The horse is able to let movements travel through its body smoothly.

Why?

- Why is correct contact so important?

Correct contact teaches the horse to always step towards the rider's hands and to look for a connection. This provides it with the security of always being able to keep and reestablish its balance underneath the rider. The horse will be "in front of" the rider. To him, it feels as if the horse practically pulls itself towards the bit.

Only if contact is established as an entire-body movement in this classical way, the horse will be able to develop forward thrust and impulsion, which, in turn, is a prerequisite of collection (for more information see below).

How?

In order to correctly establish contact, the rider needs to push the horse forward towards the bit - the movement starts in the haunches and travels all the way to the bit. The result will be a correct and age-appropriate head-neck posture.

What does "push the horse forward towards the bit" mean? The rider needs to establish the balance between forward-driving (weight and leg aids) and regulating aids. This requires absolute sensitivity - it is very difficult! The rider needs to send the horse forward in a way that keeps it diligent and at a harmonious rhythm. This is done through forward-driving leg aids (the legs relaxedly follow the movements of the horse's body) and equally applied weight aids (only play a supporting role; if necessary, briefly applied by bracing the lower back). At the same time with his hands or ring fingers, respectively, the rider needs to feel for a steady and sensitive connection to the horse's lower jaw bones.

Our principle also applies here: as little strength as possible. Instead, use feeling and

skill. This is a point in time, when a sensitive and experienced rider is needed to teach the horse correct contact. An inexperienced rider learns from a horse at an advanced level of training.

Each horse is different. Some are more sensitive by nature. There are differences from horse to horse. An advanced rider will recognize the individual personality of each horse and adapt his aids accordingly.

Intensified forward-driving aids will increase forward thrust so that the horse's hind legs will step further underneath its body towards its center of gravity. Thus, the horse will be able to further arch its neck and yield in the poll while the nose-line moves closer towards the vertical (see point 8). However, the rider may only push the horse forward so much as not to interrupt its natural rhythm of movement. Moving too fast is just as bad as moving too slow. A characteristic of correct contact is a horse that looks for a connection to the rider's hands and is content with the situation in its mouth (closed, active and chewing). The right intensity of aids results in a horse that accepts the bit, finds the necessary contact and balances itself without bearing down on the bit. This improves self-carriage.

8. Development of impulsion and forward thrust

Impulsion is step four of the Training Scale. It must not be regarded as isolated from the others as it stands in direct, close connection to contact and straightness. The reason is explained in the passages.

What?

- What does impulsion and forward thrust mean?

Impulsion is defined as an energetical impulse coming from the haunches affecting the entire movement of the horse's body. It is the result of the rider schooling the horse and adding to

it "looseness, forward thrust (originating in the hindquarters) and suppleness (Durchlässigkeit)" (cf. The Principles of Riding 2003, 157). This means that impulsion in a horse, on the one hand, is genetically predetermined and, on the other hand, can be developed further with the help of gymnastic exercises according to the Training Scale.

Forward thrust is to say that the horse's haunches are encouraged to be more active and to further step underneath the body towards the center of gravity.

Why?

Impulsion and forward thrust are important because they are prerequisites for later collection. They are closely connected to contact. The one requires the other: in order to be able to impulsively ride a horse, it needs to step forward towards the bit, i.e. the connection between the rider's hands and the horse's mouth needs to be stable and dependable. Only then can the impulse from the haunches be transmitted forward to develop into an entire-body movement! The results of a horse stepping further forward are:

1. The hind legs push off the ground more energetically; steps and strides cover more ground.
2. The horse can be controlled better and becomes suppler.
3. The nose-line moves closer towards the vertical, the horse shows more elevation.
4. A horse with impulsion swings in the back, which makes it easier for the rider to sit and follow the movements.
5. The horse accepts the forward-driving aids and takes the rider with it in its movements.
6. It is relaxed.

How?

Schooling and developing forward thrust and impulsion is especially difficult as several techniques need to be mastered.

Once again, the rider needs to figure out the appropriate intensity of forward-driving and regulating aids. Transitions within the gaits are recommended; however, the rider needs to specifically concentrate on maintaining rhythm. The horse needs to learn to shorten and lengthen its steps and strides within trot and canter, respectively, without interrupting the flow of its movements. It needs to "open its frame".

The rider applies half-halts, which he needs to execute softly and sensitively enough not to prevent the hind leg from swinging forward. It is best to apply the aids one after the other, i.e. rather passively, evenly affecting weight aids first, then bilaterally asking rein aids, and as soon as the horse decreases its speed, bilaterally forward-driving leg aids. If all the aids were to be applied at the same time, misunderstandings would be sure to happen - similar to simultaneously applying accelerator and break pedals.

During the onset of the transition, which we are asking for with a half-halt, we can observe that the horse is particularly willing to be sent forward. We have the horse in front of us.

Improved development of impulsion forms the basis from which to start schooling trot extensions. Once the horse has learned to step forward towards the bit and to swing in its back (be relaxed), gait extensions should not be a problem anymore. They are schooled in short repetitions, which are extended over time. The rider always has to keep the horse relaxed and its back swinging. The horse must not be allowed to tense up its back, elevate its head and simply trot quicker or show hurried steps. A way to test relaxation and contact is giving of the reins. This exercise should not only be performed after warm-up but also several times during the main working phase, in order to check looseness and to give the horse a chance to relax - it is also called "rewarding break". (This translated term is taken

from training theory or interval training, respectively: "rewarding break" describes a short recovery phase in between two or more performance phases, which allows someone to repeat his high performance but prevents him from completely regenerating as this would reduce the effect of training.)

9. Beginning to collect with help of shoulder-fore and transitions

Once basic training of rhythm, suppleness, first steps towards straightness, contact and impulsion is completed, we focus our attention on incipient collection by schooling several exercises. With regard to the sequence of the training steps defined in the Training Scale, opinions differ - especially because some of the steps actually coexist side by side and should be shown next to each other. I intentionally moved the steps necessary to achieve straightness towards the beginning of a horse's training. Only the last step on the Scale - collection - is not up for discussion since it requires all of the other points. As shoulder-fore and transitions have already been discussed above, I will concentrate on defining collection and relative (true) elevation.

What?

Collection is a generic term to define the goal of a horse's training: the education of a horse willing to work and of use to the rider. With the help of the Training Scale, the horse is successively schooled to take the majority of its weight, which naturally, it carries on its forehand, and shift it backwards onto its haunches. The horse's balance is thus improved and the weight equally distributed on all four legs.

"In collection, the hind legs (the hock and stifle joints) bend more, stepping further underneath the horse in the direction of the center of gravity, and taking a greater share of the load. This in turn lightens the forehand, giving more freedom to the movements of the

forelegs. The horse looks and feels more 'uphill.'" (cf. *The Principles of Riding* 2003, 159)

Increased bend of the haunches results in higher elevation of the neck - relative (true) elevation.

Relative elevation describes the height (i.e. position) of the horse's mouth, head and neck as well as the reins - the height of contact. This is directly connected to the degree of collection. The more intense the bent of the haunches, the higher the elevation of the horse seems to be. A horse that is "on the bit" (maintains a steady contact to the rider's hands) moves in relative elevation even though the haunches might not carry as much weight and the neck seems relatively long and only slightly elevated.

Once the haunches take on more weight and the degree of collection increases, the load on the forehand is eased respectively. If elevation does not correspond with the degree of collection, we are talking about absolute elevation. The horse's poll is held too high, the back evades the rider's weight downwards and is lowered, movements are tense.

Why?

Shifting weight from the front to the back furthers the horse's health as it prevents wear resulting from constant overstraining. Thus, a certain degree of collection is to the advantage of every horse. Sufficiently developed carrying power enables the horse to keep its balance and to show self-carriage in all three gaits. This kind of balance contributes to the horse's coordination and makes it more dexterous.

How?

Half-halts are an essential prerequisite for the development of collection. They are used for transitions within gaits.

Canter is very suitable in this case. This is why we start with shoulder-fore at the canter and move along the long side on both hands. In shoulder-fore, the rider needs to apply diagonal aids to make sure that the horse stays flexed, bent and supple.

With the support of the wall, the rider half-halts and tries to shorten the canter strides for brief periods of time while remaining in a shoulder-fore position. In the beginning, only ask for a few strides in order to give the horse a chance to understand the exercise. Your focus should be on the hind leg. It should step as far forward underneath the horse's body as possible and towards the center of gravity. Encourage the horse by actively using your inside leg. Asking and sometimes non-yielding rein aids need to be applied carefully as not to interrupt the hind leg and the flow of movement.

It is important that you start your first attempts at shortening the strides and collecting the horse by keeping the pace rather slow. Otherwise, forward thrust would be too strong, which would require you to apply regulating aids in an unnecessarily high intensity. The horse needs to be moving at a relaxed, content and tension-free pace in order for the shortening of the strides to work. Brief moments of slight loss of impulsion are less damaging to the process than a horse that bears down on the bit and runs forward. At a trot, half-halts help to develop cadence, i.e. a more pronounced suspension phase. This, in turn, is rather difficult to achieve.

While the horse impulsively trots forward and the rider pushes it towards the bit, he half-halts and tries to send this forward impulse backwards in the direction of the haunches. The impulsion you can feel traveling from back to front all the way to the bit, the horse's mouth returns through a swinging back into the haunches. The rein aids need to be applied very carefully as not to interrupt this flow of energy from back to front and the other way around. This is similar to an accordion. The horse needs to be able to shorten and lengthen in both directions.

This exercise also needs to be schooled in brief repetitions until the horse understands. The rider impulsively half-halts several times until the horse knows what is asked off it. Afterwards, he decreases the frequencies and only applies the aids anew when necessary. The horse always needs to stay relaxed and content during all the exercises; it needs to gain positive experience. The rider needs to adequately praise and correct, listen to the horse and must never blackmail it.

10. Consolidation of diagonal aids - preparatory exercises for travers (haunches-in) and renvers (haunches-out)

Let us put aside the Training Scale for a moment and concentrate on the result of our preparation and the continuation of diagonal aids. These will now be used in the exercises travers and renvers. We will talk about shoulder-in in the next article.

What?

Travers is an exercise that demands a high degree of longitudinal bend. The horse is flexed and bent in the direction it moves while the forehand remains on the first track. The hindquarters are displaced to the inside until the horse moves on four tracks, which you would be able to see if you were standing in front of it.

In renvers, the counter-exercise, the forehand is displaced to the inside of the rink, the horse is flexed in the opposite direction and the haunches remain on the first track. This means that if the horse is tracking right, it is flexed and bent to the left. The horse also moves on four tracks.

The diagonals "inside rein - outside leg" or "inside leg - outside rein", respectively, are very important with respect to aids. The interaction of inside and outside is essential to this exercise.

- Inside sitting bone applies more pressure;
- inside leg is positioned at the girth to ensure that the horse is bent in the ribs and evenly steps forward with its inside hind leg;
- outside, regulating rein keeps flexion in check and yields when necessary;
- outside leg regulates and is responsible for forward-sideways movement;
- inside rein is shortened a little and ensures flexion; it may show the horse sideways.

Why?

These exercises are preferred to shoulder-in because they are a good preparation for turn on the haunches. In this phase of training, travers and renvers may only be schooled in a mild version. The objective of these exercises is to improve longitudinal bend, elasticity of the haunches and dexterity of both horse and rider. The rider will have more control over the horse.

How?

Travers and renvers are first schooled at the walk in order to gain some notion of the movement and to coordinate the aids. Start with travers.

- On the long side supported by the wall, the rider starts bending and flexing the horse a little more. Flexion has to be ensured in any case.
- The outside leg applies the aid in order to displace the haunches to the inside of the arena. In the beginning, only ask for short distances. Important is that the horse does not use the reins as support and remains flexible in the throatlatch.
- The rider needs to repeatedly shift his weight to the inside in order to help the horse find its balance. The position of the rider's inside hip

is very important. It needs to follow the horse's hip.

- The leg aids need to be applied explicitly. I call it "riding in walking-position" because the legs are positioned in the same way as they would if the person was walking.
- The same training steps apply to renvers.
- Once the horse understands the basics of this exercise, the rider may proceed to trot. Not the duration of the exercise or immediate success are important but the familiarization with it, step by step.
- During the first training session, it is sufficient to just school the exercise at the walk and, later, at the trot.

11. Development of turn on the haunches and half-pirouette in the walk

What?

Turn on the haunches or half-pirouettes, respectively, are turns on the haunches. The horse turns while moving its forehand around its hindquarters in a half-circle. Ideally, the turning point is located as close to the inside hind leg as possible, which steps up and down according the rhythm of the walk. The outside hind leg turns in a small half-circle around the inside hind leg. The hind legs must not cross while the fore legs move forward-sideways and cross. Turn on the haunches is prepared from a halt, a half-pirouette while moving (from medium walk or trot; if you are trotting, you have to transition to walk first).

The correct sequence of aids is the following:

- Put more pressure on your inside sitting bone.
- Flex the horse in the direction it is moving.
- Your inside leg is positioned at the girth and drives forward. Together with the outside leg, it ensures longitudinal bend, rhythmic steps of

the haunches and the tendency to move forward.

- Your outside leg is in a regulating position and prevents the haunches from escaping sideways.
- Your inside rein initiates the turn. You may use it to show the horse sideways.
- Your outside rein regulates the bend; yields, however, to the flexion asked for by the inside rein.

Why?

Turn on the haunches and half-pirouettes are a constant part of dressage tests starting at Second Level. Simply because of this, they have earned their legitimacy to be discussed here. Starting at Third Level, walk and canter pirouettes are usually required. They are very demanding with regard to coordination of horse and rider. You need to practice adjusting and harmonizing your aids and gain movement experience.

How?

In preparation, I have already introduced first steps towards travers and renvers. There are various ways to school turn on the haunches. The following method has been proven most useful:

- In the middle of the arena, ride a volte, the size of which does not matter. Try to develop travers while staying on the volte track, sending the haunches towards the middle of the turn. It should feel as if you are allowing the haunches to "pass by" on the inside. This is a good way for horse and rider to gain a feeling and control over the inside hind leg. Critics might say that the horse is going to perform the turn on the haunches in a travers-like manner, which is not true if you proceed methodically and correctly.
- A few steps turn into more steps until a turn of almost 180° can be performed.

- School the exercise on both hands starting with the better one.
- Once you have gained some confidence and practice, move back to the outside track. The turn on the haunches will be practiced in the form of a half-pirouette first, in order to take advantage of the fluid movement of the walk. After preparing the horse by half-halting, show its forehand inside towards the middle of the arena. As soon as you have done this, include travers, i.e. try to remember the feeling you had during travers and keep the outside hind leg on the outside track.
- A second important aspect is to preserve longitudinal bend in order to ensure balance. A little more flexion is better than too little.
- If you pay attention to keeping the radius of the turn wide enough, the chance of one hind leg lagging behind is very small. Give the horse some time before you start decreasing the radius of the turn. At Second Level, however, a slightly wider turn is acceptable as you are only starting to collect your horse. A wider turn is always preferable to haunches escaping sideways.

Outlook

Looking back on all of the eleven exercises discussed in this article, I conclude that the horse should have completed its basic training after this phase of schooling: after the phase of familiarization, the development of forward thrust and, to a certain degree, carrying power. In the course of advanced future training, we will focus on improving carrying power while taking the entire horse into considera-

tion - holism should be your first priority. As a result, your horse should become suppler, more obedient and dexterous as well as more comfortable to you.

Last words on bits and bridles

For schooling, we generally use a snaffle bit. Once someone tries to solve contact problems with the help of a special bit, something is wrong. Only after collection and suppleness have been established may someone advance to riding with a curb bit/double bridle. In the same way as with all other training, proceed in small steps. In order to familiarize the horse with all that metal in its mouth, I advise you to start warming it up on a snaffle and only later on add the curb bit (which should have been previously adjusted in the barn). Repeat this several times until the horse has accepted and gotten used to the new bit. When the time is right, you may use a double bridle right from the beginning of a training session, limited to once or twice a week. Only after the horse is completely used to a double bridle should you enter in competitions.

With regard to the type of bit, I only have the following rules. Everything else needs to be tested. The horse needs to feel comfortable, its mouth closed and actively chewing. Bits need to fit the horse's mouth. They can neither be adjusted too low as not to beat against the horse's canines nor too high as they would pinch the corners of the mouth - the horse looks like it is grinning. Only two creases in the skin may be visible above the corners of the mouth.

All important is a rider with a sensitive hand.