THIRD DAY.

The Institute met at 9 o'clock, March 11. H. A. BRIGGS in the Chair.

THE HORSE AND ITS MARKET.

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To understand the requirements of the market, it will be necessary to consider the horse as a mechanism in which the bones are levers, the muscles the source of power, and the nervous system the stimulator of the muscles. The horse is valuable in the market, because of his ability to perform certain kinds of work, and for that reason it is very necessary to know how these features adjust themselves in the performance of work.

The Bones as Levers.

There are three classes of levers, and these are all represented in the skeleton of the horse. The first class may be said to be represented by a pair of scissors, as the power is applied in the hole for the fingers, and the fulcrum is in the center where the blades are united, and the application of the power is at the point. This is the most advantageous form of leverage, and it is employed in the skeleton of the horse by the parts that are used in the extension of the limbs.

The lever of the second class may be said to be represented in every day life by the wheelbarrow. The power is applied at the handles, the weight is in the center, and the application is at the wheel. This leverage in the horse enables it to sleep standing, or to stand without feeling the strain. It is the leverage which prevents the joints closing on each other.

The leverage of the third class is represented by a pair of sheep shears. The power is applied at the center, the fulcrum is at one end, and the application of the power is at the other. This leverage is not common, but it is shown in the action of the lower jaw of the horse.

Action of the Muscles.

In further consideration of the leverage, the attachment of the muscles and their nature are important. As muscles consist of bundles of fibers, it is easy to understand that when these fibers are long, there is more elasticity than when they are short. The long muscle with long leverage of the bone is more favorable for quick action of speed, while the heavier muscle is more favorable for draft or power. The attachment of the muscles to the skeleton is also of some importance. When the muscles by means of the tendons are attached to prominences which enable them to work free from the bone that furnish leverage, it is easy to see that the action of the muscles would be freer and more effective, hence in most joints there are prominences to give the muscles the best attachment.

In this connection, it is interesting to study the proportions of the bones of the skeleton to find reasons for the advantages which certain relative proportions produce. In general we look for short bones in those parts where the function is simply the transmission of power, while we desire greater
length in those parts where the muscles, the sources of power or speed, are to be found. In the front leg for instance, we expect length from the elbow, or where the leg joins the body to the knee and a much shorter distance from the knee to the fetlock joint for the reasons that have been given.

Function of the Nervous System.

In studying the horse as a mechanism something more than bone and muscle must be included. The stimulation for action comes from the nerve power or force. The nerve power is represented centrally by the brain, and from there it is carried to all parts of the body, from the spinal cord through the main channel of the vertebra, and from this it branches out to stimulate the muscles. The stimulation for action must come from the nerve centers, and these have a great deal to do with the quickness and the strength with which the horse may act.

General Market Qualities of Light Horses.

Before considering the market qualities of light horses in detail, it will be best to take a general view of the requirements of the market in respect to the form, quality and action of the horses that sell for the highest prices.

Form.—To analyze the form of any market type of horse, it is necessary to understand the extent to which the form is due to the skeleton, and how much of it should be credited to the muscular development. A comparison of the skeleton of the horse with the living and well developed animal will show clearly that some parts owe their form entirely to the bony frame work, while other regions are shaped wholly by the muscles. Beginning at the head it will be noticed that its form is determined by the bones that comprise it. The outlines of the neck are made altogether by muscles. The shoulder and the chest are outlined and formed by the skeleton, while the shape of the leg from the knee upwards is determined by the muscles of that region, and from the knee to the fetlock chiefly by the tendons that makes the leg at this point appear flat from the side. The form of the body is covered largely by the rotundity of the ribs and the width of the loins. In the hind quarter, the upper part is moulded almost altogether by the muscular development, and the same may be said of the thighs and the quarters, while the tendons of the leg give the lower part of the latter its shape.

A study of the degree to which the skeleton and the muscular development contribute to the form of the horse, brings forward the idea that the most of the power resides in the hinder parts. The fact that the greatest muscular development is in this region, would indicate this. It will be noticed that the form of the loin, the shape of the crupper and the fullness of the thigh are due in the greatest degree to the extra development of muscles in these parts. The front quarter is bare of muscle in comparison with the hind quarter.

Another reason for accepting this theory is the difference in the attachment of the fore legs to the body in comparison with that of the hind legs. The shoulder blade is loosely attached to the trunk, while the hind leg next to the body through the agency of a strong ball and socket joint. The shoulder blade plays loosely seemingly for the purpose of lessening a concussion that the leg receives from contact with the ground, while the hind legs connect with the pelvis at a joint, which is the most powerful in the body. The market for light horses recognizes three leading types, the carriage horse, or coach horse, the trotter, or roadster, and the saddle horse.
Coach or Carriage Horse.

The distinguishing features of the coach or carriage horse, are its symmetry and action. The height should be about 16 hands to make a good appearance. In contrast with the roadster, the carriage horse is very smooth and symmetrical. The smoothness should be due to plump-ness of the muscles over all parts. In the carriage type, the head should be comparatively small and lean; the ear neat, the neck long and carried gracefully; the body round and plump, and the limbs clean cut, with well formed and durable feet. Graceful carriage and stylish action are leading qualifications.

Style, when in any posture, is a very desirable attribute in the carriage horse. A critical examination of this type would indicate how far the position of style depends on the adjustment of the parts of the frame work. When a carriage or coach horse possesses characteristic style there seems to be an appropriate blending of all proportions of form. In analyzing this it will be found that most of the lines have a smaller direction in addition to the fullness of outlines already discussed. The line running from the poll to the nose seems to be parallel to that of the shoulder. Then the line running through the center of the pastern also has a similar direction, while the line of the thigh in the hind quarter corresponds with the slope of the hind pastern. Considering the lines that run different from these, it will be noticed that the one made by the arm from the point of the shoulder to the elbow is very similar in direction to that made by the ischium of the pelvis, and this again is similar to that of the lower thigh. Each part seems to bear a fixed relation to every other part, both in size, length and slope, giving the horse that symmetry which contributes so much to his style and beauty while standing or in action.

Trotter or Roadster.

The chief characteristics of the roadster are speed and stamina. The ability to trot fast is a leading characteristic of the roadster, and the ability to maintain a rapid gait is clearly essential in a horse of this kind. In addition to being able to stand steady road work, such a horse should sell well on the market, and must be well mannered, so as to be safe and pleasurable to drive.

The typical roadster may be said to be about 15 1-2 hands high and about 1,000 pounds in weight; the formation is, narrow in front, deep chested, wide at the loin, and very muscular in the quarters. Every feature about the horse appears clear cut, giving a hard finish which indicates durability. The lineaments of the face and the outlines of the neck, and especially the distinctness with which the tendons stand away from the leg are very characteristic features.

The type lacks the fullness and symmetry that are characteristic in the carriage or coach horse. To do effective and hard work on the road is the sphere of the roadster, and a type that has been evolved is an illustration of the evolution of a form for a specific purpose. The type of the best campaigners that have marks of 2:10 or better will show a similarity that indicates the type towards which the trotter is tending, though it should be noted here that the roadster in show form will display quite different outlines after being subjected to the hard training the campaigner receives.

Saddle Horse.

The type of the saddle horse that is desirable on the market is somewhat similar to that of the light carriage horse, but the typical saddle horse will show more quality and better manners than any other class of light horses. Aside from these features, the chief qualifications of the saddle horse is the ability to show the follow-
MODEL SHIRE HORSE.

Winner of several first prizes at the Royal Manchester and Liverpool and other leading shows in England, and first at the Great Chicago Horse show.
ing gaits in a satisfactory manner: Walk, trot, rack, canter and running-walk.

**Quality.**

In a general way all these types of light horses to sell to advantage in the market must be possessed of high quality. This term applied to horses refers to their bone, skin, hair and to other features of their organization. Evidences of quality are clean cut features, glove like skin, silky hair and firm bone. In the instance of the horse possessed of quality, the lines of the face are clearly defined, and in every region there is a complete absence of coarseness. It is possible in such a horse to distinguish easily the muscles, tendons and bones, and when the animal is slightly exerted, so that the coat lies smooth, the veins in the skin show clearly in an intricate network, so delicate and fine grained is the skin. This freedom from coarseness in the joints and tendons, and in the other parts, shows a soundness in these features that guarantee much endurance. Coarse hair is associated with coarse skin, and that is a true indication of soft spongy bone that quickly becomes diseased when subjected to a strain of hard usage or neglect.

**Requirements of Good Action.**

Still considering the market for light horses in a general way it will be found that a necessary characteristic of all the types is good action. Action is desirable chiefly for its utility, but also for the many other qualities which it indicates. It goes without saying that the light horse with good action is very durable and more enjoyable, as the work is done easier and more profitably, as more of it is accomplished; but looking still further, it will be found surprising to notice the other attributes that are attendant on it. The action of a horse reflects his temperament, proves the balance of his conformation, and indicates the degree of soundness.

**Qualities of the Walking Gait.**

Excellence at this gait is a very desirable quality in all varieties of horses, and unlike the trot its meritorious features are the same in all, as it has no connection with type. In the enjoyment of a road horse there is much to admire in the manner in which he conducts himself when walking. It is questionable as to which is the most pleasurable to observe—the walking of the horse whose step is evenly timed and nervy, or the trotting of one that has all the grace, style and snap that characterizes the coacher.

In moving away from you the feet of the good walker leave the ground with a quick snap, showing in its passage the gait and reflection of the whole shoe. After leaving the ground with this peculiar snap the foot swings upward and forward, then the knee unfolds, the pastern carries the foot gracefully forward and it again comes to the ground lightly but firmly with the characteristic spring and snap that identified the first movement. The feet move straight away, swerving neither to the left nor the right, nor should the folding of the knees or the flexing of the hocks result in an outward pitching or spreading. A horse that will lift and plant his feet in the way described almost invariably has the up-headed and commanding appearance in movement which is so admirable in the harness horse.

The crucial test of the balance of a horse’s walk is the side view. Any variation from proper structural proportions results in wobbling, hobbling or an otherwise uneven walk, and all these are readily seen from the side. The levelness with which a horse walks is one of the best evidences that the legs work in harmony. The most common deflection from this is attributable to a long, slim coupling which gives the onlooker the impression that the horse might break away into two parts near the region of the
join. In defective conformations of this kind the stride of the hind limbs is short and he usually has an uneven, choppy gait that is unsightly as well as being ineffectual in covering distances. On the other hand, an opposite relation of the parts, close coupling and short back, with long legs, is likely to give use to a slovenly swinging gait, producing clicking, stumbling or other deficiencies. If there is a flaw in the mechanism of the front legs it is usually made evident by the movement of the front feet, especially as they are about to touch the ground. If the limb proportions are ungainly the feet do not seem to reach the ground at the proper stage, either turning too much on the heel or not turning enough, and precipitating the toe.

The Action of the High Stepper.

The highest priced action in the general horse market is that of the high stepper. The peculiarity of this action consists in lifting the knees ordinarily high and flexing the hocks so that they come close to the body and keep the legs well under it. From the standpoint of action alone, the higher the knees and the hocks are lifted the more valuable is the horse, provided that the type and other features more common are equally satisfactory. The feet must be thrown forward without any dishing on either side and the hocks must pass each other close and in line with the forward movement. It is easy to understand that while this method of movement is the most showy and stylish, it is not serviceable action for a road horse. The front legs soon succumb to the heavy concussion they would be called upon to stand under hard driving. But this action is sought only in the horse that is used for short drives about the city where style is paramount to speed and stamina. While it is recognized that the high stepper should have as many as possible of the other qualities of excellence in addition to high action, yet all others are considered of minor value among horses of this class. “All-around action only to be considered” is the current phrase in the prize lists that provide classes for competition among the high steppers, which means a combination of shoulder, knee and hock action.

The Carriage Horse in Motion.

A connoisseur of horses will see much more than the legs of a carriage horse when he is moving. As he moves along before an appropriate vehicle with the latitude of a light hand assisting him there are flashes of graceful ness from every motion. With this there is a quality of mind that gives buoyancy to step and accounts in no small degree for the uplifted carriage of the head. It is expressive of a happy temperament that gives gracefulness to every poise and a smooth flow to every movement. Such a minor organ as the ear plays its part in carriage and quick action. The eye shows the fire within and challenges the critic for its mead of praise in measuring the step and alertness in giving it security. Scan the lines of the neck, notice their tenseness, and yet the unusual elasticity it shows when occasion offers for a movement of greater gracefulness. The shoulder plays with freedom, and the smooth turned loin and quarter seem the only regions that are not taking part in this unusual display, though in this immobility they show their real strength.

As to the action of the fore legs, it is straight away with a continued folding and unfolding. In the action of the carriage horse there must be some style and dash and high lifting of the feet, but never enough of it to make the action unserviceable. At no time is the fore leg held in poise, nor does it dwell either in flexion or extension. The leg folds and the foot snaps from the ground and is
then carried forward, and the limb unfolds as if following the rim of a wheel. It seems to reach the ground at the right stage of the unfolding, so that it is not held in suspense at any point along the line of descent. The feet pass close and in a straight line, so that there is no swaying or dropping down of the forehead with each step. The hind foot leaves the ground with the same quick movement, and at no time is it allowed to hang back so as to give the horse the appearance of not gathering himself well together.

After all is written that it is possible to write about the action of the carriage horse, there is something else that must go with it which cannot be described with sufficient vividness to make the novice appreciate it. It has something to do with power and it passes along the lines between the animal and its master. As you sit behind the horse of true carriage action and conduct, you feel your proximity to a powerful mechanism that is undergoing a test of its minutest parts. If anything fails everything would be demolished, but it is the feeling of strength and power in the animal that allays unnecessary fears.

Without leaving this feature connected with the carriage horse let us consider it in its relation to the trotter. Weight and strength in the carriage horse gives momentum to the occupants of the somewhat cumbersome carriage, while the trotter sacrifices those for speed and stamina. Between the trotter and its driver the feeling is that of flight instead of power in motion. The difference in the feeling resulting from watching the movement of these two classes of horses might be better expressed by reference to the difference in the feeling that one has when standing beside a swift turning wind-mill as compared with the effects of observing the turning of a ponderous water wheel. The former takes advantage of every breath of wind and speeds a merry clip without apparent exertion of strength; the other impresses one at once with its power and in a slower degree with its combination of strength and speed.

Action of the Trotter.

The leading feature of the action of the trotter is speed at the trotting gait. But there are many others that must be comparisons of this to result in the greatest development. Stamina or the ability to maintain that gait is necessary. It is generally thought that if a horse has speed he has the one essential necessary to make him a trotter or a good road horse. Any one familiar with horses acting in such a capacity knows that much more than this is required. Not only is speed desirable, but there must be the true balance of parts that ensures their protection, together with trueness of stride. Being true and level-gaited guarantees the greatest durability, and that with an ambitious turn of mind gives us that very desirable quality in the trotter termed gameness or stamina. Of all classes of action that of the trotter must not be wasteful of energy. While that of the carriage or high stepper must display effort, the trotter should move so as to leave the least impression of it. Less roll to the knee, more propulsion from the stifles and less motion in the hocks, carries the trotter forward closer to the ground and with less expenditure of force than the higher lifting of knee and hock which is characteristic of the high stepper. There is much more extension of the limbs, the fore legs are extended more and the hind legs are swung back farther and reach farther forward than in the action of the high stepper or carriage horse that must keep his legs well under him to gather himself together in a proper degree. A wider spread in the movement of the hind legs in the instance of the trotter is not as
bad a fault as it is in the instance of the carriage horse.

The Market Qualities of Light Horses in Detail.

Thus far we have considered the general market qualities of light horses in our large markets clearly separating all the horses that come to it into several distinct general classes. In addition to these qualities there are numberless details of structure and soundness which more or less influence the value of the animals that are marketed. The most influential factor is undoubtedly that of soundness, and the conformation that predisposes the animal to various diseases. To find ready sale for the horse of any of the types that have been described, it must not only be sound, but also show such strength of structure as to ward off the possibility of unsoundness. A badly constructed hock without the spavin may actually depreciate the value of the horse as much as a spavin on the well formed hock. The first does not have a spavin simply because it has never been put under a strain, while the spavin in the latter instance must have been due to a test of more than common severity. To discuss this feature of our subject in detail, it will be necessary to arrange the material that follows, so we may be able to go over the horse completely.

Head—Straight, Lean.—The shape of the head and the countenance of a horse adds greatly to its appearance. The line from the ears to the point of the nose, as seen from the side, should be almost straight. In scanning the photographs of a great number of trotters, it will be noticeable that nearly all stallions have slight Roman noses, while most of the mares have slightly dished faces. As a rule it will be found, that horses with very prominent Roman noses are strong-minded or self-willed. Small nostrils are generally associated with this form of nose, and as a consequence we find in such instances the respiratory or breathing organs lack development. The features of the face should be distinct without the least appearance of coarseness or meanness. A lean face is suggestive of good quality in a horse. The muzzle should be fine to make the head appear at its best. Between the eyes there should be breadth enough to give a pleasing frankness to the countenance. It is a point of practical value as it is index of the brain development, which is of much importance in a light horse, as intelligence is a merit that has a high valuation. While it is granted that the intelligence of a horse depends mostly upon the training received, yet, there is a marked difference in which horses will derive benefit from training, and that difference can be accounted for only by variations in the brain development.

Nostrils—Large, Open.—The nostrils of a horse should be large, then, dilatable and of a pink color. There should be no discharge from them but they should have the appearance of being moist.

Eyes—Full, Clear.—A bright eye indicates vigor of constitution, that is, stamina, staying power or bottom, as it is sometimes called. It is also associated with a happy disposition, and it is that, which accounts for the fact that some horses do an enormous amount of work with little worry and strain upon themselves. A large, full, clear eye is indicative of a kind, generous disposition.

Ears—Erect, Active.—The ears should be carried in an erect position. They should be active and somewhat pointed. Lop ears denote lassitude, or in plainer words, laziness. When it is noticed that a horse does not shift or move either of his ears to any extent to catch sounds, it is safe to presume that deafness is present. On the other hand, if they are continually moving, it is advisable
to look well to the eyesight, as the chances are that the extra labor imposed on the ears has its origin in a defect in one or both of the eyes.

**Jaw Bones—Wide, Sharp.**—Between the jaw bones there should be sufficient width for the wind pipe and also enough to allow the head to play freely on the neck. When the space between the jaw bones is very narrow, it will often be noticed that the horse carries his head stiffly and in an awkward position, but when there is sufficient width in this region the head is carried freely and gracefully on the neck. The throttle and throat latch should be light, without any unnatural fullness between the jaw bones or heaviness at the juncture of the head and the neck.

**Neck—Arched, Muscled.**—A nicely moulded and distinctly chiselled neck carrying the head gracefully, is one of the most beautiful features of the ideal light horse. Running towards the shoulder, the neck should swell gradually, so as to join the body smoothly. The windpipe should be large and appear distinct from the rest of the neck, and the upper outline of the latter should be sharp. While the ewe neck is possessed by many excellent road horses, it is a defect, as it detracts from the appearance and should be noted as such.

**Chest—Deep, Projecting.**—In the light horse that is called upon for fast work, the chest should be deep rather than broad. It should give room or capacity more by depth than by breadth. The reason for this, is that the deep chest permits of freer play of the shoulder blades on the body. It is easy to see that swift, smooth action of the fore legs is hardly possible in the broad-chested horse, mainly because it throws them too far apart and out of line with those behind. A deep chest is an evidence of staying power. The conformation of such campaigners as Mary Marshall (2.12), Nancy Hanks (2.09), offer convincing proof of this.

**Shoulders—Long, Oblique.**—The formation of the shoulder is one of the parts of all light horses that requires critical scanning. To give elasticity to the movement of saddle horses and to permit of quick and clean action in the roadster, the shoulder blade should be long and oblique. An upright shoulder gives a short, stilted action frequently accompanied by stumbling, and is a more or less fertile cause of such bone diseases as sidebones and ringbones.

The high action which is desired in the coach or cob horse and the long reaching clean action so desirable in the roadster depend as much on the obliquity and freedom of movement of the shoulder as on any other feature. In addition, a sloping and long shoulder strengthens the back and extends the length of the underline. The muscular development of the shoulder should also be carefully noted, if there is an unusual bareness or lack of muscular covering it would denote the presence of sweeney.

**Fore Legs—Broad, Cordy.**—The appearance of the fore leg from the side show it to be flat and cordy. The flatness, due to the tendons being properly attached, and the clean cut appearance denote the absence of any coarseness about the legs. In this region the leg should be long from the elbow to the knee, for the reason that free and clean action follows such a conformation. In these parts it will be noted that most of the muscle that extends and flexes the leg is located between the knee and the elbow. If this part is long, the muscle must necessarily be long and that produces quick and easy action. The muscle of the fore arm flexes and extends the rest of the leg, and in order that these motions may place with the least expenditure of power, the course over which it must travel should be as short as possible; that is, the cannon running from the knee to the fetlock should be much shorter.
than the distance from the knee to the elbow.

Mr. H. T. Helm has made a careful study of the effect that the proportions of these parts to each other has upon the horse’s action. He has measured a great many horses and finds that their action in the fore legs seems to be governed by the proportionate length of the arm and the cannon. He found that Administrator had superior action in front, and that his cannon was 11 3-4 inches long, and the forearm 21 inches. About the same proportions were found to exist in the fore legs of George Wilkes, and there was no lack of knee action in his movement. The actual proportions were 10 1-2 to 20 inches. In Governor Sprague the cannon was 11 inches and the forearm 21 inches, and here the front action was not quite so rounding as that of George Wilkes. In the instance of St. Lawrence, the proportions were 11 1-4 to 21 inches, and the action was noted to be far-reaching and gently curving. It can be easily understood that the strain upon the knees would be greater in those horses that were long in the cannons in comparison with the length of the forearm, and it will usually be found that such a conformation predisposes a horse to weak knees. On the other hand when the arm is inordinately long, the tendency is for the front legs to bend back at the knee and give rise to what is commonly termed calf-knees.

Arms—Short, Thrown Forward.—The humerus which forms the arm should be short and appear comparatively straight. When it is so, it gives a horse an upright appearance and adds to his style.

Elbows—Free.—The space between the leg and the body should permit of easy insertion of the hand. If the elbow is closer than this or tied in, as it is termed, the toes are, as a rule, thrown out, or if the opposite is the case the toes are likely to be thrown in, which makes the progress of the horse awkward and dangerous.

Forearms—Wide, Muscled.—Perhaps the most important matter to notice in examining the fore leg is the size of the forearm, or the bunch of muscle observable just below the juncture of the leg and the body. As fat accumulates but very little there it is a safe criterion of the muscular development of the animal.

Knees—Wide, Deep, Straight.—The knees should be broad in front, much broader than the rest of the leg, either above or below, and the pisiform bone, which is the bone forming the projection at the back of the knee, should be sharp and prominent, for to this some of the most important muscles of the fore leg are attached. Breadth is desirable in such joints, because of the fact that the concussion is more evenly distributed and better spent by the many bones forming the joint, when their surfaces are large. The most common defects of the knee are calf-knees, knockknees, knee sprung, speedy cut, and scars.

Cannons—Wide, Short, Large Sinews.—There should be very little shrinkage below the knee as the joints require as much support as possible. This defect of being tied in below the knee is one of the most common weaknesses to be seen in the fore legs of light horses. A light horse of common size should measure at least 8 inches at this point. The cannon should be short, wide and clean and the sinews should be back from the bone. It is sometimes noticeable that the cannon is thicker than usual which is generally caused by hard road work.

Pastern—Sloping, Strong.—The pastern should stand at an angle of 45 degrees with the ground, and with the cannon, it should form an angle of about 135 degrees. When more upright than this, they will cause bone troubles, such as side-bones
and ring-bones, as the concussion is very severe in such instances. Moreover, it detracts greatly from the utility of the light horse, especially those intended for the saddle, as the step is short and stilted, and this is very disagreeable to the rider. On the other hand, sometimes the patterns of light horses, and of thoroughbred horses especially, are too slanting, which weakens them and ultimately ends in the breaking of the suspensory ligament resulting in the horse “breaking down” or the part being strained.

Feet—Dense, Waxy, Large.—The foot should receive careful attention as it has an important part to play in the work of the horse, and is subject to many defects and various kinds of unsoundness. It should be of firm texture, good size, moderately upright and thoroughly sound. It should have a healthy appearance which is indicated by an oily coat of natural wax. The frog should bear the marks of natural usage as a buffer, being spongy and touching the ground at each step. The roof or sole of the hoof should be distinctly concave. Flatness, brittleness, and contraction, are the three most common defects in horses’ feet. It will be noticed in many instances that the bar of the foot has been cut away, so that the hoof splits from the heel towards the coronet. This is due to the blacksmith’s practice of cutting away the bars that bind the foot together behind. When this is done the foot begins to spread and the crack ultimately extends as far as it is possible for it to do so.

Ribs—Well Sprung, Deep, Close.—The ribs should be well sprung from the spine and they should be close to each other. It will generally be found that those horses that have well-sprung ribs always make a better appearance than those that are flat ribbed; and, in addition, they will be found to be easier keepers. It should be noted that the round ribbed horse always has the appearance of being inordinately long in the legs. This deception is due to the roundness of his body. It can easily be seen that from a side view the flat ribbed horse presents a body of deeper appearance and seemingly has shorter legs than the horse that is rounder ribbed.

Back—Strong, Short, Muscled.—In its proportions the body should be short above and long underneath. This not only adds to its strength, but it gives the legs free play and insures a balanced stride. The horse of this conformation under the saddle will unite himself more quickly and better, while the same horse on the line, or in harness will have a long, sweeping, yet balanced stride. It is the opinion of many that the reach back is an evidence of strength. It is the most undesirable feature in a horse intended for the saddle, and it is to say the least an eyesore in road or carriage horses.

Loin—Short, Broad, Muscled.—It is a defect of many horses to be light and narrow at the juncture of the body and the hind quarter. If the loin is long or slack, that is, if the distance is great between the last rib and the hip bone the horse is likely to be weak in the coupling and deficient in action, and when viewed from the side it will be noticed that the reach forward of the hind feet seems to step short before arriving at the place the other feet have left the ground. This probably is due more to the lack of muscle over the loin than to any other defect.

Hind Quarters—Croup Long, Thighs and Quarters Muscled.—These parts should be critically examined, for, as it has been previously explained, it is in this region that the propelling power resides. The haunch or croup should be long and for appearance sake should be comparatively straight. When the croup is long, it allows of a greater play of the main muscles that are located in this
region. It will be noticed in nearly all fast trotters that the croup seems to have this characteristic. Length of muscle here as elsewhere contributes to speed.

The thigh should be plump with muscle and the quarters should be very strong. The muscle should not only be heavy in the quarters, but it should also extend as far down to the hocks as possible. The thigh should be long, making the hocks low, as this contributes to a long stride.

**Hocks—Wide, Straight, Clean.**—The hocks should be clean and broad, and the point should be prominent as the leverage of some of the powerful muscles attached here depend to a great extent upon this. There should be no gumminess about the hocks or fetlocks. The support below should be strong, and in every feature the outline of the hock should be distinct. In running the hand over the hock, all the depressions that are characteristic of the sound hock should be easily felt and the bone should feel firm without the least indication of unsoundness in any part. The web of the hock should be especially clean and free from all fleshiness or puffs of any kind. Too much attention can hardly be shown to this joint—it being one of the most important in the whole frame.

It is necessary here to make a distinction between what are known as blemishes and unsoundness. A blemish is something that depreciates the value of the horse without actually interfering with his usefulness, such injuries as wire cuts, sprains, and other features are blemishes, while unsoundness consists of spavins, curbs, ringbones and all the other disorders that lessen the usefulness of a horse in his work.

In examining a horse for unsoundness, it is well to follow a regular order, beginning with the teeth. The best indication of decayed teeth, or any unsoundness in the mouth is the odor which comes from it. If the outer edges of the incisors are broken and worn away, it is an indication that the horse is given to "cribbing" in the stable. The condition of the nostrils will indicate whether glanders or distemper is present. The nostrils should have a nice pink color, and no discharge should come from them. In regard to the eye, there are many defects of vision which cannot be easily classified as unsoundness, yet, they should be looked for as such. A horse, by his action, will usually indicate if his eye-sight is good. He will step inordinately high and be inclined to shy readily, if there is any defect in his vision. By moving the hand gently in front of the eye, blindness can usually be detected. The hand should be moved slowly, for, if the motion is quick, the influence of the air on the eye will induce the horse to shut his eye, though he may not have seen the motion of the hand. Defects of hearing are also common, and they can be foretold easily by the action of the ears. Rigid ears indicate that the hearing is defective. Passing to the shoulder, sometimes sweeney may be noticed. There is a shrinkage of the muscles which leaves the shoulder flat and bare. On the elbow, shoeboils, or capped elbow will be seen frequently. The point of the elbow seems to be unduly enlarged by the accumulation of matter. Passing down the fore leg, splints should be looked for on the cannon. They may be found on all parts, but more care is necessary not to mistake the ends of the two small bones that are associated with the cannon for splint. In some horses the ends of these bones are surmounted with noticeable knobs. If these lumps are found on both of the legs in exactly the same place, it may be assumed that they are natural. When the splint is located on the back part of the leg or close to the knee joint, so as to interfere with the action, it is in the worst possible place to have it. A small splint in a position of the leg where
it is not likely to cause lameness, is not considered by most judges to be more than a blemish. The fact that splints on young horses very frequently disappear in a year or two should be sufficient reason for overlooking this defect, when it is present in young animals. On the pastern ringbone is sometimes to be found. This is easily discovered because of the lameness which it produces and the size to which it grows. Sidebones are sometimes found on light horses. By pressing the thumb and the forefinger around the hind quarter of the front foot this disease may be detected easily. Little hard prominences may be found on the side of the pastern just above the foot. They are formed of cartilage, and afterwards become ossified, causing pain and frequently lameness. Sidebones or the formation of foot producing them are considered hereditary. The foot itself is subject to many forms of unsoundness. Looking at it from above, the presence of quarter-crack and sand-crack are sometimes seen and these are bad defects. On the underside of the foot there should be no splints in the hoof, running from the bars to the top of the foot. This is a very common form of unsoundness in the feet. Corns, which are located in the corners of the heels are also quite common, and may be more or less indicated by the way a horse will shrink when the hoof is hit with the handle of a knife in that part. Thrush and scratches are not common, and when they are present it is very easy to detect them. Lameness in the fore limbs is easily foretold by the action. In locating lameness in the leg, it should be borne in mind that it is the sound limb which the horse puts down with the most confidence, and when the ailing leg comes to the ground, he makes an effort to ease it by throwing his head up. In locating lameness it should be remembered that when a horse shows lameness in front, if the trouble is in his shoulder he will usually flex the leg at the knee when he is standing at ease. When the sprain or lameness is below the knee he will extend the defective limb from the body. When he is sore on both front feet he will extend them as far as possible.

**Defects of the Hind Legs.**

In the hind limbs the hocks should be carefully inspected. In detecting diseases in this region, it is absolutely necessary to know first the outlines of a perfect hock. With that in mind, it is a very easy matter to detect any of the many unsoundnesses that occur in this region. Thoroughpin is located between the tendon of the hind leg and the bone, and it fills the depression, which naturally occurs just above the hock. It consists of a soft swelling which may be pushed from side to side. Curb, which occurs just below the hock, and to the rear, is a thickening of the ligaments in that region. By looking at the leg from the side it may be noticed easily, as it is a deviation from the straight line which should follow from the point of the hock down towards the end of the cannon. The most common trouble of the hocks, and the worst one of all is bone spavin. To detect this, it is best to stand in front of the horse and look back between his fore legs, if necessary, so that the inner outline of the hind leg may be seen very clearly. This is a bony deposit which nature has thrown out to strengthen the weak joints, and when it has developed, it ties up the joint so that it interferes with the proper action of the horse. The hind leg instead of coming down on the heel as it should in a sound limb, is thrown forward so that the toe reaches the ground first, and the stride is unnaturally shortened, and lameness frequently results. Bog spavin is usually associated with thoroughpin, though it differs in location. In the natural depression which occurs on the inner and front of the hock, the oil from the joints
seems to accumulate and form a soft swelling which is commonly known as bog spavin. Splints sometimes occur on the hind legs but they are exceptional; sidebones only in front, and ring bones both front and behind.

Further Caution.

After giving all the parts careful inspection for soundness the horse should be driven rapidly a quarter of a mile or so to try his wind. He should be stopped short and as he stops, advance close to his neck and notice if the breathing is free from any sound similar to whistling. If the breathing is accompanied by a wheezing or whistling sound then whistling, roaring, or some disorder of the air passages is present. If there is any doubt as to the origin of the sound—it might possibly be due to a very tight collar. Have the horse taken out of harness and ridden rapidly. When the breathing is not regular, it is likely that the horse is troubled with the heaves. In the instance of horses so afflicted the breathing is more or less spasmodic, the air from the lungs seeming to be half expelled when the respiration stops for a brief period, and then the expulsion of the air is continued. In this way the depression at the flanks is not gradual and continuous as it is in the instance of a horse with sound lungs, but it is stayed for a short period when the breath is about half expelled from the lungs.

Horses may have many stable vices that detract greatly from their utility, but these cannot be discovered, as a rule, in the show ring. To make a satisfactory examination of a horse, it is necessary to see him in the stable, then have him hitched, driven and subjected to a critical examination, and after these things have been attended to, there are generally many discoveries in after usage.

DISCUSSION.

Supt. McKerrow—In speaking of the draft horse and his powers, his weight, etc., do you place any stress upon the nervous energy of the horse?

Prof. Craig—Yes, I do. There is something, we don’t know exactly what it is, but we know this much, that every movement of the muscles and the power of the muscle to a certain extent—the stimulation of the muscle—must come from the nervous system; the stronger that stimulation the quicker the muscle will act, and the stronger it will act to a certain extent.

The Chairman—Is it not often true that a small horse that has a nervous temperament will outdo the larger horse?

Prof. Craig—Yes, that is true.

Supt. McKerrow—Is it possible that the nervous energy of a horse may sometimes make up for a hundred or two hundred pounds of weight?

Prof. Craig—It may do so for starting a load, or taking a load a short distance, but for an all day’s job, with a heavy load, the horse has to have weight to work steadily. In a place like the city of Chicago where big loads are drawn and the horses are kept steadily at work all day, I think perhaps the weight would over-balance the temperament. I think that the nervous energy counts more in time than it does in power. It counts more on the race track than any other place, perhaps.

Mr. Goodrich—You said that the frog on a horse’s foot struck the ground and took that concussion. Now, when the horse comes to be shod that leaves the frog off the ground, doesn’t it?

Prof. Craig—When the horse is shod and stands in the stable, he is standing on the iron, but when he is on the road that lets the foot down, and if the blacksmith goes to work and cuts out the heels of the frog, you will find the frog split, and you will find that it will dry up, and that is no good to a horse.
A Lady—Would you consider it a defect in a horse to rest one front foot when standing?

Prof. Craig—Usually we consider that an indication;—for instance, if a horse stands with his front foot out he is generally sore somewhere below the shoulder, if he stands with the foot rested back, resting on the toe, it is generally some sprain of the shoulder or something like that; it is an indication generally of soreness about the shoulder.

The Chairman—Isn’t it always considered an objection in buying a horse?

Prof. Craig—I think it is, but the way a horse stands is largely a matter of handling in the breaking.

Question—You would not consider a horse sound that would set his foot forward, would you?

Prof. Craig—I would not consider that an unsoundness. He is likely to have some unsoundness, but I have known horses to do that that were perfectly sound. That may be a blemish, but I would not consider it an unsoundness.

Mr. Convey—Wouldn’t it produce shrinkage of the muscle where he followed that habit very much?

Prof. Craig—He is resting that foot for some cause. It is not the natural way for him to stand. It depends a good deal on what the cause is. If it is in his shoulder, I think it will shrink up the shoulder.

Supt. McKerrow—How much trim ought to be allowed on a frog?

Prof. Craig—The only part of a horse’s foot that grows unnaturally is the horn. The horn will grow too long if it is not cut back, I mean the outer edge of the foot. Inside the foot is the sole between the outer horn and the frog, and that part will naturally peel off, nature will regulate that largely; the frog is the same, it grows and peels off. It is not necessary for the blacksmith to cut off the heel of the frog, nor to cut down the frog and the sole, except to just take off the loose particles and get a better fit to the shoe.

Supt. McKerrow—How will you remedy that effect in the frog if it has been spoiled by the blacksmith cutting it down?

Prof. Craig—I do not know of anything that will stimulate the growth of the frog. Perhaps the best plan would be to take off the shoes for a while.

A Member—Will thoroughpin do much damage to a horse?

Prof. Craig—At first it will make him lame. It spoils the market value completely; it is unsoundness. That is on the hind legs always, never the front legs, but we get something very nearly the same thing, kind of wind bags. A horse that has been ridden hard and allowed to stand in a hard stable, the oil will accumulate and it is very much like thoroughpin in the front leg.

A Member—if a horse is hurt in the pastern joint, will it ever get over it?

Prof. Craig—I hardly think so; it will probably throw out what we call a high ringbone. They are not as dangerous as a lower ringbone.

Question—What is the cause of splint?

Prof. Craig—The same trouble. If inflammation spreads in any point there is a thin skin starts on the top of the bone and a bony deposit is thrown out and gathers there.

Question—A young horse that skips, is it ever saved?

Prof. Craig—I don’t think he is of any use unless it was a mare that you wanted to breed from.