
No. 1 Cavalry Officer Cadet School,
Netheravon.

“The Troop Horse”

HIS

FEEDING and WORK.

WITH

**SOME NOTES FOR INSTRUCTORS ON
EQUITATION.**

INTRODUCTION.

Many are the duties and responsibilities of the Troop Officer and second to none comes the management of the horses of his Troop, as the most highly trained troop in the world cannot be considered efficient unless the horses are fit.

If one thing is certain it is this, namely, that horses will never be fit whose management is either left to chance or worked upon a sort of rule of thumb method. Commonsense observation, and a study of the subject are absolutely necessary in order that contingencies may be met when they arise.

The only thing in the management of horses which can be run to any great extent on definite rules is the routine; everything else, such as feeding and working, must be worked by a system that admits of individual treatment, and for this knowledge is essential.

The knowledge that is required is the ability to gauge what a horse can and cannot do, and how to get the best out of him.

With this object in view these Lectures on Feeding and Work with a few suggestions for Instructors on "Riding" have been printed for the use of the Cadets of the Netheravon Cavalry Officer Cadet School.

Netheravon.
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Commandant.

No. 1 Cavalry Officer Cadet School.

FEEDING HORSES.

(1) The necessity of having a good system.

A good system is absolutely necessary in this as in most other things if the best results are to be attained. It implies so much that is vital to good Horsemanagement, such as, feeding at the proper time, the distribution of the ration so as to obtain the greatest benefit from it, and regularity.

In the Cavalry it is a question of competition to have better and fitter cavalry horses than any other country, and must not be a question of working on the lines of "that will do" or "that's quite good enough." Nothing is good enough unless it is physically and morally impossible to do it better.

A man who is going to compete in a cross country run or long distance boat race has to diet himself with the greatest care. Our horses may have at any moment to compete for a much more important stake and it is of the utmost importance that we spare no pains to get them as fit as possible; they cannot help themselves like the athlete, we have got to do it for them.

A good system of feeding can only be arrived at by a method which allows for the individual treatment of each horse, and close supervision, because without these two things we have two serious defects in Horsemanagement, namely (1) horses all fed alike regardless of requirements, or (2) happy-go-lucky feeding arrangements.

THE REQUIREMENTS THAT FEEDING MUST FULFIL.

With regard to this we have got to keep two most important facts always before us. Firstly that the horse's food has got to make good the ordinary bodily waste that is always going on without work, and secondly it must replace the waste that occurs through work. That is to say, the mere state of living entails a certain amount of bodily exertion, the heart must keep on pumping blood through the arteries: the lungs and digestive organs must keep constantly at work whether the horse is being used or not, and all this means that nourishment is required.

Then again, work means muscular exertion, and consequently muscular waste in a larger or lesser degree according to the severity of the work, and unless this is replaced by sufficient flesh forming

food, the muscles of the horse, instead of becoming firmer and larger with work as they should do, will decrease.

So we can say that feeding must fulfil two main requirements :—

- (1) It must be sufficient in quality and quantity to maintain the body in its normal condition regardless of work.
- (2) It must be increased to meet the requirements of the muscles according to the amount of work they are called upon to do.

HOW NOURISHMENT IS TRANSMITTED FROM THE FOOD TO THE BODY.

Nourishment is transmitted over the body by means of the blood; and the food which the horse eats supplies the blood. The actual time, in the course of digestion through which the food passes, when the blood begins to receive its nourishment is when the food has passed through the stomach and has entered the smaller bowel. It has already been treated by the saliva and gastric juices and has been rendered down into a semi-liquid state, and as it passes along, the innumerable blood vessels of the smaller bowel take up the nourishing properties; thus the supply of blood for the feeding of the muscles is kept up.

It is obvious, therefore, that the supply and quality of the blood depend on the quantity and quality of food being judiciously arranged to meet the requirements of the horse.

QUALITIES POSSESSED BY VARIOUS FORMS OF FOOD STUFFS.

With regard to the quality it is important to remember that food must be arranged to fulfil certain purposes, and must not be merely given with the object of "giving the horse his fill." It has got to build up muscle and replace what is lost in work. It has got to keep the body warm and supply fat, besides having other properties necessary to assist digestion, such as fibre, water and salts.

It is unnecessary for ordinary purposes to go deeply into the chemical analysis of foodstuffs provided we keep the above in mind and have a practical working knowledge of the manner in which the ordinary forage available for troop horses meets the requirements.

To take for instance, Oats and Hay—

Oats we might say supply properties amounting to about 75 per cent for the production of muscle and fat and the warmth of the body, the remaining 25 per cent being fibre, water and salts.

Hay on the other hand (ordinary meadow hay) supplies only about 35 per cent towards flesh production and warmth.

From this we can see that if we fed a horse on oats alone there would be insufficient fibre to make a digestible ration, and if on hay only there would be insufficient flesh forming properties to replace muscular waste due to work.

Bran, provided it is a good sample, is a valuable flesh producer, and Linseed possesses very high fat forming properties. Of course the value of bran in this connection rests with the miller; if he has extracted nearly all the flour from it, as is the case now-a-days, it is of little value and can hardly be classed as a foodstuff at all.

Green food or roots such as carrots or turnips have little value in themselves as a food for horses in work, as their properties towards flesh production are small. Their chief value is in the amount of water they add to an otherwise dry feed such as oats and hay, and thus act as a great help to the digestion.

THE AMOUNT OF FOOD REQUIRED.

We need not go into this subject of amount very deeply for military purposes as we are given a fixed ration for each horse which is all that we can get; but at the same time there are one or two points in connection with it that are worth considering.

As we have already seen, the amount of food required cannot be judged only by the amount of work the horse is doing. We have first got to decide how much a horse requires to keep him alive and well without work. If this can be arrived at we shall then know how to feed horses that are out of work, and so be able if possible to save part of their ration for horses doing hard work.

Statistics might be worked out no doubt to show exactly how much energy the average horse expends daily in living, and a calculation arrived at from this as to exactly how much food of different kinds would be necessary to make good this loss of energy.

But we need not go so thoroughly into the question as this. We can rely on practical experience to give us a sufficiently good idea of what is required, remembering always that all horses are not alike.

Taking an average sample of forage as supplied to the Army, I think we may say that either one or the other of the following rations would be sufficient for the average troop horse, out of work but in a stable.

1.
Oats 6 lbs.
Hay 6 lbs.

Green food 10 lbs.

2.
Oats 6 lbs.
Hay 4 lbs.
Oat straw 4 lbs.
Green food 8 lbs.

Horses standing in the open would require an extra 2 lbs. of oats.

If we accept this as the necessary living ration, we must attempt to arrive at what is required for a working ration by remembering one or two points.

The faster the work the higher must the ration be in nutritive qualities, but not in bulk.

The colder the weather the higher must the ration be in heating properties, such as maize, oats or gram.

A large horse requires a proportionately larger ration than a small one: not in any definite proportion, but approximately, say, a 16 hand horse requires 2 lbs. oats and 4lbs. hay more than one measuring 15 hands.

SOME OF THE MAIN PRINCIPLES OF FEEDING.

There is nothing wonderful or complicated in the rules which govern the feeding of horses. The difficulty in becoming a good feeder does not lie here, but in being sufficiently observant to note the requirements of each particular horse.

A little common sense based on a certain amount of knowledge of the horse's anatomy and digestive organs is all that is required to learn and carry out the principles.

Regularity is most important, that is to say feeding at regular intervals, so that the horse may neither have a second feed given him before the previous one has been thoroughly digested, and passed on for absorption into the system, nor may he left too long without food so that he becomes ravenous and consequently bolts his food when he gets it. A feed every 4 to 5 hours throughout the day would meet the case fairly well.

Another point which requires attention is quietness during feeding time. Some nervous horses will not feed at all if they are disturbed by noise or by men continually moving about them and others will bolt their food. Directly horses are fed, every man, except the stable guard, should leave the stables or lines. In connection with this, however, I should strongly advise the man responsible for the horses,

that is the Troop Officer, occasionally to stop and watch his horses feeding as the reason for a thin horse can often be spotted in this way. For instance, some horses have the habit of throwing half their feed out of the manger or nose bag, others get a great quantity stolen by the next horse especially their hay, while some bolt their oat ration without making the least attempt to chew it.

All or any of these things will cause thin horses and they can all be put right if looked out for.

We have already said something about the amount of food and the necessity of giving it regularly so that much more need not be added to the well known principle of "small feeds often." We have only got the Government ration to work on which varies from time to time, but an average might be taken as an example—10 lbs. oats and 10 lbs. hay (or an equivalent such as oat straw).

For horses merely doing ordinary work such as a parade from 8 a.m. to 11 a.m., the following method of Distributing the ration is a suggestion only, and is not intended to be the only way in which it could be fed.

6.30 a.m.	3 lbs. oats (and chaff if possible).
11.0 a.m.	2 lbs. hay
12.30 p.m.	2 lbs. oats " "
2.0 p.m.	4 lbs. hay
5.0 p.m.	2 lbs. oats " "
8.30 p.m.	3 lbs. oats " "
	2 lbs. hay

Note. 2 lbs. of hay kept back for chaff.

The large feed late in the evening is suggested, especially for horses standing in the open, for two reasons. Firstly, there is a long interval between it and the next feed; and secondly the vitality of the horses' body is lower in the early hours of the morning and the temperature is colder, than at any other time during the day, so that the more heating and nourishing the evening feed is the less will the horse suffer.

If horses are required for a long hard day, they ought to get a good strong (oat and chaff) feed about two hours before starting, being watered very carefully and thoroughly before feeding. On return from work they should have a light feed only, i.e. a little hay first, followed by a small oat and chaff feed (say $1\frac{1}{2}$ lbs.) damped, (this of

course is much improved if the oats can be crushed and a little bran added). Two hours later they should have a good oat and chaff feed followed by hay.

Under this heading the necessity must be emphasised of regulating the feeding according to the amount of work being done, framing our opinions according to the pace at which the work has to be carried out, and the length of time, even though slow, the work lasts.

There are also one or two special points to attend to in relation to feeding and work, namely, a young and immature horse requires more food than an old hard one, or his muscles will not develop with work, he will merely lose flesh. And again a horse in soft condition must not suddenly be put on a full hard ration but must be got fit gradually both as regards food and work.

Then we must never forget the necessity of giving the horse time to digest before working him. Two hours anyhow should elapse after feeding before any fast work is done, if possible more. This is necessary in order that the lungs may have full freedom for expansion and not be confined by an overloaded stomach. And in no case must bulky food, such as hay, be given before work.

Before leaving this subject of "Principles," mention must be made of watering.

The acknowledged principle is always to water before feeding for the simple reason that the water has to pass through the stomach on its way to the water gut and if the former was full of freshly swallowed food some would inevitably be washed out before it was digested. This would not only result in a loss of nourishment to the body but might very likely bring on colic.

It must never be forgotten that water forms a very important part of the horse's ration, especially if he is getting no green food. Both the kidneys and the bowels require a plentiful supply of it to enable them to get rid of the waste products of the food. And, as we have already seen, the food which the horse eats supplies his blood which without an adequate supply of water would become too thick.

As a last remark under this heading we must note the following as a golden rule :—

All feeding utensils, water buckets, nose bags, mangers, feed tins, drinking troughs, etc., must be kept scrupulously clean **always**.

THE FEEDING OF SICK HORSES.

This heading might quite easily form a lecture in itself as it is a large subject covering a great variety of cases. But as much of what might be said would apply only when good stabling and an unlimited choice of forage were available, it would not be of much value under present conditions.

However it must be recognised that, no matter what the conditions are, a sick horse requires special treatment just as a sick man does, and in many cases of sickness the proper attention to the food has more to do with the cure than anything else.

In order to keep as near as possible to the conditions which prevail and to keep within the limits of what is possible in the way of feeding, I shall classify sick horses as those suffering from:—

- | | |
|---|----------------------------------|
| (1) Cough or Cold. | { a. With temperature. |
| | { b. Without temperature. |
| (2) Injury, wound or
skin
trouble | { a. With local inflammation. |
| | { b. Without local inflammation. |
| (3) Intestinal
trouble | { a. Diarrhoea. |
| | { b. Constipation. |

The mere fact of there being a rise in temperature usually means loss of appetite, but considerable thirst. So after attending to the various points in connection with nursing which will be discussed in later lectures, the great thing to see to is that the horse has a constant supply of fresh water within easy reach. He must be tempted to eat small bran mashes, green food, carrots, or a little oatmeal gruel, but if he will not eat, food must not be left long in front of him. Sometimes a very sick horse can be got to start feeding from the hand when he will touch nothing in a manger, and nearly all sick horses will eat carrots or fresh cut grass even when they refuse everything else.

In the case of a cold or cough without a rise of temperature the horse should be fed up well on plenty of easily digested and nourishing food such as steamed oats and bran. His hay should be well shaken up to free it of all dust, and if possible green grass should be shaken up with it.

If linseed can be got and arrangements made for boiling it, this will make a good addition to the steamed oats and bran.

Horses suffering from an injury of any sort causing considerable inflammation must be kept on cooling food such as ordinary bran mash with a tablespoonful of salt added to it, green food and hay. But in the case of an open wound with much suppuration they should not be stinted too much, as for the repair of the wound their strength must be maintained.

If there is no inflammation they need no special diet but can simply be kept on the ration previously suggested for a horse out of work.

In cases of diarrhoea it is a mistake to be in too much of a hurry to try to get the horse to eat anything as the bowel is not in a fit condition to have anything in the least indigestible passed into it. In bad cases such things as hay tea or oatmeal gruel both very simple to make are much better and safer than bran; and when the horse begins to get better this can be changed to very small feeds of hay and dry bran with a few **crushed** oats mixed, if possible to arrange.

Gradually the bran must be reduced and the oats increased to get the horse back to the normal ration.

Water in these cases must always be tepid and must only be allowed in small quantities at a time.

To make "**Hay Tea**" fill a bucket with the best and cleanest hay you can get. Pour over this boiling water until the bucket will hold no more. Cover up, and leave to stand till cool. Give the horse the water to drink after straining it from the hay.

"**Oatmeal Gruel.**" For one horse take 1 lb. oatmeal, mix in a gallon of cold water. Boil this up, stirring well. Then allow it to simmer over the fire until it gets thick.

Cases of Constipation may be simply due to the horse not getting enough water, in fact this is very likely to be the reason. In any case, it is quite unnecessary at once to give him a purgative ball because careful feeding will very likely put him all right. He must be given more water, and if he won't drink it, it must be supplied in the food by thoroughly damping each feed with cold water, giving him an occasional sloppy mash and adding food of a watery nature such as green food, carrots, turnips, etc.

THE PREPARATION OF FOOD.

It would serve no good purpose at the present time to embark on a detailed discussion of the many ways in which a horse's food can

be given, because as it practically depends on having variety of forage it could not be carried out on service.

But although we cannot get the variety and the quality of forage we should like, we can at any rate see to it that what we do get is made the most of and fed to the greatest advantage.

One of the most important features of forage is that it should be clean and free from dust, dirt, etc. A good horsemaster will always see that his oats are carefully screened before they are fed. Unfortunately it is impossible for the Army to have the oats it uses screened, but it is quite possible for the troop officer to free his oats from an enormous amount of dust by merely pouring them backwards and forwards from one sack to another 3 or 4 times. They must of course be poured out quickly, and each time a quantity of dust will rise out of the mouth of the sack.

Similarly hay which is dusty should be shaken up before it is fed

Of course, as we have said before, the choice of foodstuffs is so very limited that it is not much use talking of variety. Oats and hay, part of which should be chaff, must of necessity form the ration day in and day out, except occasionally when it may be possible to get a little bran.

But I do not think horses do their best on dry oats and chaff day after day and I suggest that even the damping of the feeds with cold water is better than doing nothing. It encourages saliva in the mouth and helps the horse to masticate his food better before swallowing it. The chopping up of any sort of green food, carrots, mangolds or turnips and adding this to the oat ration is of course beneficial, even if it is only grass; as is also shaking up green grass with the hay.

It is quite a mistake to think that this sort of feeding will make horses soft; on the contrary they will get much more good out of their food, will put on more flesh and be generally fitter and in better health.

If bran mashes can occasionally be arranged for, they must never be given if there is any likelihood of the horses being wanted for hard work the next day. But a good pudding of oats, bran and chaff with perhaps linseed can be given at any time and all troop horses would be the better for such a feed twice a week.

In the East, substitutes for oats such as maize or gram may have to be used.

The general opinion appears to be that these grains are best given to horses crushed, on account of their extreme hardness, or thoroughly soaked. Some horses, however, seem to masticate them quite well, even when given whole.

Ordinarily, in this country, both these grains would be considered too fattening to use as an entire ration, and are better given as additions to the oat ration. But when horses become accustomed to them they seem to do all right on either one or the other.

Maize is very deficient in fibre, and this point must be remembered, a suitable amount of fibrous food, such as hay being given to make good this deficiency. If this is not done maize in itself is very indigestible.

JUDGING FORAGE.

It would be out of place here, and of no value at the present time, to embark on a detailed discussion on judging samples of forage, because we have to more or less take what we can get and be thankful for it.

But sometimes there might be a chance between two different sorts of oats or hay, so possibly a few remarks on what to avoid in these forms of foodstuffs might be a help.

Some samples of oats are so bad that we can tell by merely looking at them that they are unfit for use, but as a rule all the human senses, sight, smell, taste and feel should be employed before coming to a conclusion.

What will each one of them point out with regard to characteristics to be avoided?

- | | |
|-----------|---|
| (1) Sight | { Unevenness in shape, colour and size.
Presence of grit, sand, dust and small seeds, etc. |
| (2) Smell | { Earthy i.e. new oats. |
| | { Sulphurous i.e. artificially treated oats. |
| | { Musty i.e. oats which have been exposed to damp. |
| (3) Taste | { Sulphurous.
Musty. |
| (4) Feel | { Softness i.e. new oats. |

No one could be accused of being unreasonably particular if he rejected oats having any of these characteristics if by doing so he could get better ones.

With regard to the way in which to set about testing any sample. In the first place oats should not be judged on a small sample such as might be produced in a nose bag or feed tin as a small sample is often very deceptive. A full sack should be examined and the hand driven well in to test the feel; if they feel soft or spongy they are probably new oats which are not good for horses as they are apt to purge them.

Then a large double handful should be drawn out from the middle of the sack and smelt; if found to smell in any way unnatural, or sulphurous, they are probably oats which have been artificially dried, or bleached to improve their appearance; if they smell earthy they are new, and both conditions are bad for horses.

The same applies to the taste when a few are put in the mouth and chewed.

Provided they both feel, smell and taste satisfactory, they must be carefully looked over and the colour, shape, size and the presence or absence of dirt or grains other than oats, noted. The colour does not matter so long as it is good of its sort—generally speaking oats are known as either White or Black. But there are often very good samples of Brown to be seen, and also "Grey Winters," namely, oats sown in the autumn, being in colour about halfway between yellow and brown.

The colour does not matter so long as it is good of its sort. A good white oat is not strictly speaking white but yellowish white, a very white sample is probably one which has been artificially treated. With regard to shape all that need be said is that the grains should be reasonably uniform; if they are not they are a mixed sample, which very likely means a few good oats mixed with bad ones in order to get the latter accepted.

The whole sack should now be poured quickly into a corn bin or another sack and if the oats are dusty, a cloud of dust will be seen to rise. Dusty oats should never be accepted if they can possibly be avoided as they are most injurious to a horse's wind. If they have to be accepted every endeavour should be made to free them from dust by pouring them backwards and forwards from one sack to another 3 or 4 times.

The only thing now left to be done is to test the weight. It is impossible to expect a very high standard in this respect especially now-a-days as all the best samples are required for human food. A sample weighing 36 to 40 lbs. a bushel should be accepted if it is otherwise all right. What must be looked out for is suspiciously high weight

as compared with the apparent quality. This should always lead to a very minute inspection of the oats, particularly searching for the presence of sand or any other heavy foreign substance.

This inspection can be most easily carried out by passing the oats over a fine sieve.

HAY.

The 3 forms of hay most commonly met with in the Army are
(1) Hay cut from permanent grass land. (2) Hay grown as a crop.
(3) Clover hay.

The first and second are easily distinguished by the grasses. The former contains a great variety of grasses and herbage, the stems of which, compared with the second are fine and soft. With regard to the grasses themselves the great thing to look for is that the preponderance are seed bearing and not slim feathery grasses bearing no seed.

Most hay grown as crop contains very little variety of grasses, the stems of which are longer and harder than the permanent samples.

It does not matter which sort is supplied provided it is good, and when examining a truss it is no use being content with pulling out a handful. The truss must be opened and the following points noted :—

Colour should be a light brown, with a greenish tinge through it and bright in appearance.

Grasses must belong to good feeding classes such as good meadow grass, fescue, rye grass, timothy. The heads of grasses should contain their seeds.

Smell must be sweet, to a certain extent resembling hay that is being 'made.'

Hay that does not fulfil the above requirements should be cast if better is procurable, and should be rejected if it exhibits any of the following faults :—

- (1) Dustiness.
- (2) Mouldiness.
- (3) Being mow burnt.
- (4) Softness.

THE WORKING OF HORSES.

The judicious working of horses fulfils very much the same purpose as Physical training does for man. There is, however, this marked difference, that whereas Physical training exercises can be arranged to tune up any one particular muscle, the working of horses cannot be so arranged.

The Physical training of man aims at the development of every muscle, tendon, sinew and organ with a view to strengthening the whole body proportionately without over-straining any one part.

The best we can do in this respect with regard to horses is to concentrate on the development of certain sections of the body, each of which has special duties to perform. In this connection the governing factor is the question of "weight," and I think we can best consider it under four headings, namely:—

- (1) The distribution of weight.
- (2) The carriage of weight.
- (3) The support of weight.
- (4) The propulsion of weight.

Under these headings we can divide up the horse's body into sections for the purposes of exercising each with a view to the proper development of the whole:—

- (1) Head and neck (forehand generally)
- (2) Back and loins.
- (3) Legs and feet.
- (4) Hindquarters (vide page 21).

If we accept the fact that the main requirements in the troop horse are physical and constitutional endurance, the ability to carry weight and handiness, we at once see how necessary it is that each one of these sections of the body shall be thoroughly developed and properly placed.

The position of the horse's head enormously influences the distribution of weight; if it is unduly lowered too much weight is thrown on the forelegs and his powers of endurance are proportionately lessened. If the muscles of the back and loins are not well developed the power of the whole spinal column to carry weight will be small. If the legs and feet are not hardened and accustomed to the concussion caused by weight they will break down, and if the hind quarters are undeveloped the horse will never get across country.

Before going on to the question of what work to give to meet the case, I think we should briefly discuss the nature of the Structures we have got to work upon, viz., muscles, tendons and feet.

If we examine a picture of the skeleton of a horse we see that its bodily frame, i.e., head, spinal column, pelvis, ribs and breast-bone, is supported by the four legs, and that these legs are not let into any part of the frame like the legs of a table, but are bound to it by layers of muscle. Furthermore if we look at the picture of the muscular system of the horse, we see that these muscles do not merely hold the legs in position as a thick layer of cement, they start and terminate in different places, they cross one another, some are wide and flat, and others long and round, some run down the front of the leg and others down the back. All these muscles have their various duties, some are merely binders of the leg to the frame, others are for bending the leg when the horse moves, and others are for straightening it.

Speaking of the whole Muscular System of the horse, muscles are known as either Voluntary or Involuntary, that is to say, some are worked at the will of the animal and others are not, just as in the human body. The involuntary are those which work the internal organs such as the stomach and bladder, but their duties hardly form part of the subject we are now considering.

The duties of the voluntary muscles are two :—

- (1) To bind the frame together.
- (2) To move the frame by contraction.

They bind the frame by being attached at either end to two or more bones and they move these bones by their power of shortening themselves by contraction. They must not be thought of as being solid masses as we see in joints of meat hanging in a butcher's shop, as if we look upon them in this way it is impossible to see how they carry out their duty of moving the body by shortening themselves.

They are bundles of very fine fibres closely united, but each one with the power of contraction, and are attached to bones at each end either by the fibres themselves as in the case of many of the large flat muscles on the body, or by bunching closely together at the end and forming a tendon which fixes itself to the bone lower down.

Muscles are set in motion by nerves which are acted on by the brain; they are fed by the blood and are developed by feeding and work.

When a muscle is strained by some violent exertion, one of two things may have happened. Either some of the fibres forming the muscle have been torn, or some of the bloodvessels which feed it have been ruptured. The only thing however which entirely puts it out of action is the destruction of the nerve which operates it.

The tendons which are, so to speak, the continuation of the muscles, have themselves no power of contraction, they merely perform the work of moving a limb at the direction of the muscle.

They are hard, firm and rope-like; working in a sheath, as for instance a rope passed down a hose pipe, and are very liable to injury when not kept hard and strong by judicious work.

The majority of sprains are caused by putting too severe a strain on a horse before he has been hardened by previous work, though of course some are accidental even when the horse is quite fit.

When talking about the diseases and injuries of the feet, we shall go thoroughly into the structure of the foot, but as the care and constant watchfulness of the feet form so important a part in the working of horses, some mention must be made of them here.

In the first place we must remember that, provided they are sound, a horse's feet will stand an immense amount of wear and tear if the horse is worked with common sense and the feet are properly cared for, but if these two provisions are neglected they will stand very little.

Everyone who is responsible for the working of horses must always keep this in view, and he must remember that inside the wall of the hoof there are very delicate and sensitive structures which if injured cause intense pain.

These structures may be injured either directly by the continuous concussion caused by all work being done on hard roads at a fast pace, or they may be injured indirectly as in the case of laminitis brought on by over-feeding and under-working.

The exterior of the foot is insensitive and is naturally strong. It comprises the wall, sole and frog, and if these are neither weakened artificially nor allowed to become diseased by neglect, they will efficiently protect the inner and sensitive part of the foot provided the horse is worked judiciously.

From this then we can pass on to the work. The first thought of any man responsible for the work of a horse, whether he be racehorse, hunter, or troop horse, must always be, "What do I want this horse for?" As we are dealing now only with the troop horse we can leave

the other two alone. What do we require in the troop horse? I should say (1) Endurance to go long distances on little food, that is to say, physical and constitutional endurance, (2) Ability to carry weight. (3) Ability to cross rough country. (4) Handiness for fighting. And all these requirements are governed to a very great extent by one great necessity, namely "Balance."

The next thought before starting any work should be—the Condition, the Conformation and the Constitution of the horse to be worked, because the amount of work he is capable of performing, no matter what we want him to perform, will be governed by these three things.

In order to assist the troop horse to be able to meet the requirements, his work should be so arranged that the sections of the body mentioned before, are all thoroughly developed and properly placed in relation to one another. The head and neck must be so carried that the body is properly balanced, and if it is not so, it is well worth while taking the trouble to do a little equitation work to get it right.

The back and loins must be strengthened to enable them to carry weight by steady trotting uphill and climbing up steep banks, and also gradually accustoming the horse to weight. This form of work will also develop the muscles of the quarters and hind legs, and a certain amount of jumping is of course valuable in this respect also.

The feet and tendons of the legs must be hardened and got accustomed to work on hard roads by a certain amount of daily work being done on the road.

Nothing so far has been said about fast work because it naturally cannot be given until the horse is thoroughly fit in other respects. But the troop horse must have some fast work before he can be considered fit.

It must never be forgotten, however, that although this sort of work when judiciously given is good for the horse's general bodily health and keeps the breathing organs fit, it invariably takes a good deal out of him. How much of course depends on his fitness at the time, the pace and the duration of the work and the weight he has to carry.

An occasional short fast gallop of, say, $\frac{1}{4}$ mile will be found quite enough to keep the troop horse sufficiently fit in these respects. He is not bred to do a lot of galloping and the weight which he invariably has to carry will inevitably break him down if he does.

A question which is often asked is "How long ordinarily should the troop horse be kept out at work, and how far should he go?"

Of course the obvious and correct answer to this is that it depends entirely on the particular horse. But it is not feasible to work troop horses strictly on these lines. The training of the men has got to be considered, and a troop officer therefore cannot take his horses out as he would a string of racehorses and give each one the work he requires regardless of the men.

It is well, therefore, to lay down some sort of a rule about this as a guide, and I think if we say that, provided the horse is not off his feed and is otherwise well, he should be out at work for from 2 to 3 hours daily, and should do work which will give him the equivalent amount of bodily exercise as would an ordinary steady 10 or 15 mile hack.

Whenever it is possible to do so, the ordinary so called "exercise" should be avoided as it gets horses and men into most awfully slovenly habits.

If some sort of instructional parade can possibly be carried out instead, it should be. Of course if there are not enough men for a parade then ordinary exercise is the only thing, but in the event of there being sufficient, a troop officer would do well to snatch the opportunity of trying to improve any badly trained horses or men that he has got.

As the question of weight has so much to do with this subject we must always keep in mind how much we can help the weaker horses by having them ridden by the lightest men in the troop.

Some people object to this on the grounds that the men like sticking to their own horses and do not like being changed about. This is quite right and is a principle which should be kept to, but not at the expense of the condition of a horse. Personal feelings must not be allowed to stand in the way of getting each individual horse into the best possible condition, and if it is better for a horse, temporarily debilitated or weak, to be ridden for a time by a light man it must be arranged.

Similarly when any tactical training is being carried out, a good troop leader will always be on the look out for chances of sparing his weaker horses, giving the long distances and hard work to others more capable of standing it, and opportunities for dismounting and grazing on these occasions must never be missed.

To sum up then, with regard to the work of the troop horse.

- (1) The proper distribution of weight.
Ascertain to what extent each horse in the troop is correctly balanced, and arrange suitable work to put right any faults in this respect. (Vide, "Notes on Riding").
- (2) The carriage of weight.
Endeavour to work up the back and loin muscles of any horse lacking in this respect, by steady uphill trotting and walking and also climbing up steep banks, not forgetting the enormous value of thoroughly wispings these muscles on return from work.
- (3) The support of weight.
Give work which will tend to harden gradually the legs and feet and accustom them to concussion, viz., a certain amount of road work, being very careful not to overdo this in the case of a horse which is soft and not used to road work.
- (4) The propulsion of weight.
For horses weak or deficient in the muscles of the hindquarters arrange steady uphill and climbing work, and a certain amount of jumping.

When considering this subject from the point of view of the horse's work only, one is bound to mention one great principle with regard to the working of any animal, and that is "Never overdo any work, never tire out or exhaust a horse." If a horse is over-worked or exhausted, it will very likely take him weeks to pick up what he loses in one morning's over work.

Another important principle is that no two horses are exactly alike, and although for practical purposes the same work will answer the purpose for many, it will not do so for all.

And finally, whenever possible, horses on return from work should be dismounted $\frac{1}{2}$ mile from home and should be led back with girths slackened.

With regard to the working of sick horses, much cannot be said under this heading as it is more a subject for discussion when dealing with minor ailments. Two points might, however, be mentioned as being the commonest cases that have to be dealt with. The first is that no horse suffering from any form of chill or feverish cold should

be worked at all, and no horse coughing from any throat affection should be worked in such a way as will make him cough or get him hot. Secondly, horses suffering from colic or any other intestinal trouble will benefit by walking exercise.

With regard to the division of the body into sections mentioned previously, it must not be understood that it is intended to imply that each section works, so to speak, in a watertight compartment for one purpose only. For instance although we must have back and loins well developed in order that the horse may carry weight, this is not the only duty of the muscles of these parts, they have also much to do with the forward movement of the horse in galloping and jumping, as also has the whole of the hind limb.

The division of the body into the sections mentioned is merely intended to emphasise the fact that the work of the troop horse must be arranged to meet the four requirements under the heading "Weight" and that by developing these sections of the body the object will be attained.

A FEW NOTES ON RIDING.

These notes have been drawn up as a guide to Instructors and are intended for use with "Cavalry Training." They are also intended to be of assistance to cadets, both in learning and afterwards instructing.

Assuming the course of instruction to be limited to 5 months, it should be divided into stages as follows:—

PRELIMINARY TRAINING.

1st. 5 weeks. Cavalry Training Sections 50 to 69 (inclusive).

Instructors should particularly concentrate on the following points:—

- (1) General easiness and balance in the position.
- (2) Knee and thigh grip.
- (3) Keeping hands low always, and forward as well at a jump.
- (4) The holding of the reins.

2nd. 5 weeks. Cavalry Training Sections 50 to 69 and 70, 71, & 78 Particular Points.

- (1) The use of rein and leg.
- (2) Careful and detailed explanation and demonstration of Section 70.

ADVANCED TRAINING.

1st. 5 weeks. Cavalry Training Secs. 71, to 75, 82 to 85, and further Instruction in Section 68.

Particular Points.

- (1) The value of using the weight of the body as well as the rein and the leg in all turns and circles.
- (2) Suppleness of body at the hips for making low points with the sword.
- (3) Correct position of arm and body when making points with the sword.

2nd. 5 weeks. Cavalry Training as for last period but add Secs. 77 and more advanced jumping.

Particular Points.

- (1) Handling a difficult horse.
- (2) "Dash" in the use of the sword and using the impetus of the horse with the point.

GENERAL CONSIDERATIONS.

As far as Riding is concerned we can classify men in two quite distinct categories—(1) "Horsemen," and (2) men who can ride up to a point or "Riders."

The first category comprises men whose powers are not merely confined to the art of "sticking on," but whose capabilities make them masters of a difficult horse, whose knowledge teaches them what he can do, and what is too much to ask him, and whose sympathy with the horse and its mind creates a sort of mutual understanding between man and horse as soon as he is on its back.

The second category comprises men whose one ambition in life is to remain intact "on top," and who consider, if they can do so, that they are "Horsemen."

In reality, however, an enormous gulf separates them from the former category, due very largely to a total lack of knowledge of the horse's powers both bodily and mental.

Before, therefore, considering any points in connection with actual riding, it will be endeavoured to show how important a knowledge of these things is.

The ignorant man who merely regards his horse as a beast of burden is annoyed when the horse he is riding shies at something he meets, or behaves in any way that upsets his rider's equilibrium, and the first thing he does is to beat it.

Again, if his horse refuses a fence, he at once gets his whip out.

These are merely given as examples of every day occurrence to show how the ordinary rider lacks one of the first essentials toward becoming a good horseman, namely, a sympathetic feeling for his horse's natural instincts and fears.

Of course the confirmed shyer may require the stick on certain occasions, but it is doubtful whether it ever does him any good.

Similarly a persistent refuser, who can jump when he likes, may require a beating, but this is not the point. The point is, why did the horse shy or refuse, and the answer in nine cases out of ten is because it was afraid of something. Now how can fear possibly be cured by flogging? It is obviously ridiculous to suppose it can be.

The horse, as an animal, is said to be the possessor of a wonderful memory, and undoubtedly most horses are. If he does wrong then he must be made to remember that he cannot, or that

is not worth while, repeating that fault. If he shies at something he is afraid of, the "Rider" says "I'll teach you, etc." and beats him. But the "Horseman's" method is different. He sets about quietly to prove to the horse that there is nothing to be afraid of. In the first case the horse remembers not only what he was afraid of, but the beating as well, and is doubly frightened the next time; whereas in the second case he has no unhappy memories but remembers that it was proved to him there was nothing to be afraid of.

Similarly in the case of the refuser. If this horse is flogged directly he refuses, he will hate the sight of that fence more than ever next time. But if a quiet and determined horseman defeats him by obstinately refusing to let him away from the fence until he has jumped it, he will remember that the game is not worth the candle, that the man is master, and that there was nothing to be frightened of in the fence after all.

The above are merely given as examples of how a good horse may be permanently ruined by an ignorant rider, that is to say, by a man who regards his horse as a machine, devoid of sense, mind and instinct; who is quite oblivious to the fact that a horse's instinctive fears quickly become habits if not overcome; and that harsh treatment will not overcome them but will only add to them.

Many of a horse's so-called vices are due solely to this form of treatment.

In addition to shying and refusing might be mentioned a horse that is difficult to groom, or shoe, or mount.

It must not be supposed that horses are not to be punished. On the contrary, they often must be, but the point that must be learnt is **when** to punish and **when not to**, **how** to punish and **how not to**.

The time to punish is when a horse thoroughly knows what he is expected to do and how to do it but will not. The way to punish is to deliberately and firmly show the horse you can be more obstinate than him and **will make** him do the thing even if it takes an hour or two hours. The way not to punish is to lose your temper and flog him.

It is often asserted that a horse's mind admits of no powers of "Reason," that he cannot put two and two together and that his mental powers are confined to instinct and memory. Personally, I am doubtful whether this is the case. A bad horse appears very quickly to put two and two together when a man gets on his back. If the

man is a "horseman" the horse very likely will not play up at all, but if he is merely a "rider" he will probably quickly be in trouble.

How is it that the "horseman" so quickly communicates his capabilities to the horse? Firstly and chiefly, by a perfectly free and easy and confident manner. Secondly, by an easy and not rigid seat, and thirdly, by a sympathetic hand on the reins.

This is an important point to remember, both in teaching and learning because it is just this which is the great dividing line between the horseman and the rider. The latter has none of these things. His manner is nervous, hesitating or perhaps bad tempered—his seat is stiff and he relies on strength alone to keep him in the saddle—the rein he uses exactly as he would the rudder strings of a boat, quite forgetful of the fact that they are attached to the horse's mouth at the other end by means of a steel bit and curb chain, and that this mouth is composed of a tongue, teeth, gums, lips, etc., all highly sensitive to pain until thoroughly spoiled by rough usage.

Another point which was previously mentioned as being wanting in the "Rider" is any knowledge of what his horse can or can not do.

Ignorance in this is the direct cause of many a good horse being spoiled.

He is put down as a bad jumper perhaps. But as likely as not he was asked to jump when he was thoroughly tired or stale, or perhaps sick.

He is put down as a horse that gets easily tired and that cannot stay. But this may be simply that he is not in clean hard condition and that he is asked to "Run before he can walk."

Again, there are faulty points in conformation which must be taken into account. For instance a horse which tied in shoulders cannot be expected to gallop and one with weak loins and quarters is seldom a good jumper.

But in determining a horse's natural bodily powers it is not enough to be guided merely by outward and visible signs. Just as a physically well developed man may be constitutionally weak, so is it with a horse, and if he is found to have a weak spot somewhere this must be taken into account in determining what work he can or can not do.

Nothing but experience and constantly giving thought to the subject will teach a man how much work a horse is capable of doing at any particular time, and anyone, even the most experienced, may make mistakes. But many careless and stupid mistakes might be

avoided if every one would let three considerations pass through his mind when he is working his horses—Three C's:—

Condition.

Conformation.

Constitution.

and under the first must of course be included the question "How old is he?"

These few points are given by way of preliminary considerations to the subject of Riding, because it is all important for both instructors and learners to remember that they are dealing with an animal and not a machine. An animal of intelligence and feeling, that for generations has been closely associated with mankind and has gradually been improved by man for his own purposes. The fact of this long and close association with man has made the horse naturally far more amenable and sensible than perhaps any other animal. But the only way in which advantage can be taken of these characteristics is by showing intelligence in working him.

The feeling, sense and brain power are all there and can be developed and made use of to an almost unlimited extent. But if the horse is always treated as if he were an inanimate thing he will become like a machine devoid of sense and half his value will be lost; if he is worked like a machine he will break down.

MOUNTING.

In mounting, the two chief points to attend to are the way the reins are taken up, and the way the body is let down into the saddle.

If the horse is one that always moves forward when he is being mounted, there must of course be an appreciable feeling on the rein to make him stand, otherwise it is best to leave the reins slack when mounting, or at most have a very light feeling on the mouth.

On no account should they be drawn up tight, and the left hand put far forward on the neck as if this is done it is very difficult not to draw the reins much tighter while mounting and the horse will then run back.

The bit rein should always be slacker than the bridoon in mounting.

Great care should be taken that the saddle is not pulled over by dragging the body up with one hand on the front and one on the rear arch of the saddle. As far as possible the weight of the body should be raised by the spring from the right foot assisted by the left hand

on the horse's withers and must be let gently down into the saddle and not with a bump.

Points for instructors to attend to:—

- (1) The way the reins are taken up. No unnecessary feeling on the horse's mouth.
- (2) Bit reins slack.
- (3) Body raised by spring from right foot and not by pull on saddle.

POSITION IN THE SADDLE.

In Cavalry Training, 1915, Sec. 64, we find a few points to attend to with regard to a man's position in the early stages of his training. Luckily all idea of a fixed and stereotyped position is omitted, and we are told that in the early stages much attention need not be paid to the position of the body.

By this no doubt is meant that exactitude of the correct so-called military seat need not be insisted on, and not that it does not matter what position a man gets into.

There are certain faults common to most beginners which if not eradicated in the early stages, quickly become habits and which then become very hard to correct.

The first and commonest are the instinctive clinging on to the saddle with the calf of the leg and the raising of the hands as soon as the horse moves at any pace faster than a walk.

I should advise instructors to concentrate on these two points in the early stages and to leave other details alone, for unless the knee and thigh grip is acquired and the hands are kept low, the man can never become a horseman.

These two faults are perfectly natural and must be expected.

To obtain the knee and thigh grip certain muscles must be brought into play which the man has very small occasion ever to use except when riding: consequently in the beginner they are weak and undeveloped.

To save himself he grips with muscles that are developed and are very strong, namely those at the back of the thigh and over the buttocks and by doing so, the knee leaves the saddle, the calf is pressed against it and the toe is pointed downwards.

The knee and thigh grip therefore, cannot be got until the muscles which give it are strengthened.

One of the best exercises to effect this is to make the man stand up in his stirrups, telling him to bear his weight on the inner edge of the sole of his boot. Then bend the body slightly forward and grip tightly with the knees. Rest by resuming the sitting position in the saddle and repeat an increasing number of times each day. As the man gets stronger, the same exercise should be done without stirrups, and with arms folded, and it can be made still harder by doing it at the walk and then the trot.

When once the correct grip is obtained, it will be found there is little difficulty in keeping the hands down, but until it is, they are nearly always held too high. In breaking young horses which are "down in front" it is necessary to ride with the hands unnaturally high, but that is a different thing altogether.

For ordinary riding, the hands must be kept down, otherwise the man's body is not balanced, and the horse cannot be properly controlled.

Another common fault, is when the man, riding with stirrups, throws the greater part of the weight on the outer edge of the sole of his boot, whereas it should be on the inner edge. This is very often due to instructors laying too much stress on the necessity of keeping the toe in and the heel out, and the beginner who is anxious to do what he is told, bends the whole foot inwards at the ankle, whereas it should be bent outwards.

If the foot is bent inwards, the seat must be weak as the leg becomes bowed and the knee comes away from the saddle.

Much can be done on Physical training parades to strengthen the grip by making use of the following exercises:—

1st. Exercise.

First Position. Carry the left foot away from the right about 2 feet. Toes slightly turned outwards but not so much as in the position of "attention."

Second Position. Bend both knees assuming the position of sitting in the saddle, hands being half closed in front of the body about the height of the belt, knuckles to the front.

Third Position. Keeping the knees bent, close the thighs bringing the knees as close together as possible and turning the foot over so that the weight of the body is borne on the inner edge of the sole of the boot.

Carry out this exercise by moving the knees inwards and outwards from the second to the third position and "Rest" by standing up and straightening the knees.

2nd. Exercise.

First 3 positions as in 1st Exercise.

Fourth Position. Bend the body slightly forward from the hips assuming the position of the body when the horse takes off at a fence, keeping the hands half closed, close to and in front of the body about the height of the belt.

Fifth Position. Still forcing the knees together, swing the body slightly backwards as for landing over a fence, at the same time pushing the arms forward to their fullest extent.

Carry out the Exercise by moving backwards and forwards from 4th to 5th positions and "Rest" as in the 1st Exercise.

Points for instructors to attend to in the man's position on the horse :—

- (1) Knee and thigh grip.
- (2) Hands kept low.
- (3) Foot bent slightly outwards at the ankle.
- (4) Absence of stiffness anywhere.

At the trot and canter there need be very little change in the position except for a slight forward inclination of the body, but at the gallop, the body should be bent well forward from the hips in order that as much weight as possible may be taken off the propelling parts of the horse.

At all paces point No. 4 above cannot be too strongly emphasised and especially at any pace faster than a walk. The hands and body going with, and conforming to, the horse's movements: and the legs from the knees downwards hanging loose and ready to control and direct him.

THE HOLDING OF THE REINS.

The commonest mistake is having the hands separated too widely apart, which results in 2 reins being held in one hand and 2 in the other in quite a disconnected manner. The effect of this method of holding the reins is that the beginner at once regards his reins as rudder

strings and he acquires the habit of dragging his horse round to the left or right as the case may be, when he wants to turn him.

The figure in "Cavalry Training" page 96, is not intended to represent how far the hands are to be apart, but how the reins should be held between the fingers.

All four reins should be held in the left hand, the right being placed upon the right reins to assist the left. But the two hands should be quite close together.

It is a mistake too, to overdo the rounding of the wrist, because if the wrist is bent too much, the position is strained and unnatural. The great thing to encourage is to have the wrist loose and pliable in a perfectly unconstrained position. The reins held so that they will not slip through the fingers unless they are wanted to, but not held in the hand as if it were a vice.

The much discussed question of how to give a man good hands, can be most appropriately mentioned here. It is sometimes asserted that unless a man naturally has good hands he will never have them. I personally disagree with this theory. But what is absolutely certain is that unless a man can have it brought home to him that the horse's mouth is naturally just as sensitive to pain as his own, that it has in it a steel bit and behind the chin a curb chain, and that these are connected to his hands by means of the reins—unless he has this fact drummed into him from the start, and the action of the bit in the mouth explained to him, he will never have good hands as he will lack any sympathy with his horse's feelings.

Good hands mean such a lot of things, such as an even temper, feelings for the horse, a knowledge of the severity and action of the bit, and above all, patience.

Again, the mechanism of the horse's body when in movement must be understood so that it can be realised when and why a horse requires more freedom of his head than at other times.

When a man has had these things explained to him, if he has any commonsense at all, he will see why a dead pull on the reins makes a horse pull, and he will understand why the hands must give to a horse landing over a fence.

If he can only be made to understand "Why," it will be one step in the right direction, and as his seat gets stronger, so will his hands improve, but only if he tries hard and is constantly thinking about it.

The length of rein is important, as if reins are held too long, touch with the mouth is lost and control is impossible: if too short, it is very difficult not to keep too tight a hold of the horse's mouth.

For ordinary hacking, the reins should be held so that when there is a light feeling on the mouth, the hands are just over the front arch of the saddle and about 6 inches from the body.

When jumping the hands should be so placed that sufficient feeling can be maintained on the reins to control the horse as he approaches the fence, but which will give him sufficient head room as he lands by merely the straightening of the arms, no rein being allowed to slip through the fingers.

For Sword practice, the reins should be held considerably shorter, otherwise especially in the low points, they will hang in festoons, and a horse, liable to shy off, cannot be kept straight.

Points for instructors to attend to:—

- (1) Hands close together, all 4 reins being held in the left hand, the right being available to use on the rein or otherwise as required.
- (2) Wrists not over bent but loose and pliable.
- (3) Thorough explanation of the action of the bit and its severity and the mechanism of the horse in movement.
- (4) Length of Reins.

THE USE OF THE LEGS.

It is very important that men should be taught how to use the legs properly. Of course this cannot be done unless the seat is good, that is to say, unless the grip is with the knee and thigh and the lower part of the leg hangs loose. The stirrups must be got the right length for the individual man, due regard being paid to the fact whether he has a short round thigh or a long thin one. The former will have to rely to a very great extent on his knee grip and will require a stirrup shorter in proportion to the latter.

In any case, during the earlier stages of a man's training he must never be told to use his heels on his horse, otherwise he gets into the habit of only using his spurs. I should like to have the words "Kick him up with your heels (or spurs)" absolutely erased from the instructor's vocabulary.

He must be taught that the proper way to use the legs is to increase or diminish the pressure with the knee and thigh according to what

is required, and if additional pressure is required the lower part of the leg must be pressed on the horse's side, the heel or spur only being used sharply as a last resource when the horse will not respond without it.

The incessant niggling with the spur is ruination to the horse, and as the man, unless he is a horseman, cannot use his spurs without taking his knees away from the saddle, it is obviously ruination to his riding also.

Points for instructors to attend to :—

- (1) The horse must be legged up by an increase of grip of the knee and thigh assisted by the additional **pressure** of the lower part of the leg.
- (2) Spurs are not to be used except as a last resource.

JUMPING.

First Stage—

In teaching men to ride over fences the instructions contained in Cavalry Training, Sec. 68, should be carefully followed.

The difficulties that appear to be common to all beginners are (i) to be able to judge where and when the horse should take off, and (ii) to understand at the moment of the take off, three things must be done :—

- (a) A slight forward inclination of the body.
- (b) The greatest possible grip with knee and thigh.
- (c) Freedom of the horse's head by the straightening forwards of the arms.

More perhaps in this than in any other part of riding is practice and plenty of it the best instructor, but there are one or two ways in which a man can be helped.

In teaching a young horse to jump he can be greatly helped in learning where to take off if a bar is laid on the ground in front of the fence at the required distance according to the height.

A bar in front of a fence will greatly help the man too, especially if he is told what it is there for, and, before he is asked to jump it, is made to watch the instructor, once, twice or three times and told to note carefully what he does. As far as it can possibly be arranged beginners should always be mounted on really good jumpers that thoroughly understand the game and know where to take off, as the man cannot be expected to learn on a horse that sometimes gets under the fence and sometimes stands back half a length too far.

There is another point to remember when trying to get the man to learn about the take-off, and that is never to let him take a long run at a fence. If a short distance is allowed for a trot and sufficient room for about three cantering strides before jumping it is ample. In time the man will, so to speak, instinctively count the three strides and know that at the fourth the horse will jump.

It must be remembered that man is very much a creature of habit especially where bodily movement is concerned. On the barrack square a single word of command is enough to make him go through a series of bodily movements and if he has had them previously well drummed into him he will carry them out with absolute precision and it would be very difficult to make him go wrong.

A good deal more than is done could be done in this respect in teaching men to ride over a fence. If for example they have it so drilled into them that on hearing the word, say, "Jump," they instinctively do two things, one is to let their hands go forward and the other is to grip with all their might, they will have been taught automatically to do two of the most important things. This can quite easily be taught and practised at the halt in the riding school, the word of command being given at any time without warning, and given again when jumping at the moment of the take-off.

It is not for one moment suggested that this is going to teach him how to ride over a fence but that it might help a man who has not naturally got riding in him to grip automatically, and to give with his hands when the horse takes off.

It is quite useless to talk to a man about **making** his horse take off until he can ride well over a fence on a good horse that does not require **making**: it has just about as much effect as trying to make a child read without teaching it the alphabet.

It is no use talking to a man about leaving his horse's head alone until it has been thoroughly drummed into him to put his hands forward.

The hands may never acquire the nicety and fineness of touch of a first-class horseman, they probably will not, but if the man can only be made to put his hands forward and keep them low, the horse's head will at any rate have freedom while it jumps.

Another point that requires attention in the beginner is the way in which he pulls his horse up after the jump. As a rule the hands go right up and the horse is pulled up with a jerk. This must be correc-

ted at once. Hands must be kept down and the horse gradually pulled up. The reason the hands usually go up is because as a rule the reins are either held too long, or they are allowed to slide through the fingers when the horse is jumping. Both are bad faults as the horse will be unbalanced and out of control on landing until the "slack has been hauled in," and in the former case, there is the additional reason that the horse cannot be kept straight at the fence and can run out if he wants to.

An immense amount can be done and must be done in the way of instruction by instructors demonstrating to their classes, and for this reason they must take every opportunity of keeping themselves proficient.

They should not always demonstrate on their own particular horses which are probably good ones, but should constantly get on the horses of their classes if they do not jump well.

In connection with this, perhaps one word of warning will not be out of place. If the demonstration does not go off quite well, an instructor must put his pride in his pocket and admit to the class that that was not right, and try again. Not the finest horseman in the world can do anything he wants to on any horse to order, but he will probably do it in the end. **The worst instruction that could possible be given** is for the instructor to lose his temper with the horse if the demonstration is a failure.

Points for the instructors to attend to:—

- (1) Teaching where the horse takes off.
- (2) Body forward, hands forward, and grip when the horse takes off.
- (3) Short run at the fence.
- (4) Hands down pulling up.
- (5) Demonstration.

JUMPING.

Second Stage.

So far the efforts of both the instructor and the learner should have been confined to getting a strong and easy seat over simple fences on a good horse.

If he has acquired this, the man must not think he is a "Horseman" because he has much to learn still. He must be able to make a bad horse jump and know how to put a horse at different sorts of fences.

By a bad horse, is meant a "refuser" or "rusher" both of which are dealt with in Cavalry Training, Sec. 77. But there are many other faults than these that make a horse a bad jumper, such as, taking off too soon or too late—not getting up enough—not jumping out enough, and all these require good riding to put right.

Taking off too soon.

Ride the horse very quietly and steadily over small fences at a walk and trot, take hardly any run at them at all: keep the horse well in hand: keep the hands extra low and speak to the horse quietly to steady him.

Taking off too late.

Try first with a bar on the ground, or raised about six inches from the ground and about three feet from the fence (this of course depends on the height). The maximum amount of pressure with the legs at the moment the horse should take off. If this does not succeed in improving him, he should be ridden side by side with a very free jumping horse which he will very likely copy and take off with.

Not getting up enough.

As a rule it is best to longe a horse like this over a stiff fence with a thick bar or rope run through the top. But as far as actual riding is concerned the whole movement of the man's body at the moment of the take-off should be one of lifting rather than driving, and his hands as they go forward may be slightly raised.

Not jumping out enough.

A horse that does not spread itself at its fences should be schooled over small fences with a good sized ditch on the landing side, and as far as riding is concerned, the whole movement must be the reverse to that mentioned in the preceding case; it must be one of driving forward.

With regard to putting a horse at a fence. It must be remembered that to jump high, pace is not required, but the horse must be "on his toes" and well collected. He has got to jump right off his hocks so the more the weight of the man's body is forward (in reason of course) the more will he be helped.

To jump width, pace is required. By width is meant anything 12 feet or over. Small ditches can be equally well, if not better, negotiated slowly.

At every kind of obstacle, a horse must be placed square. It is ten times harder for him to jump it at a slant.

The use of the whip when jumping should be discouraged in every way, for unless it is used judiciously and skilfully, it does a horse more harm than good. As a rule a whip is used by a lazy rider to save himself the trouble of using his legs. But he probably hits the horse at the wrong time, which only makes him jump worse than if he had been left alone.

The right time to hit him is a matter of a second and is just when he is collecting himself for the take-off. If he is hit before this, it will probably put him out of his stride and if afterwards, that is after he has taken off, it obviously can do no good.

The whip or stick should be short, about two feet to two feet, six inches, and the horse should be hit behind the saddle and not in front. It should not be held at the end sticking up in front like a fishing rod, but in the middle lying across the horse's withers and pointing to the left front and right rear. Nothing looks more unworkmanlike than a whip or stick carried like a fishing rod.

Points for instructors to attend to :—

- (1) The riding of horses having different jumping faults.
- (2) Pace steady over height, fast over width or breadth.
- (3) Horse put square at the fence.
- (4) The whip—when to use and how to carry.

A FEW NOTES ON THE IMPROVEMENT OF BADLY TRAINED HORSES.

It is difficult to do much more than generalize in a subject of this kind, as any method to be adopted towards improvement so entirely depends on the individual horse.

A few remarks on this subject are made in Cavalry Training, Secs. 94 to 101, and they should be carefully studied by anyone who has horses under his care and who has the opportunity of improving them.

As preliminary considerations, the first thing a man must ask himself is, "What do I want this horse for?"

"What are the requirements necessary for the troop horse?" and
 "What is the special fault of any particular horse?"

These considerations were gone into fairly thoroughly in the lecture on Work. Briefly speaking, the answer to the first two questions are, (1) Fighting, (2) Endurance, both physical and constitutional,

and handiness. The third cannot be answered as it depends of course on the particular animal.

The well-known phrase, "The Cavalryman's best weapon is his horse," is very true, and yet how very little trouble in many cases is taken to make the weapon efficient.

Really the bottom of the whole thing is,—Balance and Collection, for without these things the horse can neither be handy, for fighting, nor will his powers of endurance be fully developed.

Without entering into a theoretical discussion of the subject, I think we might describe balance as the means of obtaining the greatest power with the minimum physical exertion. It is just as necessary in a horse to be used for fighting purposes as it is in the case of a rifle, sword or revolver.

With the horse it implies—firstly, a correct carriage so that all four legs bear their proper share of weight, secondly, an easy flexion and suppleness in front in answer to the bit, and thirdly, a ready response to the leg combined with collection and power of the hind quarters.

The average horse that finds its way into the ranks at the present time has done previous work either as a hunter, hack or a carriage horse, and with these, anything that is wrong in the way of balance is a habit, and not "greenness" or ignorance, as in the case of a young raw remount. This fact must be remembered by those attempting to improve horses, as habits are much harder to eradicate than is it to teach a young horse a new thing, and endless patience is necessary.

Perhaps some of the commonest faults we meet with in connection with balance are:—

- (1) Carrying the head too low, and leaning on the bridle.
- (2) Carrying the head too high and not going up into the bridle.
- (3) Lack of flexion and nose poked out.
- (4) Turning on the forehead.
- (5) A one-sided mouth.

It is impossible to exaggerate the importance of a correct carriage of the head, as this probably has more to do with balance than anything else.

It has also much to do with a horse's powers of endurance as the mere fact of lowering or raising the head makes an immense difference to the amount of weight to be carried by the fore legs.

Before attempting anything in the way of training the horses, it is absolutely necessary to make sure that the men who are going to

ride them, thoroughly understand the action of the bit, that is to say, the opposing action of the snaffle and bit.

If this is not done, we get men trying to raise horses' heads by riding them on the bit, and doing something equally stupid with the snaffle.

Again, the value of the bending lesson and passaging is very great in obtaining balances, but **only** if the men have a thorough knowledge of how to make the horses carry out the various exercises.

If wrong aids are employed or are applied clumsily, the horse is asked to carry out the impossible in some cases, and in others, is so bewildered by the variety of directions he gets from the riders hands and legs that he does not know what to do.

An immense amount of time will be saved and far better results obtained if a little trouble is taken to get the men right first. By "right" I do not mean it is essential that they be brilliant horsemen, but that they should know the why and wherefore of the aids, not merely having a word perfect knowledge of them which is quite valueless: and should also understand that when asking a horse to carry out any particular exercise, it is not a case of applying the aid in a automatic sort of way with a definitely prescribed amount of strength but that it should be applied gently at first with a gradually increasing force if the horse does not respond.

With regard to faults in the horse mentioned above:—

(1) Carrying the head too low and leaning on the bridle. A horse with this fault is not only lacking in handiness for fighting purposes, but he is far more likely to tire quickly, and possibly break down, than he would be if he carried his head in the right position.

There are two things to be done, one is—to raise the head, and the other to get the horse to relax the muscles of the jaw, throat and upper part of the neck.

To start with, it will be found easier to do this if the reins are separated, the snaffle or cheek reins being held in the left hand and the bit reins in the right. The head should then be raised by holding the left hand high and the horse prevented from reining back or checking by pressing him up well with the legs.

For the first few lessons, it would be advisable for the rider to confine his efforts towards gaining this point, and not to confuse the horse by trying to teach him to bend to the bit at the same time.

As soon as he begins to move freely forward with his head up, the right hand can then begin playing with the bit-reins.

When such things as key snaffles are not available and the horse cannot be got to relax and play with bridle, it is sometimes a help to take a spare curb-chain, tie the two ends together and fasten it securely to the centre of the mouth-piece of the bit so that it hangs loosely on the tongue; this will sometimes induce a horse to relax and bend to the bridle.

The bending lesson and turns on the haunches are particularly valuable lessons for these horses.

(2) Carrying the head too high and not going up into the bridle.

If this fault is due to bad conformation, such as ewe neck, it is not unlikely that any amount of training will have much effect, though possibly some improvement may be made.

But if it is not, improvement is possible.

A martingale, fairly short, and attached to the bit reins, is a help provided it is used sensibly, and no idea of dragging the head down by force is entertained.

In bad cases, a martingale attached to the rings of the snaffle to act as a check on the head when it gets too high, is useful, but it must never be drawn up tight, as this might easily result in a broken jaw or a cut tongue.

These horses require an immense amount of legging up, and should always be ridden by strong riders. But it must never be forgotten that the reason they do not go up into their bridles is probably because they have very sensitive mouths, so great care must be exercised that too much is not asked of them at first, or their mouths will become bruised.

Straightforward ordinary hacking about is better for these horses than a lot of twisting and turning. They should not be asked to do any reining back.

Lack of Flexion and Nose poked out.

If this is combined with a low carriage of the whole forehead, then the first thing to do is to concentrate on raising the forehead by riding on the snaffle rein with the hands high, leaving the position of the head and flexion till later.

If it is not, side reins attached to the rings of the snaffle, crossed over the withers and fastened to the buckles of the stirrup leathers are a great help. But they will do more harm than good if put on

tight as the horse will lean on them. They must merely be used as a check on the poking of the nose. Any attempt to cure a horse of this fault by forcible means will defeat the object although the actual fault might be cured, as the horse will inevitably become a puller and acquire the habit of leaning on his bridle.

The side reins will check the horse when he pokes his nose and the rider must be continually playing with the bit reins to encourage the bending of the neck at the poll.

Bending lesson and reining back are of course valuable exercises for these horses: and so are **slow** cantering exercises on a bending track, and figures of eight.

Turning on the Forehand.

This is as bad a fault in the troop horse as it is in the polo pony. He takes just about three times as long to get round as one that turns on the haunches, and when he is round, his hocks are not under him, and he is not ready to jump off quickly in a new direction.

The whole thing with this, is to teach it perfectly at the halt, and walk first, and not to expect a horse to do it at a fast pace until he can do it slow.

If a horse is difficult to teach, it is best to get him up alongside a wall and then turn him slowly from the wall which will prevent him moving his quarters, keeping his head well up. He must afterwards be made to do it in the open, the man's leg taking the place of the wall.

The ease with which a horse will learn this, depends a great deal on the position which the rider gets him into before asking him to turn. It is very difficult for a horse to turn on the haunches when either standing or moving in a slovenly position. He must be well collected before he is asked to make the turn, in fact, in the first few lessons a pace or two reining back before turning is a help, and obviously as the distribution of weight should be greater than on the forehand, the rider should slightly incline the body backwards.

This is not an exercise which should be persisted in for long at a time, as it is very monotonous, and if the horse resists much, it means a good deal of "messaging" and pulling about. The same applies to all bending exercises and passaging and reining back. All these things if overdone to start with, tend to spoil horses' tempers.

A horse with a one-sided mouth.

Any horse found with this fault should be at once examined carefully for a bit injury, or any trace of an old bit injury, or a bad tooth.

If none of these can be found, it is probably simply due to bad breaking.

Barbarous so-called cures, such as the use of prickers, must never be resorted to. It is undoubtedly far better if possible to deal with a horse like this on a plain thick snaffle as it is so much easier to convey direct feeling on one side of the mouth only with this than with a bit. If only the regulation bit is available, then it should be used without a curb chain and with the cheek reins only.

The side of the mouth which has become "hard" has become so through rough usage, or anyhow careless training and nothing is going to make it less hard. The aim in training must be to teach the horse by any kind and patient method possible to conform to the feeling of the rein on that side. As in practically all training, the great thing is to confine all instruction to start with to slow paces.

In this case, Flexion at the halt is invaluable.

Cantering about and attempting to drag the horse round must be forbidden, in fact any cantering about is bad for these cases until the horse will answer readily to the rein at the slow paces especially in the bending lesson, circles and turns.

Jumping.

Many different forms of faults are met with in jumping, and in no part of a horse's training is it more important to think out the "reason why" of the particular fault.

For the sake of argument, horses might be classified as :—

- (1) Those which make no effort to jump.
- (2) Those which have a try but make a mess of it in some way or other.
- (3) Those which jump extravagantly big.
- (4) Those which buck over their fences, and will not spread themselves.

With regard to (1) this may be due either to Fear, Obstinacy, Physical Weakness or Ignorance. The first and last of these reasons, viz., Fear and Ignorance, can be dealt with very similarly but the other two require quite different treatment.

The expression of the horse's eye is the best guide as to what the trouble is. There is no mistaking the terrified stare, or the bewildered expression of the frightened or ignorant horse, with the sulky eye that looks back, of the obstinate one.

Fear and Ignorance must be cured by gentleness and patience : Obstinacy by greater obstinacy and patience ; and Physical Weakness by doing no jumping till stronger.

A frightened or ignorant horse should be led over anything small which the man can jump on his feet in front of it. Anything will do such as a tree trunk, small ditch, or small fence.

Absolute quietness must be the order of the day, and no whip of any description either used or shown.

If the horse shows signs of hesitancy or nervousness, he must on no account be dragged over, but a good jumper must be brought up and put over in front of him.

There is generally very little trouble with these horses if they are treated absolutely quietly in the first place, are not asked to do too much at a time and are not tried too high too soon. As soon as they jump freely on the longeing rein, they should be ridden behind a good jumper to give them confidence. They should on no account be ridden over a fence on the bit reins.

With regard to (2) when a horse has a try and makes a mess of it. This is probably due to a bad take-off. He either gets too close and tumbles through, or he stands back too far and reaches for the fence.

The great thing to remember with these horses is to ride them slowly, and to place a bar on the ground at the place where they should take off.

The question of riding need not be mentioned here as it has already been discussed, but of course teaching a horse when to take off is more a matter of riding than anything else.

It is not advisable to punish a horse for making a mistake at a fence unless there is no doubt it was simply a case of carelessness. Then a sharp pulling together and a couple of good raps with the spurs are better than a lot of promiscuous flogging.

With regard to (3). To get an extravagant jumper to take his fences more reasonably, it is best to have no regular jumping practice with other horses. He should be taken by himself and jumped over fences unexpectedly here and there quite slowly. He needs very steady and quiet riding, and very little leg pressure at the jump.

With regard to (4). Horses which do not jump out ought to be schooled over small stiff fences, with a ditch on the landing side. They ought to be ridden fairly fast into the fence and alongside a good free jumping horse.

There are of course many faults to be put right besides those in connection with Balance. A few that might be mentioned are:—

Horses that will not stand still, especially when being mounted. Those which will not rein back, or will not walk and are always on the “jig-jog.”

Many refuse to leave the ranks.

It is not much use trying to suggest special treatment for cases of this kind, as what might suit one horse will not suit another.

For instance, some fidgetty horses will stand perfectly quiet if their heads are left alone, and they are spoken to and given a pat. But with others, this will have no effect and possibly they will stand if their mouths are gently played with.

Horses that will not stand for mounting can sometimes be got quite right if a little time is taken doing mounting and dismounting by numbers as detailed in Cavalry Training for recruits—doing it slowly and quietly and making a distinct pause when the foot is placed into the stirrup and again when the body is raised before the right leg is carried across the back.

If the horse moves he ought to be gently checked with the voice and rein.

It is a mistake to take a horse away by himself to teach him this at first; he will learn it much easier and take to it much more kindly in company with other horses, but he must be practised at it later alone.

It is a very important point to attend to in troop horses owing to the difficulty men have in mounting them when they are trussed up in full marching order.

Some horses will never stand still when they are mounted which is an equally bad habit for a troop horse, as it makes it impossible to read a map or use glasses without dismounting.

It requires a lot of patience to cure an old horse that has thoroughly got into this habit. As a rule they are more likely to stand if their heads are left alone and they are patted on the neck. If they won't answer to this form of treatment, then they must be taught to stand still as a lesson, and every time they move either one way or the other they must be checked with voice and rein and put back to where they moved from.

Horses that do all their work in company with others, are very apt to suffer from this complaint when taken out by themselves, and

plenty of individual work to get them accustomed to being alone may go a long way towards curing them.

Reining back. The method of teaching a young horse to rein back is discussed in Cavalry Training Sec. 90, and very little need be added to this for the purposes of re-training a badly broken one. Sometimes a really obstinate horse in this respect can be made to do it quickly by putting him behind a waggon or Motor, and then asking the driver to back slowly, but the proper aids for making him rein back must be employed all the time as the mere pushing of a horse back by the waggon, is of little value in itself.

In dealing with a horse that apparently **will not** rein back, it is important to make quite sure that he is not suffering from any kind of diseased condition of the kidneys or injury of the loin muscles because in either of these cases he **cannot** back without very considerable pain.

In any case, the practice of trying to haul the horse back by mere strength of arm cannot be too strongly condemned, and if he will not respond to the "aids" given in Cavalry Training, it is best to start training him dismounted, holding the bit reins in the left hand about 6 inches from the horse's chin and a stick in the right.

He should then be got to rein back one step at a time. For each step he should be made to feel the bit and hear the word "Back," and if he does not respond, he should be given a tap on the knee with a stick; but directly he does step back, pressure should at once be taken off the bit and he should be patted.

Horses that will not walk.

This is a bad fault as it not only tires out both man and horse, but is frequently indirectly the cause of rubs and saddle sores.

As a rule it is not a case that requires any special method of breaking to cure, but rather is it a matter of Horse-management, i.e., more work and less food.

If a horse suddenly takes to doing it, then some local cause must be looked for, such as a sore mouth or sore back.

A horse not accustomed to a severe bit will probably do it whereas he would walk quite quietly on a snaffle, and if this is the case, it is only a matter of getting the horse gradually to get used to the bit, but to start with, it is useless to try to make him settle down into a walk without letting the bit-reins out and riding him on the snaffle.

Horses that will not leave the ranks.

Horses that are really bad in this respect, appear to be quite content to endure an almost unlimited amount of flogging or spurring rather than go out from the ranks. This being the case, it is obviously not the right treatment to effect a cure.

There is practically only one way of improving them, and that is by giving them as much individual work as possible.

Many horses are made much worse at this than they would otherwise be by being patted when they refuse to go out, and then when they are eventually got out by being flogged.

When they start doing this, they should get a thorough good lesson that they will not forget, as it is not fear that makes them do it, but vice, jibbing, in other words.

By a good lesson is not meant a violent flogging or spurring given in a fit of temper, but a sharp lesson of showing the horse he has got to go where he is wanted, twisting him round and round first one way and then the other, reining him back, sending him forward, turning him, passageing him, all quickly following one another; then taking him back to the other horses but just before he reaches them, halting, turning about and walking away.



