THE CAVALRY OF FRANCE

Scenes at the School for Non-Commissioned Officers.

STUNTS MEN PERFORM.

Every Officer Becomes a Skilled Instructor in Horsemanship—Horses Actions Controlled By Various Manipulations of the Reins—Special Harness Provided.

The large proportion of cavalry in the French army requires an unusual complement of commissioned and non-commissioned officers. The Captains and Lieutenants are educated at St. Cyr—the West Point of France. At Saumur turns out the bulk of the non-commissioned officers, its attendance ranges in the thousands.

While some of the drills at the American schools are merely given for exhibition purposes and are not intended to be executed in actual warfare, the French cavalry officer is expected to be able to put his horse on the battlefield through all the paces that he does in the riding hall or on the practice field. Next to the Italians, the French cavalry officers are probably the best equestrians in Europe on account of the instructions they receive.

The first lessons given the novice are in knowledge of his mount. He becomes so experienced that he can detect the slightest sense of viciousness in the animal. Thus, when riding a horse for the first time he is on the alert for any tricks which the animal may try to play upon him.

To acquire a seat he is first put on a horse thoroughly broken in all the gaits and a gentle animal, using an ordinary single bit and a blanket in lieu of a saddle. This is the course followed at some of the American schools in order that the rider may get the proper grip with the knees and balance himself to the motions of the horse; but it is only one chapter in the management of a horse at Saumur.

The expert cavalry officer is expected to be able to keep a firm seat on any sort of mount, no matter how fractious or vicious, and to perfect him horses are trained purposely to kick, balk, rear and buck. Frequently thoroughbreds are selected for this purpose, as they are especially mettlesome.

A twitch of the rein on one side causes him to kick with his forefeet, while a twitch of the opposite side makes him kick out behind.

The horse is generally placed between two posts padded with leather, so that neither animal nor rider may be injured by coming in contact with them. The horse is hitched between the posts with broad straps of leather or canvas attached to the headgear, so that it is impossible for him to break loose.

He is then put through a course of stunts which seldom fail to dismount the rider who is unaccustomed to these movements, no matter how proficient he may be in riding a horse trotting, loping or even going over hurdles. While he may be thrown sidewise from the saddle or backward, he is apt to be pitched over the animal's head and into the arms of the men waiting to break his fall.

Going through a daily lesson of this sort under the eye of a drill sergeant, the rider by degrees gets such a firm seat that it takes a vicious bucker or balker to throw him. Then he is put on a free horse and tries him in the riding hall or on the field.

Practice of this kind forms the final course of instruction, and upon its conclusion he is ready to be assigned to the squadron. The instruction includes jumping of all kinds, from taking a simple hurdle to going over a ditch and hedge.

In short, the French subaltern officer is an expert in cross country riding as many of the crack fox hunters in this country and Great Britain. As an exhibition of their skill it is a common thing for the riders at Saumur to jump their horses over dinner tables without touching dishes or food.

If one happens to be riding along a highway and an wagon obstructs his course he puts the spurs to his horse and makes a flying leap over it. When a squadron is on a practice march it is a common thing to take fences five feet in height and over.

Now, as already stated, the Frenchmen do not go through these performances merely for exhibition. It is a part of their ordinary drill, and if their riders practice high jumps, teach their horses to stand erect on their hind legs and to go over a dinner table or a cart, these exercises are indulged in not for the pleasure they give the riders, but to accustom them to unusual conditions and to train their horses to unusual acts.

As a result of this training every officer graduated at Saumur becomes a skilled instructor in horsemanship and the troopers of the squadron to which he is attached get the benefit of it.

The men at the school give performances from time to time during the year to demonstrate their skill in horsemanship.

[illegible] to increase the business of a certain innkeeper in New York [illegible] half a hundred invitations to an elaborate dinner, sending them to [illegible] writers and artists. The dining room was profusely [illegible] for the occasion, a fine [illegible] was in attendance, and the [illegible] were those of the [illegible] The result [illegible] a message [illegible]

SENSE OF SMELL IN ANIMALS.

How Different Odors Affect Various Species.

In many animals scent seems to be the most highly developed faculty. Thus the wild camel's keenest sense, according to Sven Heden, is that of smell. He was told by an experienced camel hunter that it can scent a man thirteen miles off! The deer, again, has been known to take fright at the scent of a man twenty-four hours after he had passed the spot. In two species of armadillo, according to Mr. W. H. Hudson, the sense of smell is so marvelously acute that it has made sight superfluous, and they are blind, or next door to it.

It is not easy to see what use the characteristic smell possessed by so many animals can be to the species, except in such extreme cases as the skunk and civet. Here, indeed, it is a veritable noli me tangere addressed to the rest of the animal world. But in the case of the fox, for example, it seems altogether a disadvantage and a danger to have such a strong smell. A pheasant had its nest in a wood for two or three years, and yet was never discovered by the dogs—retrievers, pointers and fox terriers—which passed and repassed it several times a day. In the case of the pampas deer described by the "Naturalist in Le Plata" the smell may be a warning to its enemies that it is not good to eat. The scent is as strong as that of the skunk, though less disagreeable. Its powerful odor reaches the wanderer on the pampas when the animal is not even in sight. The gauchos of the district say that it preserves the deer from snakes, which dislike the smell. And such great faith have they in the efficacy of the protection that they tie strips of the deer's skin, which still retain the smell, round the necks of valuable horses and turn them out to graze where snakes abound.

Animals, indeed, in many cases seem to be strangely affected by smells. Thus dog stealers are said to use a scent so beloved of the canine race that a dog will follow any one who smells of it. They carry in their pockets what is known as "dog stealer's pudding," which is merely a piece of linen which has been boiled and flavored with valerian. So fascinating is the odor that no dog will bite a man who has a piece of the so-called pudding in his pocket. And even the lion is said to be subdued by the scent of lavender. Trainers should take the hint, for it is said that no one has ever been attacked who took the precaution to use this perfume. Most animals, indeed, seem to be fascinated by the smell of lavender. Experiments have been tried at the zoo and elsewhere. The leopard takes the scented ball in its paws and rubs it over its face; the lion lays its head on the scented fragment and purrs; the tiger is thrown into an ecstacy of delight, pleasure beaming from his eyes. A dog, however, on which the writer of these notes tried the effects of a handkerchief soaked in lavender water, showed its dislike by backing away under the table when the scent was brought near its nose. On cats the effect was similar. A knowledge of this fact sometimes proves of service when a dog or cat becomes too affectionate. So the dislike of insects to certain perfumes may be of use to their victims. "What is it in the scent of musk and geranium," asks a writer in a gardening paper, "that house flies dislike? They leave a room in hot haste if geraniums are flowering on the window sill. It seems to be the leaf perfume they dislike, for I have heard of medical men and nurses placing geranium leaves near a patient's bed in order to keep off flies." Flies are also said to dislike the perfume of gardenia. Wasps, again, are said to avoid sweet peas, but this seems to require confirmation.

Robert Bruce, according to the well known story, once eluded his pursuers aided by bloodhounds, by climbing a tree, dropping from it into the stream, wading down and then taking to the land again. It is interesting to note that the elk tries to put the dog off the scent in a similar way. As Sir Samuel Baker tells us, it has a constant habit of swimming or running down a river to drown its own scent. It may keep the water for a quarter of a mile, or it may land several times in that distance and take to the water again. But the hare puts the pursuer off the scent in an even more ingenious way. When about to retire for the night it runs forward for a certain distance past its sleeping place and then doubles back over its own footsteps. Then it will take a big jump to the side and run a certain distance before finally taking up its quarters. Sometimes this performance is repeated two or three times. But the device of the "Springfield fox," as related by Mr. Seton Thomson, is worthy even of Reynard the sly. She—for it was a vixen—shook off the dogs whenever she thought proper by the simple device of springing on a sheep's back.—London Globe.

During the next term at the Washington State University a special course in Socialism will be given. It will include Anarchism, Communism, Socialism in its three branches—State, agrarian and single tax—and religious or altruistic, as taught by Washington Gladden.

A British explorer recently returned from Abyssinia says that he was for four months in a region hitherto unknown to white men. Along the tributaries of the Blue Nile he found a mining population engaged in washing gold. He reports that there is an enormous quantity of gold in this region, in which thousands of natives work.

A PETRIFIED FOREST

Freak of Nature in a Section of the Painted Desert of Arizona.

EIGHT MILES SQUARE.

Tree Trunks Like Ordinary Timber Save That They Have Turned to Stone—Theories Advanced by Geologists—Many Varieties of Quartz Found.

The petrified forest of Arizona, as it is commonly called, has been estimated by scientists who have explored it to embrace a territory about eight miles square. This includes the three sections of the forest, says the New York Sun.

The first or northern section and the second or middle section differ considerably from the third, since the trees of the latter, which have thus far been exposed, are not varicolored, but of a uniformly dark hue, at times approaching black.

Recent examinations of the Painted Desert, where the deposits are located, indicate that thus far only a part has been uncovered, and that the forest is of far greater extent than has been thought. Every year the action of the elements brings to view more and more of it, and there is evidence that it reaches considerably beyond the boundaries already defined.

The curious positions in which some of the petrified trees have been found have possibly caused more attention to be given to this feature of the forest than to the wonderful variety of quartz into which the wood has been converted, as well as the manner in which nature has exposed these trunks which have perhaps been turned to stone since the mesozoic age.

The term deposit as applied to this formation is perhaps more appropriate than forest, since people are apt to regard a forest as growth of trees in the natural position. Only in a very few instances have trunks been found standing upright.

The most notable formation is familiar to all who have visited this place—a portion of a trunk held in an inverted position with stubs of petrified roots still clinging to the butt. Practically all of the trees, however, are prostrate and it is safe to say not one is of its original length.

Even the so-called natural bridge which spans a little ravine in the middle deposit is probably but a section of the original tree, although it has been exposed for a distance of 111 feet.

With this exception, and a few logs ranging from 20 to 30 feet in length, the great mass of the material is in small pieces. Glancing at some of the deposits at the foot of the mesa, the regularity with which they have been broken off by nature arouses curiosity. It would seem as if some one had come here in prehistoric times with saw and axe and cut the logs into suitable lengths for planking, even into as small sizes as shingle bolts.

The incisions across the butts are made as evenly as if done with a sharp blade. Where the bark has retained its natural color the illusion is even more perfect. In fact there are acres of this formation which look as if the lumberman had just left it; yet every bit of the work has been done by the action of the elements.

The prevailing opinion of geologists is that the trees have been carried Several hundred feet below their first resting place by the disintegration of the mesa. Recent calculations of the height of the original plateau place it at fully 700 feet at the point where the deposits have been exposed, but it has been worn down until in many places it is less than one hundred feet above the level of the bed of the Rio Puerco.

The process by which the mesa has thus been destroyed is similar to the erosion which is seen in such a vast area of the Southwest. The material, consisting of beds of clays and sandstone shales mixed with harder sandstone, is so susceptible to the action of the water that even a single rainstorm carries away an enormous quantity of it in solution.

It is easy to explain why the trees have been severed into so many fragments. As the shale or sandstone has been washed away beneath them, they have broken on account of their own weight, but as already stated, the fractures have been made so evenly that it would seem as if the work had been done by the saw or axe.

It is rather remarkable that nearly all of the varieties of quartz into which the wood has turned, breaks across the grain more readily than lengthwise. This fact is proved by taking a piece of the outside or the inside and shattering it.

The tendency to break transversely is so noticeable that pieces of logs two feet in diameter can be seen in the northern section of the deposit, which are actually only three inches and four inches in thickness. In fact nature has cut them out so nicely that only the polishing wheel is needed to finish them into tops for stands and tables as well as other articles for ornament and use.

While most of the wood has been so completely petrified that it is in the form of agate, jasper or chalcedony, there are many specimens which have been preserved in their natural color. This is especially true in the deposit near Adamana.

The Benedictines from France, who have settled at Malvern, England, have merely come home again. King Edward the Confessor, founded a hermitage at Malvern, and after the Norman Conquest, in 1085, the hermitage became a Benedictine priory.

CRUEL SCHEMES OF POACHERS.

Birds Killed by Hooks and Springs—Deer Stunned by Iron Bars.

As the preservation of game extends year by year over land that was once indifferently cared for, the task that faces the poacher becomes increasingly difficult, says the London Sketch. Where in times past he had to avoid no more than one or two watchers he must now prepare to face on all large sporting estates the almost military tactics of a well organized body of keepers and assistants. In spite of the danger and uncertainty of his task, the poacher perseveres and a great majority of the preserves in these islands pay him tribute. When the game has been stolen the reward is small. Birds cannot be sold in open market, and must be disposed of for very little to a class that is content to buy cheaply and ask no questions.

The poacher's biggest prize is, of course a deer, be it red, roe or fallow. Nowadays the first named is very hard to secure, though time was when the poachers of the Highland forests shared the "antlered monarch" with the laird, and even the shepherds, in order to get a shot at close quarters were wont to hide where the red deer came to drink. In private parks, where roe and fallow deer are to be found, the iron bar is the most favored weapon. Gunshots might alarm a keeper, but a bar will serve to stun an animal that passes under the tree amid whose branches the poacher is hidden.

Next to deer the pheasant is most widely sought after and many devices are used for his destruction. Pheasants roost in trees and are sometimes shot with airguns or rook rifles that make little or no sound. At other times brown paper and sulphur are fired under a branch where the birds are sleeping, and if there is a light, favoring breeze some are sure to inhale the smoke and fall to the ground stupefied. Another poaching method is to lime a sheet of paper and roll it into the shape of a bag. The narrow end is then fastened to a twig at a height calculated to bring it well within a pheasant's reach and lightly dusted with peas. The pheasant pushes his head in to get the last pea and when he seeks to withdraw it only succeeds in pulling the paper from the twig. The birdlime holds him to the bag until he suffocates.

A method still more cruel is practised in very cold weather. Balls of fat, with a piece of coiled up watch spring inside, are frozen hard and set in the birds' paths. When the fat is eaten it dissolves and the spring, set free, bring the unfortunate bird to a cruel end. Patridges are sometimes snared with fish hooks baited with dough, the hooks being attached to a fine line stretching across a meadow or stubblefield. Grouse and partridge suffer less from the poacher than any other game, for the netting work that is sometimes practised requires considerable skill, and demands the services of some two or three men, who cannot readily escape observation. Pigeons are sometimes taken as they come from cover by a well directed blank shot that makes little noise and avails to stun the bird, and blank cartridge is used also, for small birds that may be taken in the hedge rows and yield a palatable meal in response to a little kitchen care.

Hares and rabbits suffer most from the poaching fraternity, and the man whose skill will not carry him to well preserved plantations often takes heavy toll of field and hedgerow. With the help of a good lurcher he can turn up hares with ease, and as puss always makes for a gate when pursued, the gate net seldom fails to yield a profit to its owner. Tangled in the net, a hare is seized at once by the poacher and killed before it can call. Wounded by a shot or caught in a snare its pathetic cry is widely heard and easily recognized. Rabbits are poached in many ways. Some men can lie above a rabbit hole and catch their prey as it comes in or out. Well trained dogs will snap rabbits or drive them out of hedges into ditches where nets are placed.

Traps and gins work havoc if placed in proper position and lightly handled; the track of hare or rabbit is as plain to the eye of a trained poacher as the word on the printed page. Every country woman with a large family to feed will give a shilling for a couple of rabbits that have not been shot, while if they can be got to market they will fetch any price between 10 and 15 shillings the dozen. The poacher is never anxious to use his gun. However carefully he may hide it by covering the butt with his coat and sliding the barrel down the leg of the trousers, a keeper or policeman has a keen eye for shape if he suspects a man of poaching, and when guns are out it often happens that the temptation to fight for liberty is irresistible, and such fights lead all too often to penal servitude for life or even to the gallows.

Scientific Facts.

Thirty-two thousand five hundred and sixty-two experiments were made on living animals in this country during 1904-5.

Shells filled with oil, intended to calm a stormy sea, when fired into it, have been invented in France.

The most elevated river in the world is the Desaguadero, in Bolivia. The average elevation above the level of the sea is about 13,000 feet.

Floating islands, the largest being 2-4 of a mile in area, form an interesting feature of a lake in Mindanao.

Good paper can be made from the hops thrown out as refuse from the breweries.—Wilwaukee Wisconsin.

Countersigns — Bargain announcements.

SKI MOUNTED SOLDIERS

Manoeuvers of Troops of Norway and Sweden.

MAKING CAMP IN SNOW.

How the Men Are Clothed and Equipped—Speed of Soldiers on the March—Ski Driving for Scouts—Ambulance Sleds—How Tents Are Heated.

In defence, as in other matters, a nation usually adapts itself to climatic and other natural conditions imposed upon it, taking advantage of these wherever possible and training its soldiers accordingly. For example, the troops of Holland go through intricate manoeuvers on skates; the French, Italian and Swiss armies maintain battalions of Alpine infantry who are both crack shots and expert mountaineers, provided with ropes, ice axes, and alpenstocks; and the armies of Norway and Sweden, says the American Review of Reviews, have for ages been supplied with ski during the long Scandinavian winter.

As far back as the days of Magnus the Good, in the middle of the eleventh century, we hear how the Duke of Finmark, with his archers on ski, attacked and utterly defeated King Regner at his winter quarters in Bjarmeland—a defeat which astounded the northern nations, who could not conceive how a snow sliding rabble of bowmen could possibly vanquish trained soldiers who had overcome even the dreaded legions of imperial Rome.

The ski of Norway and Sweden are long slabs of wood, ranging, according to fancy or requirements, from six to ten feet in length and from two to four and a half inches in breadth. All are curved upward at the toe and to a lesser extent at the heel. They are attached to the foot, generally a few inches behind the center, with a toe strap and some thongs.

Norway and Sweden being pre-eminently lands of the snows, it was but natural that the military authorities should turn their troops into skiers. For nearly two centuries the modern armies of Norway and Sweden, as distinguished from mediaeval forces have maintained permanent regiments of troops mounted upon ski, and stationed for service in regions where their presence would be most useful.

The wonderful dexterity, the swift marches and the holding of snowy positions thought to be impossible so impressed the Powers of Europe in those days that first Germany and then in turn Austria, Italy and France likewise mounted some of their Alpine troops on ski.

When mustered for the ski manoeuvers the men appear in heavy marching order, but, one is surprised to see, without overcoats, an Iceland shirt—a very thick knitted woven garment—being provided instead. It is quite as warm as a great coat and does not impede the men's movements.

Their underclothing is of great thickness, and they wear special ski socks, which keep their feet very warm. When on the march a halt and rest of from ten to fifteen minutes is allowed each hour; for, as the men are supposed to make good speed even over loose and heavy snow, the march is found most arduous.

On arrival at their destination the men are told off to cut poles, gather fir branches, scoop away the snow from the proposed site of the tents, and, finally, erect their temporary dwellings. The space being marked out by a non-commissioned officer, the snow is shoveled away to a certain depth and the cavity filled in with a kind of flooring or carpet of spruce branches. Four long poles, fastened together at a fixed height, are then raised slantwise from each corner, and these, with the exception of a space at the top, are completely covered with sheets of canvas laced together.

Inside the tent, suspended by wires from each pole, is slung a wire grating 18 inches above the ground, and on this the firewood is placed, so that are long a merry blaze is started, and the swinging fire, fed with air from every direction, soon makes the tent interior warm and cosy, even though it may be zero weather outside.

The speed attained by the men on ski has often been exaggerated, no doubt owing to the rapidity with which a snow slope can be descended. When the troops are engaged in cross country manoeuvers it is doubtful whether they will do more than five miles an hour.

Much difficulty is experienced in Norway and Sweden in the matter of transport and the carrying of field guns and wheeled vehicles across snow clad ground.

At present field artillery is transported bodily on sleds, so as to follow the army on ski; and the doctors, with their assistants, accompany the regiments with "first aid" necessaries, and ambulance sleds mounted on ski runners. It is a curious sight during the manoeuvers to see prostrate "wounded" men being hauled swiftly over the frozen wastes to the nearest military post or camp.

Apropos of a statement that "coal would appear a strange article of diet," a correspondent writes to the is as a luxury, Berlirtixv. ETA Westminster Gazette, saying that is is not only children and cats who regard it as a luxury, as he has an Irish water spaniel which makes away with a number of lumps a day unless the coal is kept out of his reach.

The public executioner of the Grand Duchy of Hesse has been fined $20 for "casting a disdainful glance" at the judge of the supreme court of Darmstadt.

WARFARE AGAINST THE CLOUDS.

Scientific Methods Adopted in Europe for Diverting Storms.

In Europe it has became almost a commonplace occurrence to shoot at the clouds with cannon or specially constructed apparatus to dispel threatened hailstorms. In almost every country on the Continent where agriculture forms the mainstay of the people there is a systematic use of these storm destroyers. In many parts of France, Italy, Germany and Austria the custom has grown so extensively that it often forms part of an official department of the municipality. In such cases, with the assistance of the neighboring land owners and farmers thorough systems have been devised, till the elements have become so harnessed that it is almost impossible for them to inflict any injury on the crops.

Public interest in the subject has become so aroused that the leading agricultural societies have taken up the idea, with a view to contributing to the means already employed the results of their minute investigations. In Vienna a congress of the members of the Meteorological Institute was called at which the various methods of cloud shooting were discussed and many experiments were inspired, which cannot fail to be of great benefit to the ravages or hailstorms.

Judging from the reports of the congress the idea of averting a storm by means of cannon shot is not a new one in Austria. It was first introduced during the reign of Empress Maria Theresa, who issued a decree prohibiting the use of cannon by the peasantry shortly after adoption of the practice. In time the decree was revoked, and in 1896 the method was again introduced into Austria, a new weapon being substituted in place of the cannon. This consisted of a funnel shaped barrel of iron with a broad muzzle. The idea of the broad muzzle was to distribute the discharge over greater space and thus increase the effect. So successful was this experiment that in 1897 the municipality in which this weapon was first used had no less than 30 shooting stations. Since then there have been no hailstorms in that locality.

Cloud shooting has nowhere become more generally used than in the vicinity of Venice, in Lombardy and Piedmont. These districts formerly suffered greatly from the destructiveness of hailstorms. During the summer of 1900 there were at least two thousand stations built on the plan of those constructed in Austria. At a congress held not long ago in Casale Monferrato it was found that in numerous localities where shooting stations had not been introduced hailstorms were of frequent occurrence, causing great damage to crops and property, while the districts provided with artificial means were entirely free from loss from such causes.

Herr Stiger, the originator of the present method, gave some interesting facts regarding his experiments with the cloud shooting cannon. He began his experiments with the fundamental principle of disturbing the intense stillness which prevails before a hailstorm. In view of the established fact that there is no physical reason why sound waves should exercise an effect on the formation of hail, Stiger determined that it would be necessary to confine his operations to creating the form of a whirlwind. An official trial demonstrated the fact that after the firing of a shot a small whirlwind arises, easily perceptible in the reflected sunshine. This whirlwind ascends with a piercing whistle, the sound lasting for fifteen seconds in day time and twenty seconds at night. During this experiment it was noticed that a swallow which flew within the radius of one of these whirlwinds instantly dropped dead. It had the appearance, upon examination, of having been shot. Stiger laid great stress upon the mechanical energy produced by the wind thus created, but this idea found few supporters till the Congress in Casale, Italy. A professor Roberts reported that at a distance of two hundred feet the wind had destroyed a strong diaphragm. Thereafter several experiments at St. Catherine demonstrated that the whirlwind was the main if not the sole agent in diverting hail.

Some careful experiments were carried on in Austria which are of great interest. The experts who attended the exhibition could plainly see the wind rise from the mouth of the funnels with lightning rapidity, possessing all the aspects of a shot. When large cannon were used, whistling could be heard from twenty to twenty-eight seconds. The most marked effects were produced by horizontal shots. For the experiments, shields built of thick paper and linen were placed at intervals of 40, 60, 80, and 100 yards from the mouth of the cannon. When the circle of wind enfolded these shields they were torn from the frames, the solid posts and frame work snapped in two and were cast from 15 to 22 yards, while a large mastiff, standing near was lifted in the air and after turning several somersaults was hurled against the ground with such force that he had no further interest in cloud shooting.

The proprietor of a New York cafe who recently offered a bonus to such of his single employes as would marry is now offering a premium of $10 a month increase of salary for those of his waiters who grow little side whiskers and $20 advance to the head waiter.

Balbino Davilos, of the city of Mexico, who has translated into Spanish some of the best American poetry, has been appointed on the staff of Ambassador Casusus, Mexican representative at Washington.