

with the Dhu Loch still higher up, surrounded by dark precipitous rocks, has very often been resorted to by the Queen and the Royal family in their short excursions of one day from Balmoral. Her Majesty's pleasant book, "Leaves from the Journal of Our Life in the Highlands," which as been so many times quoted for descriptions of places shown in our Illustrations, occasionally refers to Loch Muick, where a boat was kept and one or two huts were built, thirty years ago for the accomodation of the Queen and the Prince Consort. The Falls of the Muick lower down the Glen, are represented in one of our Engravings this week. Her Majesty, speaking of the stream, remarks that it "falls in the most beautiful way, over the rocks and stones in the glen."

THE CHANNEL TUNNEL.

If we except the recent public protest of Sir Garnet Wolseley against any attempt to abolish the "silver streak" which is at once the pride and the horror of the sea-sick British passenger, the outside world has lately heard but little of Channel tunnel. The engineers and their valiant little bands of workmen who are steadily cutting their way through the lower chalk from both sides of the Straits of Dover have however, been losing no time, for it is announced a propos of M. Léon Say's recent visit to Calais, that a considerable section of the works is expected to be ready for official inspection at the end of this month or the beginning of December. The work now being so energetically pushed forward is that of a drift way, which, if the boring proves successful, may ultimately be enlarged into the intended great highway for passengers and merchandise between England and the Continent. On the French side the work has, as we stated a few days ago, already reached a distance of 1,800 metres, while on the English side 1,600 metres have been completed. This makes in all 3,400 metres, or considerably more than one-tenth of the entire extent of piercing to be accomplished, the tunnel being rather more than 29 kilometres, or eighteen miles and a quarter long, to which must be added the gradual descent of about a mile and a quarter on either side, rendered necessary by the circumstance that the submarine portion commences at the bottom of shafts some three hundred feet below the surface.

So considerable an amount of progress as this must necessarily go far towards establishing the perfect feasibility of a task which was long regarded as the mere dream of a scientific enthusiast. The truth is that practical engineers who have given attention to the subject have long regarded the problem as simply one of cost and time. The observations of Sir John Hawkshaw long ago, led that experienced engineer to the conclusion that the tunnel could be wholly excavated in the lower bed of homogeneous chalk. This stratum is known to be 500 feet deep on each shore at high water mark, and being identical in character on each side of the Straits there is little reason to doubt that it stretches beneath the sea uninterruptedly, covered only by the familiar sand and shingle of the shores. Such a bed offers to the engineers peculiar advantages. Its great thickness enables them to continue in the same stratum the gradual descent of the tunnel corresponding to the shelving bed of the sea which, about midway between St. Margaret's Bay and the French shaft, a little to the west of Calais, attains a depth of about 180 feet below high-water mark. It is, moreover, very easily worked; for though it is not so manageable as the soft, pure, white upper chalk which is so familiar to the eye in the cliffs of our southern coasts, it still yields readily under the action of an engine on the simple principle of a carpenter's auger. Compared, therefore, with the slow labour of cutting through the hard rock of Mont Cenis, the task is really child's play. In the latter work a yard a day was considered a fair rate of progress; whereas Mr. Brunton's machine has been shown to be capable of cutting through the chalk at the rate of a yard an hour. Lastly, while the slightly greater hardness of what is known geologically as the lower chalk, compared with the more yielding nature of the upper strata, is hardly worth mentioning, its greater resistance to the percolation of water is an invaluable quality. The tunnel five miles long excavated a few years ago by Sir John Hawkshaw along the sea shore at Brighton below high-water mark, was in the upper chalk; hence the work was greatly impeded by fresh water springs—as much as ten thousand gallons per minute having sometimes to be pumped out. But even here the undertaking was not permanently delayed; nor would a considerable percolation in the Channel tunnel probably prove a difficulty too great to be grappled with. It has been said, indeed, that nothing could hinder the ultimate completion of the tunnel but the very improbable existence of open unfilled fissures reaching from the bottom of the sea to a depth of two hundred feet; for the tunnel will at all points be at a greater depth than this beneath the sea bed. No practical miner and excavator, however is prone to despise the difficulty of water; and any large infiltration would unquestionably add greatly to the already great expense of the undertaking. Under these circumstances, it is consolatory to know that the lower chalk has been shown, as far as experiments can show, to be practically watertight. That no great difficulty is found in keeping the workmen supplied with sufficient air may be assumed in these days of large experience in long tunnelling. And though, as the work progresses, it is really carried beyond the experimental stage, the distance along which the excavated chalk must be

removed to either shaft will be constantly increasing, there need certainly be no delay on this score. We need hardly say that every mile of the work successfully executed would increase the probabilities of success in a constantly increasing ratio.

Supposing that it is decided to go on with the work, and that the united twenty millions can be raised, there seems little reason to doubt that the tunnel might be completed in a few years. The original calculation was that it would only require two years to pierce a way of seven or nine feet in diameter from one side of the Channel to the other, a machine being worked from each side. Now that the experiment is proceeding in good earnest there seems every reason to hope that the task might be accomplished within something less than that period from the present date. If so, another four years would probably be required to complete the entire work and render it fit for traffic. Long before then, however, we should have really solved the problem of the possibility of annihilating that sea passage, which from countless ages before the dimmest dawn of historic time, has been the inevitable condition of communication between these islands and the Continent of Europe. Nor would the eventual opening of the Channel line, though it would crown the labour, be the most striking of the events in the history of the undertaking. There is something strangely fascinating to the imagination in the thought of a double band of workers deep down below the bed of the sea quietly pursuing their daily labour, while overhead the hurricane of last week was lashing the waves, and no packet-boat dared to put forth from the shelter of the harbours on either shore. But still more impressive is the thought of the time, now we may almost venture to say approaching, when the excavators, detecting with quick ears a dull echo, as it were, of the noise of their own labours, will pause to listen; and then going forward with a loud cheer and with redoubled energy, will see the thin wall fall, and stand suddenly face to face with their comrades from the opposite shore.—*London Daily News.*

LADIES ON HORSEBACK.

Every one remembers the passage in one of Thackeray's books, in which he remarks on the perennial interest men take in talking about horses. Take any two grooms pacing behind their masters in the park, he says, and you may safely conclude their speech is about horses; racing, or betting, or breeding, or rearing, but still about their favorite animals. Thackeray made no new discovery, in thus saying, but he stated a truism, such as all the world recognizes, and is ready to quote. The interest women take in the same subject is different, and follows a varying line, but it is scarcely less eager. The woman who rides at all in any sense that is further than being placed on the top of a horse, while he canters a couple of times round the row, thinks more about her performances than of any of her other daily achievements. Nothing that can be said or written about the matter is without interest for her. One of the latest contributions to the literature of riding is Mrs. Power O'Donoghue's "Ladies on Horseback," published by Messrs. W. H. Allen & Co., and a good deal of discussion has followed its appearance. It would seem to the ordinary mind that a lady's opinion on matters wholly feminine should be of paramount value to the members of her own sex. On the question of her seat on horseback, however, this is certainly not the case. The best teachers of riding, or at any rate those most resorted to, are men, though the obvious view would seem to be that no one better than a woman could teach a woman how best to combine security of position in the saddle with grace. The question of the relative safety of the different attitudes of men and women on horseback has never been satisfactorily decided. A woman will always excuse timidity by pleading the insecurity of her balance, while men declare that the third pommel, though dangerous in case of accident, is an absolute assistance to a close seat for those who know how to use it. All this, after all, resolves itself into the point of whether or not the rider is a good one. A bad workman never has good tools, and a naturally loose rider can never hinder daylight from appearing between him and his saddle. Plenty of people, both men and women, ride loosely and awkwardly, yet do not part company with their horses even in getting over rough places. To the astonishment of beholders they appear on the other side still in contact with them if only by the reins. But the human being who makes himself one with his beast, who moves with its movements, bends with its rise and lands over as a Centaur might, is probably born with the capacity, as a *rotisseur* is said to be with his peculiar talent. This brings us to what we must consider a singular view held by Messrs. Power O'Donoghue—namely, that it is unwise to put children early on horseback. Two things are absolutely necessary to make a good horseman or horse-woman, and these are nerve and seat. Which comes first in importance may be a matter of divided opinion, but we should have thought no one would have disputed the desirability of cultivating both early. All exercises requiring flexibility and strength of muscle ought to be commenced early. No one would think of taking to acrobatic performances late in life, and even the modified movements of the dance are not to be acquired in maturity with any but the smallest degree of grace and elegance. The physical faculties needed for riding are practi-

cally the same. The unconscious adjustment of the body to unexpected motion, the easy pliancy of give and take between the horse and his rider, which go to make what is called "seat," are surely best learned while the joints are flexible and the muscles supple. The authority in question thinks that children should only be placed on ponies or horses of extreme quietness, and that, being used to such, they will be frightened when they find a spirited animal under them. We do not take this view. The fall of a child from a small horse is not likely to be a serious business, and it is absolutely the best lesson against the recurrence of the same thing. Until one has found how easy it is to fall from a horse, no one has any idea of how unceasing must be the guard against it. This guard becomes in time one of the unconscious habits which help to shield us from all sorts of danger, but we think it very doubtful if it can be acquired after youth is passed. Nerve is of course more a matter of temperament, and also of accidental health and mood. But a naturally nervous child may be trained to a certain amount of self-control, and few modes of doing this can be better than early exercise on horseback. The happy sense of power over another and in one way stronger force gives self-confidence, the free motion in the open air strengthens the system and gives it tone, and if the instructor wisely shows the young beginner how much more pleasant and efficacious gentle friendliness is with his animal than angry violence he will be bestowing upon him a potentiality of future enjoyment little dreamed of perhaps at the moment by either. Not all men cultivate as they should do intimacies with their animals, nor appreciate as they deserve their faithful friendliness.

The stirrup best suited for a lady's use has long been a matter of debate. Her best friend in prosperity becomes her deadliest enemy when she comes to grief. We are glad to find that Mrs. Power O'Donoghue is in favor of the simplest. In point of fact, a lady should never be dependent on her stirrup. She will never have a firm square seat, with her shoulders at right angles with those of her horse, as long as she places her weight on her stirrup-leather. It might be too much to expect a lady riding across country in view of the hounds whose stirrup-leather snaps to continue the pace unchecked, but she certainly ought not to be disturbed in her saddle by the mishap, and she ought to be able to ride to the nearest forge to have it set right. Even with the plain man's stirrup a woman will run great risks if she has the habit of thrusting her foot into it up to the heel of her boot. In case of a fall she will be as little able to disengage her foot as if she rode with one of the dangerous patent slippers. Then we all know what terrible consequences ensue. She should ride with the stirrup lightly caught on the broad of the sole, much as a man does, and she should be able to move her foot in and out of it with perfect ease and going at any pace.

This will not only help to avoid the fearful dangers of being dragged in case of accident, but it will give a firmness, ease, and closeness to her seat otherwise unattainable. Most women who drag on their stirrup hold on by their hands. Miserable is the animal thus managed and piteous is the aspect of the rider. In fact, this is not riding at all but getting on to a horse's back and clinging there. Unknown to such an equestrian is the proud feeling of conscious security, the sense of perfectly attained equilibrium, the delight of guiding and controlling a spirited, intelligent, and obedient steed. Not many sensations are more keenly pleasant, nor more subtly minister to self-complacency than the light touch on the curb by which a too spirited horse is reminded he must obey and the gradual return to the snaffle which tells him that only obedience is required of him. Nothing of this can be known to the heavy-handed individual who keeps his or her seat by holding on the reins and wages a perpetual combat with the aggrieved animal. The ladies of to-day have a great advantage over those who rode twenty years ago in the present fashion of short, tight habits. The long sweeping garment which used to be considered indispensable, and the holding up of which when not on horseback was a studied art in itself, is now very properly regarded as not only useless, but dangerous. How women hunted in it is not easy to imagine. The pictures which have come down to us of ladies on cracoling steeds with long manes and tails, and habits fluttering about the horses' heels, would seem to indicate that they never ventured out of the safe precincts of the Park. On the other hand riding-skirts may be made too short for grace. As hinted before, the interest women take in horses and horsey affairs is largely tinged with a personal feeling. That they bestow more care and anxiety on their get-up for the hunting-field than men do on their oord-tops we are not prepared, nor is it necessary, to say. It is not a question of comparison. But they certainly share the love of the horse and his associations inherent in mankind to their full proportion, and "Ladies on Horseback" is and will remain a popular book.

QUIZ.

THE first of the series of races between the *Atalanta* and *Mischief*, for the American Cup, was sailed over the New York Club course recently, distance 40 miles. The *Mischief* won by 28 minutes 30½ seconds, the *Gracie*, which also sailed over the course, beating this time by 6 minutes, 17 seconds, in 4 hours 5 minutes 46 seconds.

DREAMS.

In a large class of dreams, it is certain that the persons or things seen have been previously well known to the dreamer, but perhaps not lately thought of. If, according to the philosophy generally received such appearances are nothing but the recollected images of the persons or objects seen, they are still wonderful. A beloved and long-lost friend suddenly appears in a dream, so like the waking reality that it is impossible to distinguish between the sensations caused by them respectively. This being so, we may well speak of such things as "wonders," be the explanation of them what it may. Dr. Abercrombie treats of dreams as hallucinations, and in support of his opinion relates the following:—"An eminent medical friend, having sat up late one evening, under considerable anxiety about one of his children who was ill, fell asleep in a chair and had a frightful dream, in which the prominent figure was an immense baboon. He awoke with the fright, got up instantly, and walked to a table which was in the middle of the room. He was then quite awake, and quite conscious of the articles around him; but close to the wall, at the end of the apartment, he distinctly saw the baboon making the same grimaces which he had seen in his dream. The spectre continued visible for about half a minute. If the dreamer, in this instance had ever seen a baboon making similar grimaces, the spectre would justly be called a recollected image; but it is still wonderful that such an image should suddenly start into existence, like the living thing itself. If he had never seen a baboon under similar conditions, but only a picture of one, it is still more wonderful that the picture after having been forgotten perhaps for years should in an instant assume the form and substance of a living creature, and in all respects act as if alive. Look at such phenomena as we will, they are, to say the least, marvellous. To assume that they can be easily explained by the association of ideas is only to urge one mystery in explanation of another. A second wonder of dream-land is the transformation or substitution of one set of ideas for another, but in such a way that the new images are the actual product of the old. One night, for example, the writer dreamed that he was walking by the side of a river, and saw a fair young girl taken out of the water and laid upon the bank. She was dead, but her beautiful blue eyes were wide open, and were fixed upon him, as he thought, with a steadfast gaze. The intensity of the feeling thus excited caused him to wake, and after a few moments' reflection, he was able to trace this dream to its origin. Immediately before going to bed, he had heard the mouse-trap in the pantry shut down with a click, and wishing to set it again, he had drowned the mouse in a pail of water, and had afterwards shaken it out of the trap. He remembered observing that the mouse's eyes were open as it lay dead on the table, and that they were blue. He then re-set the trap, and immediately went to bed. The dreaming sense had transformed the image of the mouse to that of a fair young girl; the pail of water had become a river, to harmonize with the altered conditions of the little drama that was to be played over again; and two or three strange characters were introduced in the shape of the persons who drew the girl out of the water. So far the dream is accounted for; but is it not wonderful when viewed in this light? It is as if a poet, with fine dramatic instincts, had taken a hint from the drowned mouse, and invested the incident with the most touching human interest. Such a transformation did not occur to the writer while he was awake. Why, or rather, by what law of intellectuality did it occur to him when asleep?—*Cassell's Book of Wonders.*

NEWS OF THE WEEK.

EX-PRESIDENT DIAZ has been married.
TRANS snowed up and abandoned in Nebraska.
RUMOURS of Bismarck's intended resignation.
THE Land Act is being favourable accepted by Mayo tenants.
RELATIONS between Mexico and Guatemala are said to be very critical.
THREE thousand operatives are on a strike in the Staffordshire potteries.
SERIOUS earthquakes have occurred at Chios, and the village is disappearing.
THE Sheriff of Mecca has refused to permit Midhat Pacha to make a pilgrimage to that city.
PARNELL has sent in his subscription to the Wicklow Hunt, and hopes hunting will not be stopped.
A GENERAL amnesty is to be granted by the Russian Government to persons convicted of press offences.
THE Canada Temperance Act in Picton County, N.S., has been carried by a majority of nearly 1,200.

A DESPATCH from Havana says the Government has been defrauded out of \$20,000,000 by the abstraction of the tax records.

THE Allan steamer *Corcan* was successfully floated on Tuesday night, and arrived at Quebec under steam yesterday morning.

A DESPATCH from Hong Kong says a terrible typhoon has ravaged Western Touquin, destroying 200 churches, 34 colleges and 2,000 houses. Sixty thousand Christians have lost all they possessed.