

THE NARICA.

The narica, or quasje, sometimes called the brown coaiti, found in Southern America, is represented in the accompanying engraving. It is a very lively and amusing animal, and possessed of singular powers of nose and limb. Distrustful by nature it will very seldom venture to approach a strange object until it has endeavored to ascertain the nature of the unknown by means of its sense of smell, which is marvelously acute. It seems to be as inquisitive as it is distrustful, and will not be satisfied until it has, by gradual degrees, approached and examined anything which it does not quite understand.

One of these animals, which was kept in confinement for some time, was extremely tame to those who understood the peculiarity of its temper, but was irresistibly morose and sulky with those who would not respect its customs. Any stranger who ventured to approach the animal was repelled with open mouth and threatening cries, unless he propitiated the creature by offering it some delicacy of which it was fond. It would then lay aside its suspicious demeanor and become suddenly confidential, returning the caresses of its newly found friend, and searching eagerly for a further supply of food. It proved to be quite a useful inhabitant of the house when it was domesticated, for it was accustomed to roam over the premises in chase of mice and rats, which it pursued unrelentingly through house, hay loft, and stables. It was also accustomed to pay visits into the garden, where it spent much of its time in catching snails and slugs, and in digging after worms—a task for which its powerful claws are eminently calculated to adapt it. When it was supplied with meat, it was accustomed to tear its food to pieces with its claws before carrying it to the mouth; and in the act of feeding, it always supplied itself by hitching one of its claws in the morsel which it was about to carry to its mouth. It struck up a friendship with a little dog, and would permit its four-footed friend to occupy the same bed, but would never endure the society of any other animal.

The color of this creature is extremely variable, as it seldom or never happens that two specimens are marked in precisely the same manner. In some individuals the dark portion of the fur is brown, mottled with black; but the general hue of the fur is a brown, tinted more or less with chestnut, and occasionally being so pale as to be of a warm fawn color. The under surface of the body and the internal face of the limbs are of a gray hue, tinged with yellow or orange, according to the individual, and extending, in some cases, to the sides of the neck and the lower jaw. The coat of the narica is rather thick, and the texture of the fur is harsh; it does not lie closely to the body, but presents a rather shaggy and rough aspect.

Uses of the Hop-Plant.

In the *Wiener Landwirtschaftliche Zeitung*, Dr. Emil Pott calls attention to the many useful purposes for which various parts of the hop plant may be applied, over and above the mere production of the umbels employed in brewing, to which alone the growers' care appears to be given at the present time. To begin with, the tendrils furnish a good vegetable wax, and a juice from which a reddish-brown coloring matter can be extracted; further, their ashes are greatly valued in the manufacture of certain Bohemian glass wares. Of still greater importance is the fact that a pulp for paper-making can be prepared from them, and though the goods thus manufactured cannot be satisfactorily bleached, very serviceable unbleached papers and cardboards are got from this raw material. The fibers can also be used in the manufacture of textile fabrics. Experiments in this direction extend to a far-back date, and in Sweden yarn and linen making from hop fibers has long been an established branch of industry, which is constantly increasing in importance and extent. The separation of the fibers has hitherto presented considerable difficulties, but these appear to be effectually overcome by the process recently devised by Dr. Weiss of Neutomischel, of steeping them for 24 hours

in cold water containing 5 per cent of sulphuric acid, or for 20 minutes in boiling water to which 3 per cent of the acid has been added. Other mineral acids, such, for instance, as muriatic, may be similarly employed. Nordlinger, of Stuttgart, also has patented a plan of rendering the fibers very flexible and tractable. This he effects by boiling them in closed vessels with soap and soda, and after thorough washing, treating them with diluted acetic acid, and then again washing in cold water. Another use to which hop twigs may be put is that of basket and wicker work. Lastly, it must not be forgotten that the young shoots form a very palatable vegetable, not inferior to asparagus in delicacy of flavor, while the leaves, and the spent hops themselves, supply an excellent food for live stock generally, and especially for sheep. Dr. Pott contends that by due recognition of some or all of these numerous virtues of the plant, growers can always repay the cost of cultivation without reference

impressions probably pertain to some salamandroid animal; and as it had been found useful to refer to fossil foot tracks as the representatives of the animal by which they were made under distinct names, he would, in accordance with a suggestion from Mr. Lorenz, name the form represented the Ellangowan anthracis.

Parrot Speech.

The interesting sketch of the "History of My Parrot," which Dr. Wilks contributes to the current number of the *Journal of Mental Science*, deserves a passing notice. The comparative study of the facts of intercommunication among men and among animals necessitates the admission that animals possess language; and the mechanism and apparatus for articulate speech, in those animals which possess it, do not differ from those of man. A bird learns to speak by imitation, through the organs of hearing, and in a

manner very similar to that in which children learn words and sentences, and the bird speaks on special occasions in consequence of some association or suggestion, "the usual provocative for set speeches at all periods of human life." A new expression, after having been repeatedly uttered before the parrot, is practiced by it spontaneously, indefatigably working at the sentence by itself. At first it is only able to get out the first word or two, then more and more, until it has the power of uttering the whole. In just the same way a child will learn a French sentence. A sentence is soon lost by the parrot if not frequently uttered, and the last words are lost first; the first words—those most readily acquired—are lost last. Speech of the bird, on any given occasion, is due to suggestion—the presence of the person or object with which the words were first associated. Of this Dr. Wilks gives several striking instances; as, "half-past two" whenever the coachman comes for orders, "go to sleep" when approached after dark, "give me a bit" when dinner appears, and "cheese" when the cheese is put upon the table, a sound like water being poured out whenever a jug of water is brought in. Thus the bird associates words or sounds with objects, and, where the right names have been taught it, may be said to know their names; more, the bird invents names, making a particular sound, which had never been taught, whenever nuts were brought upon the table. The sight of a cat makes the parrot say "mew," as the sight of a train makes a child say "puff, puff."

Dr. Wilks concludes by remarking that the differences between animals and children are much slighter than are the explanations, which, on the assumption of instinct in the one case and reason in the other, we put upon them, and suggests that the



NARICA, OR QUASJE.—*Nasua Narica.*

to the hop itself, which of course will remain the chief object in view, and can render themselves more independent of the great fluctuations in the price of the latter to which they are at present subjected.

Fossil Footprints in Anthracite.

At the last meeting of the Academy of Natural Sciences, Dr. Joseph Leidy read a letter from Mr. W. Lorenz, Chief Engineer of the Philadelphia and Reading Railroad Company, referring to a fossil specimen presented to the Academy by Mr. William D. H. Mason, of Williamstown, Pa. The specimen is a mass of coal shale with footprints, and was discovered by the donor at the Ellangowan colliery, in the Mahanoy coal field. Mr. Lorenz remarks that it is of special interest as having been the first specimen of the kind found in the anthracite coal field. The specimen is an irregular slab, upwards of a foot long, and less than half the breadth. The upper surface is obscurely ripple marked longitudinally, and is crossed in a slant by seven tracks, which are in pairs, except one, in advance on the right. The four tracks on the right occupy a line of six inches, and are about an inch and a half apart from those on the left. The more perfect impressions exhibit four widely-divergent toes, successively increasing in length from within outwardly, excepting that the fourth toe is slightly shorter than the third. The expanse on the tracks is about one inch. The

chief difference between man and animals is to be found in smallness of knowledge of the fine arts possessed by the latter.—*Lancet.*

A Baby Sea Lion.

A sea lion, sent by rail from San Francisco to Central Park, New York city, in the latter part of June, gave birth to a cub on the way. By the 4th of July the little fellow had attained a length of about two feet, and weighed fifteen pounds. The mother did not seem very affectionate, and was rather disinclined to suckle her offspring, at least in the day time. The superintendent said, however, that the nursing probably took place during the night. As the swimming powers of the little fellow were not fully developed, it was proposed to draw the water out of the tank, so that the baby could suck his rather unnatural mother. When the latter is approached she shows anger and makes for the intruder, barking and showing her ugly fangs. Last year, in the Brighton (England) aquarium a sea lion was born, and one also in the Cincinnati Zoological Garden. In the latter case the mother died soon after the birth of her cub, and the little sea lion died also.

THE height of impudence, the *Chemical Review* thinks, is the man who seeks to abrogate patents calling himself a patent law reformer!

Intellect in Brutes.

During my residence in Cornwall, says a correspondent of *Nature*, I had a most intelligent and faithful dog for fifteen years. I had him when a month old. His mother was a beautiful liver-colored spaniel, rather large; his father a black Newfoundland; my dog took after him in color and shape.

In 1843 a young and self-taught artist asked me to allow him to paint my likeness in oil colors, and I consented. His studio was in the next town, three miles distant, and as often as required I went over; I, however, did not take my dog with me. It was done in Kit-Cat size; and he succeeded so well in the likeness and artistic work, that when exhibited at the annual meeting of the Polytechnic Society at Falmouth, a medal was awarded to it, and, as well, it was "highly commended." Not only this, it brought him into notice and gained him lots of employment. The artist was so grateful for my attention that he presented me with the painting, and I still have it. When it was brought to my house, my old dog was present with the family at the "unveiling;" nothing was said to him nor invitation given him to notice it. We saw that his gaze was steadily fixed on it, and he soon became excited, and whined, and tried to lick and scratch it, and was so much taken up with it that we—although so well knowing his intelligence—were all quite surprised; in fact, could scarcely believe that he should know it was my likeness. We, however, had sufficient proof after it was hung up in our parlor; the room was rather low, and under the picture stood a chair; the door was left open without any thought about the dog; he, however, soon found it out, when a low whining and scratching was heard by the family, and on search being made, he was in the chair trying to get at the picture. After this I put it up higher, so as to prevent it being injured by him. This did not prevent him from paying attention to it, for whenever I was away from home, whether for a short or long time—sometimes for several days—he spent most of his time gazing on it, and as it appeared to give him comfort the door was always left open for him. When I was long away he made a low whining, as if to draw attention to it. This lasted for years, in fact as long as he lived, and was able to see it. I have never kept a dog since he died, I dare not—his loss so much affected me. I might tell of many of his wonderful actions; he could do most of such things as are related of other dogs. I am now only anxious to notice this recognition of my likeness, from never having heard of another such fact being recorded of any other dog.

Another correspondent says: During the recent severe winter a friend was in the habit of throwing crumbs for birds outside his bedroom window. The family have a fine black cat, which, seeing that the crumbs brought birds, would occasionally hide herself behind some shrubs, and when the birds came for their breakfast, would pounce out upon them with varying success. The crumbs had been laid out as usual, one afternoon, but left untouched, and during the night a slight fall of snow occurred. On looking out next morning my friend observed puss busily engaged scratching away the snow. Curious to learn what she sought, he waited, and saw her take the crumbs up from the cleared space and lay them one after another on the snow. After doing this she retired behind the shrubs to wait further developments. This was repeated on two other occasions, until finally they were obliged to give up putting out crumbs, as Puss showed herself such a fatal enemy to the birds.

Immunity of Rodents to Solanaceous Poisons.

According to the *Lancet*, Prof. Haeckel, of Marseilles, has investigated the action of the alkaloids of solanaceous plants upon the rodents, with a view of ascertaining the conditions which determine the remarkable immunity to the poisonous effects of such alkaloids presented by these animals. The fact of the immunity has long been known in the case of the rabbit and guinea-pig, especially with regard to belladonna, and Prof. Haeckel has shown that it is also possessed by several species of rats, and exists not only for belladonna, but also for the alkaloids of black and white hellebore, and of stramonium. The results which he has obtained show that the rabbit and guinea-pig may be fed for a long time with the leaves, and even with the roots, of the poisonous solanaceæ without detriment, and that the rat bears very well the addition of these plants to its ordinary food. The immunity of the rabbit and guinea-pig is so great that Prof. Haeckel was able to bring up several generations on this food, giving them, during the summer, the leaves exclusively, and during the winter mixing dried powdered leaves and roots with equal parts of other food. He adopts the views of Bouchardat, enunciated long ago by Chatin with respect to arsenic, that the effect of the poisons lessens in proportion as animals recede in organization from man. He believes, from further experiments, that the alkaloids of these poisons are destroyed as fast as they enter the blood. M. Colin, in the discussion on the report, was inclined to attribute the immunity of the rodents rather to the small solubility of the vegetable alkaloids, which need, for absorption, transformation into a soluble compound by the action of the gastric juice. In these animals the food rests a very short time in the stomach, and passes with great rapidity into the intestine, and the alkaloids pass away by the bowel almost unchanged. M. Chatin, however, doubted this explanation, on the ground that the alkaloids of the vegetables, although in themselves insoluble, are commonly so combined in the plant that they will dissolve readily. He believed that the

immunity of the rodents to these poisons depends on their peculiar organization, and suggested, as an important subject for investigation, the precise point in the animal series at which the immunity exists.

Traveling Rocks.

Lord Dunraven, in an interesting article in the *Nineteenth Century* about Canada, and his experiences in moose hunting, relates the following:

A strange scene, which came within my observation last year, says his Lordship, completely puzzled me at the time, and has done so ever since. I was in Nova Scotia in the fall, when one day my Indian told me that in a lake close by all the rocks were moving out of the water—a circumstance which I thought not a little strange. However, I went to look at the unheard-of spectacle, and, sure enough, there were the rocks apparently all moving out of the water on to dry land. The lake is of considerable extent, but shallow and full of great masses of rock. Many of these masses appear to have traveled right out of the lake, and are now high and dry some fifteen yards above the margin of the water. They have plowed deep and regularly defined channels for themselves. You may see them of all sizes, from blocks of, say, roughly speaking, six or eight feet in diameter, down to stones which a man could lift. Moreover, you find them in various stages of progress, some a hundred yards or more from shore and apparently just beginning to move; others, half-way to their destination, and others again, as I have said, high and dry above the water. In all cases there is a distinct groove or furrow, which the rock has clearly plowed for itself. I noticed one particularly good specimen, an enormous block which lay some yards above high-water mark. The earth and stones were heaped up in front of it to a height of three or four feet. There was a deep furrow, the exact breadth of the block, leading down directly from it into the lake, and extending till it was hidden from my sight by the depth of the water. Loose stones and pebbles were piled up on each side of this groove in a regular, clearly defined line. I thought at first that from some cause or other the smaller stones, pebbles, and sand had been dragged down from above, and consequently had piled themselves up in front of all the large rocks too heavy to be removed, and had left a vacant space or furrow behind the rocks. But if that had been the case the drift of moving material would of course have joined together again in the space of a few yards behind the fixed rocks. On the contrary, these grooves or furrows remained the same width throughout their entire length, and, have, I think, undoubtedly been caused by the rock forcing its way up through the loose shingle and stones which compose the bed of the lake. What power has set these rocks in motion it is difficult to decide. The action of ice is the only thing that might explain it; but how ice could exert itself in that special manner, and why, if ice is the cause of it, it does not manifest that tendency in every portion of the world, I do not pretend to comprehend. My attention having been once directed to this, I noticed it in various other lakes. Unfortunately my Indian only mentioned it to me a day or two before I left the woods. I had not time, therefore, to make any investigation into the subject. Possibly some of my readers may be able to account for this, to me, extraordinary phenomenon.

[Any one familiar with ice action in our northern lakes and rivers, will have no great difficulty in accounting for the rock movement described. It takes place in various ways, depending on the depth of water, the breadth of the pond or river, the force of the wind and waves, variations in water level, and other conditions. Just which of these causes, alone or combined, operated in Lord Dunraven's Nova Scotia lake it is impossible to say from the description he gives. Probably the last named, and the wedging of the ice-masses against the larger rocks, when rising and falling with the water, had most to do in moving the boulders on shore.—Ed.]

Machine-made Hammered Horsenails.

According to the *Ironmonger*, another of our labor-saving machines is about to be adopted in England. The Stirchley Company will now, the writer says, become the sole manufacturers in England of the Sheridan horsenails. These are the product of a recent American device of indubitable merit. They are hammered hot from head to point by a succession of blows similar to those made by hand. To manufacture the nail in America a joint-stock company was recently started at Cleveland, Ohio, with a capital of \$50,000, and having Mr. Henry B. Sheridan, C. E., the inventor of the machine, for its managing director, or president. The machines are capable of turning out an average of 500 lb. a day, and any pattern which may be required can be shaped. Two forging machines have been brought over from Cleveland, and under Mr. Sheridan's personal supervision they have been erected at the Stirchley Works, where I have just seen one of them in operation. It was served by an American nailer, who, taking his Swedish iron rods hot from a small portable furnace and thrusting them two at a time into the machine, which weighs about 1½ tons, and runs at 1,000 revolutions a minute, quickly shows them dropping out in the blank, properly bent, and shaped in a style surpassing any hand-made horsenail I ever saw. From the forging machine the blanks are taken, when cold, to the finishing machine, which draws the blank out, compresses it, and points the nail ready to drive. This machine weighs about 18 cwt., and finishes, with two boys to feed it, 500 lb. a day.

MISCELLANEOUS INVENTIONS.

Messrs. Charles Holzner and John Winstandley, of Louisville, Ky., have patented an improvement in coal-hods, which consists in forming the lower edge of the body portion of the hod with an outwardly-flared flange, and fastening the hoop, foot, or base-ring thereto by contracting it upon said flange and riveting the ends of the hoop together in such contracted position upon the flange. It also consists in combining with the flanged body portion and base-ring a wooden bottom having a metal lining and a tapering or beveled edge, which bottom is forced inside the base-ring up into the lower edge of the hod, and clamps the flange at the bottom of the body portion between its beveled edge and the base-ring to make a compact and secure connection. We call attention to an advertisement in another column relating to the invention.

An adjustable "scoop-board," adapted for attachment to the tail of the wagon, for use in husking or hauling corn, and for other purposes, has been patented by Messrs. Thos. F. McGuire and John Ditto, of Oxford, Ia. It consists in the combination, with the hinged scoop-board, of a semi-circle-brace, having apertures for a clamping pin or screw, that passes through a keeper.

Mr. Samuel T. Harrison, of San José, Cal., has patented an improvement in magazine fire-arms, which consists of a carrier having an intermittent vertical movement controlled by a lever connected with a finger on the guard, which receives the cartridge from the magazine, carries it to the breech of the piece, and when it is ejected into the breech, returns and locks the breech-block in place behind it. Also, a breech-block, in which is sheathed the needle, connected by a link with the finger of the guard, from which it receives an intermittent reciprocatory movement, serving to drive the cartridge from the carrier into the breech.

A paper bag, provided with a tie-cord secured within a fold on that edge of the blank which forms one of the seams, has been patented by Mr. Charles Newman, of Alton, Ill.

Mr. Edwin D. Finch, of Stanton, Mich., has devised an improved mechanical telephone, in which the vibrations of a diaphragm are transmitted by a cord or wire to a receiving-diaphragm at a distance; and the invention consists in novel features, whereby the vibrations are concentrated upon the line, and false vibrations prevented; also, in means for adjusting the tension of the line and diaphragms, and relieving the diaphragms of tension when not in use.

Mr. Robert MacKellar, of Peekskill, N. Y., has invented an improvement in fire-grates for burning soft and hard coal. It is so constructed that the coal can be easily stirred and kept loose and free from ashes, so as to burn freely. It consists in the combination of the screw with a grate having a slot formed through its center, the screw forming the middle portion of the grate.

A hanger, having arms or yokes formed of spiral springs, united by a central piece of wire formed into a loop, by which it is hung from a hook, has been patented by Mr. Frederick H. Zahn, of Springfield, Ill.

An improvement in apparatus for disintegrating grain and distilling spirits, patented by Mr. Edward Fox, of Brooklyn, N. Y., consists in combining, with the mash-tub and still, a steam-pipe, injector, mash-pipe, and pan, and in combining with the still a dome having a pipe leading to condenser, perforated trays, and gutters.

A lock adapted for securing both the upper and lower sash of the same window has been patented by Mr. George F. Knight, of Carroll, O. It consists in the combination of a detachable key having a nib, and a pivoted spring-actuated angular lever, having a lug to engage with a window-sash, and the apertured case inclosing the lever, so that when the key is turned in a certain position its nib will catch over the edge of the free end of the lever, and traction on the key will then tilt the lever, but when turned into another position will release the lever.

An improvement in that class of coffee-pots which are provided with an inner receptacle or strainer, has been patented by Mr. Thomas Keys, of Jacksonville, Ill. It consists in providing the inner receptacle or strainer of a coffee-pot with an inwardly-projecting flange or lip near its top.

Mr. David Smith, of Boston, Mass., has patented an improvement in urine-guards for water-closet seats. The guard is preferably made of glass or glazed earthenware, or other material which will not absorb moisture.

The Manufacture of Damascus Steel.

In a series of articles on mining and metallurgy at the Paris Exhibition is promulgated the following interesting data on the method of making Damascus steel sword blades at Zlatoust, in the Ural: The pig iron used in making the latter is a spiegel, with 8 per cent of manganese, which is partly converted into puddled steel and partly refined. The cast-steel ingots of about five pounds weight are made from selected qualities of puddled steel, 61 per cent of the crucible charge being hard, 23 per cent medium steel, 10.37 per cent refined pig iron, and 3.71 per cent magnetic ore. The tilted bars are twice piled for shear steel, a layer of sulphide of antimony being placed between the different bars. The final pile is made of four square bars, about one-eighth of an inch in the side.

THE way to convert modern pottery into the antique is to boil the former in oil and bury it in wood ashes. One will be astonished to find how quickly the new article will become in appearance a veritable antique.