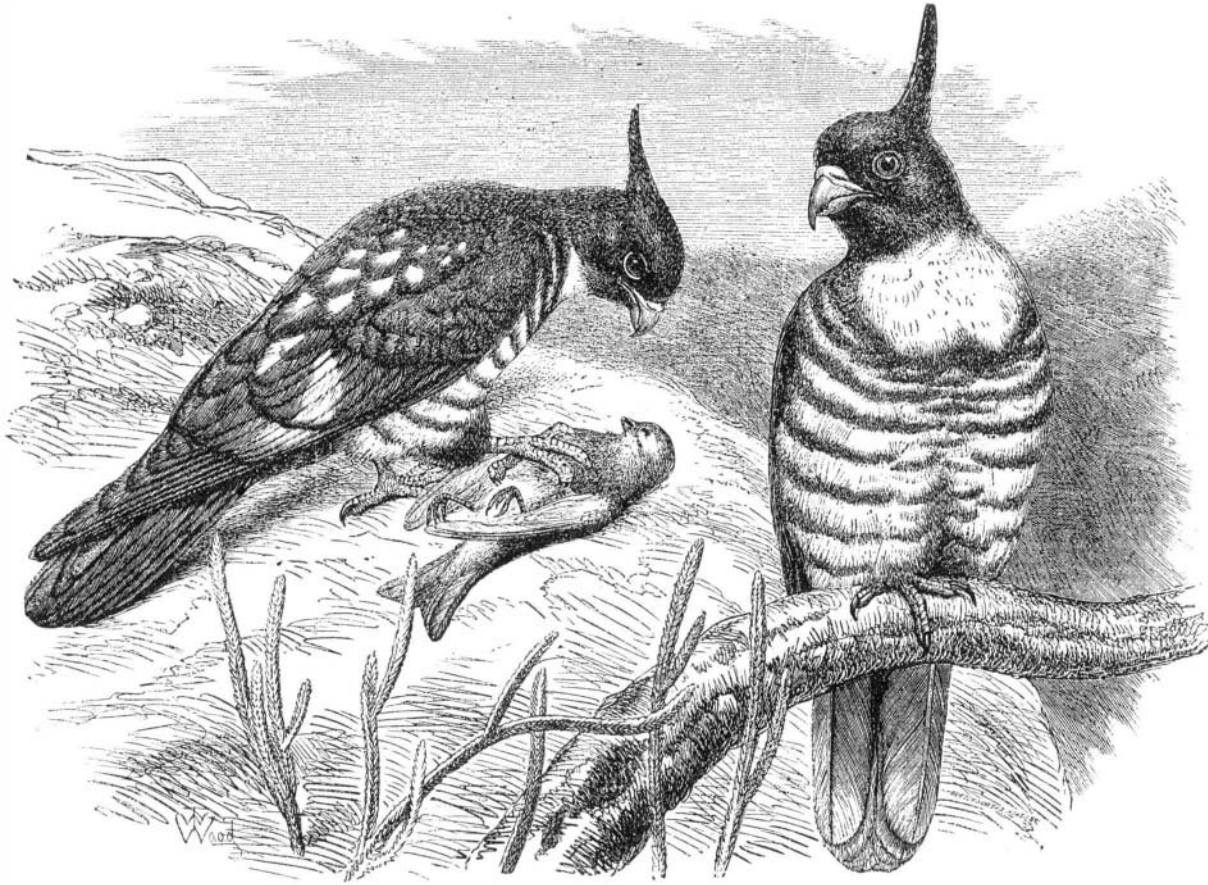


THE CRESTED BLACK KITE.

The gardens of the Zoological Society, London, recently received specimens of a very rare Indian kite (the *baza lo-photes* of Cuvier). This bird had never been seen alive in England, and even in India is so sparsely distributed that Mr. Allan Hume, in his "Rough Notes on Indian Ornithology," states that he has never procured a specimen. Though nowhere common, it appears to have an extended range, being known in Ceylon, on the east coast of India, as well as in Lower Bengal, Assam, and British Burmah. Jerdon, in his "Birds of India," states that it is certainly very rare towards the south, but that it is occasionally killed at Calcutta, and is more frequently found in the lower Eastern Himalayas. It appears to be very insectivorous in its habits, and keeps to the forests and well wooded districts, taking only short flights. In its conformation it appears more nearly allied to the honey buzzard (*pernis*), of which a crested species exists in India, than to any of the other accipitrine birds. The plumage of the bird is remarkably handsome. The upper portions, including the long slender crest, the thighs, and the under tail and wing coverts, are a glossy green black. The outer webs of the wing feathers—those that are alone visible when the wing is closed—are deep chestnut. The scapular feathers form a conspicuous but broken white wing band. The under parts of the bird are chiefly white, with five or six broad bars of deep chestnut. The crest is generally carried in a drooping position, but the bird has the power of erecting it perpendicularly. In length the crested kite varies from thirteen to fourteen inches, the extent of its wing being thirty. The weight is about eight ounces. We regret to have to announce the death of all the three specimens almost immediately after they had been sketched.



THE CRESTED BLACK KITE.

THE FLORAKIN.

The florakin or lesser bustard (*otis tetrix*) is found on the plains in many parts of India, and is common in France; in the former country it is esteemed a most delicious bird for the table. The male bird, when in full plumage, is very handsome, being most beautifully marked; but the hen is much plainer, as is the case with nearly all female birds. They are to be found in pairs, and are very shy and wary, and hardly ever take to the wing if they can avoid doing so. Wherever florakin are found, sand grouse (*pteroles biceinctus*), of which we gave an illustration and description on page 407, Vol. XXXII., may be seen.

The florakin resembles the large bustard (*otis tarda*) in his form and color, but is only 17 inches long. The head is reddish brown, the neck of the male being black, with a narrow white border above and below. The upper parts are mottled with the same colors, but with finer and more delicate lines. In the barren districts of Brittany (France), known as *testandes*, these birds may be seen in considerable numbers; and as the flesh is good eating, and may probably be improved by culture, it is somewhat remarkable that no attempts have been made to domesticate them.

American Refined Sugar.

The exportation of American refined sugar to this side is maintained with unrelaxed energy, and consequently displaces a given quantity of stoved sugar which would be ordinarily supplied from the warehouses of the British refiners. The total imports since this new and unexpected quarter for

supplies was opened have embraced 7,000 tons. It reflects no credit upon America, either as regards the act itself or the get-up of the article which she produces. All but the inexperienced, or not over-particular judges of quality and condition, pronounce the cut sugar as shockingly indifferent; and if it is to be viewed as a specimen of the best lump which the Yankee refiner can turn out, and their country-

men are pleased to use, we must frankly assert that we pity their taste. No first class family grocer in London—no, nor any folk in decent society—would look at the American loaf sugar as it now comes to hand; and in case our statement should be read by those who, from the nature of their retail trade, find it an article more suitable to sell than that chopped from bright English titlers, we simply ask them, as they do their friends and customers, to compare and judge for themselves. We need not be in suspense as to the verdict, for we are sure it will be in favor of the British manufacturer, who, in defiance of envious detractors, is still the refiner *par excellence*, albeit his functions in that respect have now almost entirely ceased. Unless checkmated by some



THE FLORAKIN OR LESSER BUSTARD.

deliberate or accidental means, the English market will in time be so inundated with sugar of inferior quality, from France and America, that finest loaf and other sugar will eventually become things of the past.—*London Grocer.*

[If the above statement is correct, if American refined sugars are really inferior to the English article, it behoves our refiners to call upon inventors to study out new methods of refining, by which the best products can be realized at the lowest cost.—Eds.]

The fluidity of the Berlin iron, from which the finest and sharpest, although not strongest, castings are made, is attributed to the presence of arsenic in the iron.

The Oldest Fair in the World.

In this season of industrial fairs, when Chicago, Cincinnati, Newark, New York, and other cities, are all vying with each other in the production of the finest exhibit of the practical results of the labors of American mechanics and inventors, it is interesting to note that, in a far distant quarter of the globe, another great fair has been in progress, which, in point of magnitude, probably equals all of the yearly expositions in the United States combined. The great fair of Nijni-Novgorod, in Russia, has quite recently closed its annual display—an exhibition which has been repeated every year for the past four centuries; and the merchants and producers of Siberia, of Persia, of China, and of Tartary have met the manufacturers of Western Russia, exchanged their raw produce for the manufactured goods of St. Petersburg, Moscow, and the west, and separated for another twelve months. The Fair, in fact, is a vast market, a temporary city, which began with the interchange of commodities between barbarians four hundred years ago at a location some eighty miles distant from Nijni Novgorod. After an existence of two centuries, during which period it absorbed into itself minor markets until it became the principal exchange of the empire, the fair was removed to its present site. Under the rule of Peter the Great, the government assumed its direction, which authority is still retained.

Unlike the colossal and magnificent structures of iron and stone which we erect as the receptacles for our exhibited productions, the buildings of Nijni Novgorod bear a close resemblance to the labyrinth of streets and houses which, together, make up a Turkish bazaar. There is a broad open market place, rectangular in form, on which are constructed twelve rows of buildings, each some two stories in height, having broad verandahs to shelter the passers from sun and rain. These form parallel streets, some of which are nearly 120 feet in width. At the ends of the principal street, which is the broadest, are the government house and the cathedral, on the sides are shops and a chapel, near which are two high

towers, the raising or lowering of flags on which denote the opening or closing of the fair. One side of the rectangle containing the buildings rests on the river Volga; the other three are surrounded by a horseshoe-shaped moat, kept filled with water at an elevation of some eighteen feet above the river, as a precaution against fire. The edifices are built on iron stanchions in the majority of cases, and all that can be removed are taken away at the close of the fair. A large number of buildings, however, remain, and with remarkable strength withstand the great yearly inundation of the river, which submerges the whole locality, leaving only the tallest structures projecting above the waters, like a miniature Venice. It is a strange contrast; a busy

town of 150,000 inhabitants, replete with goods of every description, from American wagons to Persian rugs, existing for about six weeks; and then, a few months later, nothing but a dreary waste of water fills its place. Although the number of visitors at any one time may not exceed 150,000, it is estimated that fully a million people come and go while the fair is in progress, and the value of goods which have actually changed hands during the fair just closed is computed at \$120,000,000.

The governor of the province supervises the management, aided by a committee chosen by the participants in the fair. The committee controls all government property, renting the same at a low rate. There are some curious regulations

as regards exhibitors, or rather sellers—for people come to sell then and there for cash—which are worth noting. For instance, each row of buildings is devoted to some especial kind of goods, and merchants, thus compelled to crowd together, are encouraged to compete with each other. To prevent monopolies and over-speculation, no merchant is permitted to hire more than three consecutive shops, nor can he occupy more than one shop unless they adjoin each other. No imposts or duties are levied, and the shops are usually let to the first comer, the government asking no other gain than the small rents, which together amount to but about \$120,000 a year. At the last fair, for this sum 6,086 shops were rented.

The contents of the markets are, of course, wonderfully heterogeneous. Machines bearing to us well known names of American firms are side by side with the curious products of Indian and Persian looms. There are furs and skins from Siberia, teas brought overland from China, cutlery from Sheffield, flax, wheat, the importations of the great houses of Moscow and St. Petersburg, and Russian iron, besides thousands of articles representing the chief industries of every nation on earth. There are usually immense amounts of iron, stored on a sandy island in the middle of the river Oka, about three quarters of a mile long, which is not only covered with water at certain seasons, but which changes its shape every year. It is said that the quantity of iron collected here, in bars and sheets, aggregates 90,000 tons, valued at over \$10,000,000. In quality it is said to be better than Lowmoor, and equal to the best Swedish. A tramway runs the whole length of the island.

It is difficult to believe that not only are all these vast stores filled and emptied in six weeks, but that the store-houses themselves are removed and that their sills are covered in spring by ten or twelve feet of water. On the occasion of the recent visit of the Duke of Edinburgh to the fair, the iron owners gave an entertainment in his honor, in a huge pavilion constructed entirely of their stock. The structure was in the form of a turreted palace. The turrets were built of bar iron (the bars being laid crosswise over each other, with the ends projecting) and surmounted by battlements, which were represented by iron buckets. The body of the castle was 100 feet long by 50 feet wide, and was made of sheet iron. Iron buckets and baskets, turned over, made very handsome ornaments around the arches of the doors and windows. The whole structure was completed in three days and three nights.

Common Sense in the Sick Room.

In a lecture delivered at the Bellevue Hospital Medical College, in this city, by A. B. Crosby, M. D., he says: There are certain elements of hygiene which it is very important that we should observe—whether the sick room contains a surgical or medical case—if we would reasonably expect to obtain the best possible results from treatment. In the first place the

TEMPERATURE

should ordinarily range from 65° to 70° Fah., and this should not be a mere matter of guess work, but should be ascertained by the thermometer. If the temperature is permitted to average much higher than this, all febrile disturbances will very likely be aggravated; and if the average is much lower, the patient in ordinary cases runs some risk of getting a chill, although very many times he may remain with safety in a room having a lower temperature, providing he is furnished with a plentiful supply of blankets.

FURNITURE OF THE ROOM.

The room which is selected for a sick room should be as far removed as possible from those ordinarily occupied by the family, in order that the patient may have the benefit of perfect quiet. It should be large, airy, and well lighted, and, if possible, should have a sunny exposure.

The wall of the sick room is a pretty important matter to the patient. If it is covered with one of those dreadfully variegated papers, which, alas! are regarded as ornamental, it will be found, especially if the patient is suffering from any disease in which there is abnormal exaltation of the brain, that it is a source of great annoyance, and may even be positively injurious. For, as his eyes run over these pictures, he will fancy that he sees images of various kinds, such as angels and demons alternating; indeed these figures will assume every conceivable form, and he becomes thoroughly worried in the attempt to disentangle the confusion.

The paper covering the wall should have a uniform, neutral tint, such as a light green, a delicate buff, or a very delicate slate color, a light green, perhaps, is as agreeable to the eyes as any color that can be selected, and it rests the eyes with a refreshing monotony. Such a uniform tint tends to healthy stupidity, and this leads to repose. The floor of the apartment should engage your attention.

The model sick room should never be carpeted, but ordinarily should have a hard wood floor, and this should be oiled and varnished. Upon such a floor may be spread as many pieces of carpeting, rugs, and mats as are desirable. These may be placed in front of the bed, over the parts which the nurse traverses while performing his or her duties at the doors, etc. Each morning, these can be quietly slid along the floor, taken out, and be thoroughly shaken and aired. After they are removed, the floor can be wiped off with a damp cloth or soft brush, and when dry, the rugs, etc., may be replaced.

The windows should also engage your attention. These should be so arranged as to admit abundance of light. Light is a normal stimulus to the human body, and we have no good health without it; you cannot grow healthy cabbages

in a dark cellar, nor can you any more easily cure invalids without the influence of sunlight. There are some acute diseases, during the progress of which it may be necessary to temper the light, but it should never be entirely shut out, for if you do you remove from the body one of its important natural stimuli.

The windows should never be surrounded by tapestry or decorations of any kind that are made of woolen stuff. A plain white shade is all that is requisite to temper the light and cut off outside objects from the patient's view, and the window frame should be free from lambrequins, hangings, etc., which may become impregnated with the germs of disease.

VENTILATION.

A healthy person requires two thousand cubic feet of breathing space, and the sick person under the same circumstances should have at least three or four thousand cubic feet. Then, again, the sick man should have the air changed twice as frequently as the man in health.

Ventilation requires the introduction and diffusion of an abundance of pure air at short intervals, and a corresponding removal of the air vitiated by respiration. The movement of air in the sick room should be imperceptible.

If the sick room is ventilated by a fireplace, we should always open a window at the top. If the room, on the contrary, is heated by a register, a window should always be raised at the bottom, since the hot air rises to the top of the room, creates a plenum, and so forces the air out at the bottom. There are three points to be observed in regard to the sick room.

Note, first, whether there is any perceptible odor, on entering the apartment from the open air; if so, ventilation is imperfect.

Make sure, in the second place, that there is a free inlet and outlet for the air.

And, thirdly, place an open mouthed bottle by the side of the bed at night. In the morning, before there is any opening of doors or windows, or any movements about the room, pour a little clear lime water into the bottle and shake it. If the air in the bottle is pure, the lime water will remain clear; but if otherwise, it will become milky in appearance, showing carbonic acid in the air, which has united with the lime, forming a white precipitate of the carbonate of lime.

PREPARATION OF GRUEL.

A man, simply because he is sick, is not to be starved, nor, on the other hand, can a man who is sick, as a rule, take such articles of food as a well man would be likely to take.

It may be doubtful whether a man, when first taken sick, should take a large quantity of food, but one of the articles which he may have is Indian gruel, if not made too strong. If, however, you give permission that the patient may have gruel to take, unless you give special directions as to how it shall be made, you will very commonly find that the nurse has prepared a fair specimen of Indian pudding, and has been administering that for gruel.

In making Indian gruel there should be no more than a dessert or table spoonful of the meal to a quart of water; and this should be boiled for a long time, keeping the quantity of water good throughout the entire boiling process.

Prepared in this manner, it may be made decidedly salt, and then administered to the patient during the first few days of his sickness.

USE OF MILK.

There is one article of diet which all persons may take under all conditions, and that is milk.

There are those who say they cannot take milk, that it makes them bilious, etc.; but that is not true. A person who is sick may take milk with the greatest possible advantage, because it contains, in a form easy of assimilation, all the elements essential for maintaining nutrition. It is the natural aliment of the young animal, and certainly answers a good purpose for the old animal, provided it is used properly. New milk, I do not hesitate to say, may be taken, as far as disease is concerned, in any and every condition. Perhaps it will require the addition of lime water, if marked acidity of the stomach is present; and perhaps a little gentian may be requisite to stimulate the stomach somewhat; and it may be necessary to give it in small quantities and repeat it often; but ice cold milk can be put into a very irritable stomach, if given in small quantities and at short intervals, with the happiest effects. We have now come to believe, contrary to the teaching of our fathers, that cold water, even ice cold water, is a most beneficial drink, and therefore permit our patients to have it as often as they may wish, provided too much is not taken at one time.

Now tea, which is a wholesome beverage, and, withal, contributes somewhat to scandal, is very comforting, especially to a sick woman, and may be given without harm, if it is sufficiently diluted with milk. When made very weak—just strong enough to give a flavor—well supplied with milk, and, perhaps, a little sugar, it gives the patient a trifle of nourishment in a very palatable form.

BEEF TEA.

If, however, you will make beef tea according to the directions I now give you, it will be found to be a most serviceable article among the dietetics of the sick room.

Take a pound of the very best beef that can be obtained in the market—the butcher will tell you that any kind of a piece answers to make beef tea of, but that is not true—cut it into small pieces the size of the end of the thumb, place it in a pint basin, cover with cold water, and then place the dish upon the back part of the range or stove, where the water will gradually get warmer and warmer, but will not reach the boiling point. Let it stand and simmer in this

manner two hours. Then bring it forward, and boil over a quick fire twenty minutes, and immediately after pour the fluid from the beef, at the same time allowing the little particles which become detached to flow off with it. Now, if there is any fat in the tea, it is well that it should be removed, for the reason that the bile and pancreatic secretion may be unable to emulsify it, and it may do more harm than good. If you wish to be very precise upon this point, the tea can be set aside, and when perfectly cold all the fat can be removed from the surface in a flake; or the fat may be taken up by dropping a piece of flannel upon it as it floats upon the surface of the warm tea.

It is not a good plan to strain the liquor, because this process will remove more or less of the little particles of beef, which are very essential to the value of the tea. It may now be salted, and given hot or cold, as the patient may wish; and it may be given as soon as the pulse indicates any diminution in the force of the heart's action. What becomes of this article of diet when taken into the stomach? The advocates of the worthlessness and non-essentiality of beef tea would answer that it makes but little difference. I believe, however, that it is mostly taken up by the gastric veins, and, at all events, that it is exceedingly palatable and nutritious, and does do something more than simply warm the stomach and make the patient happy for a short time.

In case the patient's stomach is very irritable, so that large quantities of any substance cannot be borne, you may resort to beef extract for nourishment.

The proper method of making this article is to take a pound of the best beef, cut it into small pieces, and place it in a good sized open mouthed bottle—a pickle jar is perhaps as convenient as any. Cork the bottle loosely, and then set it into a kettle of water, which is to be kept boiling for two hours. If the bottle is now removed, it will be found that it contains a considerable quantity of fluid, which may be turned off, and the beef subjected to slight pressure to remove still more.

In this fluid we have a concentrated article of nourishment, and it may be given, after it has been seasoned, either pure or diluted, according to the condition of the stomach. Beef extract is not nearly so palatable an article of food as rich beef tea, made in the manner described.

Electro-Harmonic System of Multiple Transmission.

During the past two weeks, Mr. Elisha Gray of Chicago, Ill., has been exhibiting his electro-harmonic apparatus in the Western Union Building, in this city. More than a year since we published an article descriptive of this curious discovery, so far as it had been developed at that time. Since then Mr. Gray has devoted the greater part of his time to the perfection of the apparatus, and has already succeeded in producing some very remarkable results. Mr. Gray's earlier experiments disclosed the fact that composite tones were as easily transmitted over a wire as single notes, and from this discovery he developed a system of multiple transmission, founded on this principle. The apparatus was tested experimentally on a wire between Boston and New York, on September 11, with very satisfactory results. Four separate communications were simultaneously transmitted from Boston, and copied from four sounders by a like number of receiving operators in New York. In the main the signals were perfectly received on all the instruments, the only apparent defect being a tendency to shorten them somewhat, a difficulty which can doubtless be overcome by a suitable modification of the transmitting apparatus.

The principle of the apparatus is a very simple one. The depression of each key sets a self-vibrating electrotome in operation, which is adjusted or tuned to vibrate at a certain rate, differing from that of any of the others, when under the influence of the electro-magnet controlled by its corresponding key. These several sets of electrical vibrations are transmitted through the circuit without interfering with each other, in the same manner that almost any number of different sets of sound waves may pass through the air without mingling. At the receiving station, each instrument is so adjusted as to respond to its own special sets of waves or vibrations without regard to others. By breaking and closing the circuit upon the transmitting electrotome, so as to form telegraphic signals, these are transmitted and taken up by the corresponding receiving apparatus.

It is not easy to fix a limit to the number of different communications that may be carried on over the same wire simultaneously, either in the same or opposite directions. The marked success which attended the operation of the principle through two hundred and forty miles of line, on September 11, seems to promise results in the future of the greatest value.—*Journal of the Telegraph.*

The Harmonic-Electric Telegraph.

The harmonic-electric telegraph invention (now commonly known as the telephone) of Mr. Elisha Gray, of Cleveland, is undoubtedly destined to prove a very useful and important one. On Friday of last week we saw four despatches transmitted simultaneously from Boston to this city, on one of the Western Union wires. It is believed, and with good reason, that at least sixteen messages can by this invention be transmitted simultaneously over a single wire. Mr. Gray has made a discovery and invention which will be likely eventually to revolutionize the present Morse telegraph system.—*The Telegrapher.*

THE recent storm in the Gulf of Mexico was the fiercest known in that vicinity for several years. At Galveston, Texas, it raged with great violence for three days, and the damage to property has been estimated as high as \$5,000,000. At Indianola, Texas, it is stated, 300 lives were lost.