

**THE DISEASES
OF CAGE BIRDS.**

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The

DISEASES *of* CAGE BIRDS.

The

*AMATEUR'S GUIDE
to the Treatment and
Prevention of the Diseases
incidental to Cage Birds.*

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PREFACE.

"BIRDS," wrote Bechstein, more than one hundred years ago, in his ever-admirable "Naturgeschichte die Stubenvögel," "being very tender creatures, on passing from a state of liberty to slavery, in which they lose the means of exercise and proper food, are soon afflicted with many diseases occasioned by this change alone, without reckoning others that naturally follow in their train."

Taking the above graphic and indisputable passage, from the preface to the first edition of the little book by the Father of Cage Bird lore, which to me has been a *vade mecum* from my early years, as my text, I propose to set before my readers, not only such information as I am possessed of with regard to the various ailments with which our feathered pets are now and then afflicted, but also general details, which, I trust, will render many of my prescriptions superfluous, for in every case "prevention is better than cure," while in many it is the only means whereby the life of a bird can be preserved in captivity. For instance, it is very difficult, if not absolutely impossible, to save a little prisoner that has been attacked with fever, while strict attention to cleanliness, in the matter of habitation as well as of food and drink, will positively have the effect of preventing that fell disease from making its appearance in the aviary.

THE AUTHOR.

The Diseases of Cage Birds.

ABSCESS.

An Abscess may be defined as a collection of matter forming in any cavity of the body, in the substance of the areolar or connective tissue that occupies the interstices between the various organs, or even in the latter themselves, and usually, at least in the case of birds, follows an injury of some kind.

If the suppuration is limited in extent, the skin, after a longer or shorter period, will ulcerate, and permit the enclosed matter to escape, when the sac in which it was contained will granulate, or fill up, and the bird will recover without further complication; but if the restorative powers of the patient are weak, the wound may go on suppurating—that is to say, discharging matter—for a long time, and a *sinus*, or unhealed passage, from the Abscess to the exterior, may permanently remain, endangering, and certainly embittering, the existence of the little captive.

Symptoms.—After the receipt of an injury, inflammation sets in in the part affected, and the sufferer tries to relieve itself by pecking with its bill, or scratching with its foot, and examination reveals a tumour, or swelling, which in the first stage is red, but afterwards turns to a greenish or yellowish colour, and sometimes becomes quite black. Such, at least, is the course of an Abscess occurring in the areolar or connective tissues; and I shall not now stay to consider the symptoms of the more serious Abscesses affecting the different

Abscess—continued.

organs and cavities of the body, which I reserve for consideration when I come to speak of the parts in question.

Treatment.—This may be described as threefold: in the first place, the general health of the bird must be attended to; secondly, absorption of the matter may be effected by painting the part involved with some stimulating lotion, such as the tincture of iodine sold by chemists, or the spirits of turpentine of commerce, which latter, however, can scarcely be applied in the case of small birds; thirdly, if the tumour is of any size, and visibly full of fluid, it must be opened by means of a fine-pointed knife or lancet, when the matter will be discharged, and the Abscess heal more quickly, as a rule, than if it had been left to open of itself. Should the wound remain unhealed, a little zinc ointment, as sold by all chemists, or some vaseline, may be applied to the part affected, by means of a camel hair brush or a feather. Occasionally a poultice will be useful, especially if the Abscess is in the foot of the patient, and should consist of bread, or bread and milk, applied lukewarm. See also ULCERS.

ALOPECIA.

From the Greek *alopez*, a fox, which animal is said, I know not with what reason, to be peculiarly liable to this disease. This term is usually applied to the loss of "hair" in circumscribed patches, but is sufficiently applicable to the denudation of feathers one often observes in cage birds to be adopted here. This loss of feathers is known to some fanciers as "French Moults."

The causes of this complaint are various. It may proceed from general debility, or from want of some of the elements necessary to the elaboration of a new covering—sulphur, for instance, phosphorus, and lime, which enter largely into the composition of feathers. The *prognosis*, or prediction as to recovery, is for the most part unfavourable.

Symptoms.—Loss of feathers at other than the natural period of moult, and non-production of a new covering on denuded parts.

Treatment.—If the disease is due to debility merely, a generous diet will often effect a cure; but should the complaint persist, while the health of the patient manifestly improves, sulphur in some form must be supplied; thus, sulphate of iron may be dissolved and mixed with the drinking-water, in the proportion of two grains of the former to one ounce of the latter, increasing the dose in the case of the larger Parrots. Sulphate of quinine is often recommended, and may be simply put into the water—one or two grains to

Alopecia—continued.

the ounce; but I fancy it has not much effect, except in cases of sheer debility, when I have found it invaluable.

In the case of birds that partake of soft food, powdered sulphur, known in the shops as flour, or flowers of sulphur, may very advantageously be mixed with the usual diet—say a teaspoonful to a saucer of food—and is most effectual in cases where the non-production of feathers is not due to the action of the bird itself, or to the want of a sufficiently nutritious diet. Carbonates and phosphates of lime are occasionally useful, and require no special instructions for their administration.

There are some birds, however—Budgerigars, for instance—which appear not to be amenable to any known treatment for this unsightly disease, to which aviary-bred specimens are peculiarly liable; the cause being, I think, that they rarely eat soft food, and drink very little, so that it is difficult to introduce into their system a sufficient quantity of sulphur to do them any good.

Cases where the patient persistently plucks out its own feathers will be treated of under the heading of FEATHER-EATING, which see for further details. See also MOULTING.

AMPUTATION.

From the Latin *tare*, to cut off. Although not a malady, Amputation may occasionally be rendered necessary, in consequence of disease or injury, and may advantageously be briefly considered in this place. In avine surgery, Amputation is confined to the wings or legs, on account of some hurt or affection requiring the removal of the part involved, in order to the preservation of the patient's life.

In a case calling for active interference, such as when the first joint of a wing has been lacerated past hope of recovery, or a toe has become affected by disease which appears to be spreading, the operation is simple enough, and can be readily performed by an amateur gifted with coolness and a little tact. The bird must be held in the left hand, the part affected being supported between the thumb and index finger, and the knife or scissors, which must be perfectly sharp, is to be applied quickly and firmly, with the right hand, to the part requiring removal.

Should undue hæmorrhage follow, it will be more readily, and less painfully, arrested by the application to the bleeding surface of the actual cautery, in the shape of the point of a knitting-needle, heated to white heat, than by any other means. The patient must then be placed in a cage without perches, the floor of which must be covered with moss or

Amputation—continued.

fine hay; food and water must be placed within its reach, and the cage left where the inmate will not be disturbed until recovery has ensued.

In what may be called the major operations, affecting the second joint of the wing and the shoulder, or the thigh, it will certainly be advisable to call in veterinary aid; or, if that cannot be had, consult the family medical attendant, who will generally lend his assistance with cheerfulness to save a client's favourite, or at least to prolong its life, and spare it all avoidable suffering. See also BONE, DISEASES OF; and WINGS, INJURY TO THE.

ANEMIA.

From the Greek *a*, negative, and *aima*, blood. This term implies bloodlessness, which is not a common affection among birds, but is, nevertheless, of occasional occurrence.

Symptoms.—Not very apparent, except in the case of such birds as the domestic Fowl, in which the comb and wattles lose their bright red colour, and become pale, limp, and drooping. Other sufferers from this complaint sit listlessly for hours, with ruffled plumage, and the head retracted close against the breast, but rarely thrust beneath the wing; the appetite is usually indifferent, and the patient more or less troubled with constipation.

Treatment.—Iron, in some form, is indispensable. For small birds, such as Waxbills, and the tiny ornamental Finches, now so largely imported from abroad, two drops of the tincture of perchloride of iron (a recognised preparation, to be obtained of any chemist) should be added to each ounce of the drinking-water, increasing the dose of iron, according to the size of the patient, up to twenty drops to the ounce for the larger Parrots and gallinaceous birds. Sulphate of iron may be substituted for the perchloride, but I prefer the latter, as it does not cause the water to become turbid. In the case of birds that eat soft food, a few grains of the carbonate of iron—from one to ten, according to the size of the bird for which it is prescribed—may be mixed with the "sop" or other soft food, and will be readily partaken of by the patient, whose recovery will usually be rapid if the treatment as indicated above is carefully carried out.

ANASARCA.

See DROPSY.

APHONIA,

Or loss of voice, from the Greek *a*, negative, and *phóné*,

Aphonia—*continued.*

voice. This is a complaint that not infrequently affects singing birds, and signifies the actual loss of the power, or faculty, of song; it may generally be attributed to a cold caught during, or just after, the period of moult.

Treatment.—Never very satisfactory; but ten drops of glycerine to each ounce of drinking-water gives the best result. A morsel of fat bacon, or a piece of mutton suet, may also be supplied for the bird to peck at, and has in some cases proved of considerable benefit. It is almost superfluous to say that the seed supplied must be of sound quality, and perfectly free from dust.

APHTHÆ,

Or small ulcerations in the mouth and throat, from the Greek *aptô*, to fix upon. This complaint is generally brought on by the bird's drinking-vessel having been allowed to get foul, when its sides become covered with fungous growths, the spores or germs of which attach themselves to the mucous surface of the tongue and throat, and, if left unchecked, cause the death of the patient by starvation, as, with the organs of deglutition in this state the bird is unable to swallow its food.

Treatment.—Chlorate of potassium or borax should be administered, in the proportion of twenty grains of either to each ounce of drinking-water; or, better still, ten grains may be mixed with one drachm of glycerine or honey, and the bird's mouth be wiped out with this preparation three or four times a day by means of a small camel hair pencil. Indeed, both plans may be advantageously combined; and the strictest attention to cleanliness need scarcely be insisted on. See also VEGETABLE PARASITE.

APOPLEXY.

From the Greek *apoplexia*, stupor. This most serious affection is usually due to spontaneous rupture of a blood vessel in the substance of the brain, or upon its surface, and is often immediately fatal. The chief predisposing causes are fatty degeneration of the heart, disease of the liver, or violent excitement.

Symptoms.—The sufferer *suddenly* falls off its perch, stretches out the wings and tail, which are convulsively agitated, and, if the fit be a severe one, throws back its head, quivers all over, and expires. Should, however, the seizure be of comparatively slight extent, the patient may gradually recover, although more or less *Paralysis* will usually be left behind, which may disappear as the effused fluid becomes absorbed, but is often per-

Apoplexy—*continued.*

sistent, rendering the bird incapable, to a greater or lesser extent, of walking, flying, or sitting on its perch, as the case may be.

Treatment.—In extreme cases none is available; in those of lesser gravity, a dose of castor oil is to be recommended in the first instance, to be followed by perfect rest and quietness. If the bird is very fat, as usually happens, all tit-bits and luxuries must be strictly forbidden, and the diet be of the plainest, and restricted, at least for a time, in quantity. But the prognosis is seldom favourable, and in no case can the patient be considered safe until after the eighth day from the seizure. See also HEAT APOPLEXY and PARALYSIS.

ARTERIES, Wounds of.

These may be recognised by the bright red colour of the effused blood, and the jerking or jumping manner in which it is ejected from the wound. A surgeon on the spot, or one speedily called in, would apply a ligature to the bleeding vessel; but in the hands of the amateur, the actual cautery, as previously described under AMPUTATION (which see), will be the safer method of the two.

ASCITES,

From the Greek *askos*, a bag or sac, signifies a collection of fluid in the abdominal cavity. This complaint rarely attacks birds, but I have, nevertheless, met with one or two instances of it; and as, in the case of our feathered friends, it arises from disease of the liver, the prognosis must be looked upon as most unfavourable.

Symptoms.—The abdomen will be found enlarged and soft, and, on gentle pressure, fluctuation, or a wave-like motion, of the enclosed fluid will be distinctly felt.

Treatment.—Tapping, which can scarcely be had recourse to in the case of small birds, is at best but a palliative. I cannot recommend the amateur to attempt it; but, should he be desirous of giving it a trial, he should at once call in the aid of an experienced veterinary surgeon. See also DROPSY.

ASTHMA.

From the Greek *asthma*, to gasp for breath. It is doubtful whether this term should be applied to any of the affections to which cage birds are subject, as it "consists essentially of a spasmodic contraction of the muscular fibres of the bronchial tubes by which means the admission of air is diminished and the tubes become blocked up with expecto-

Asthma—continued.

ration, which it is partly the function of the muscular fibres to expel" (Charteris, "Practice of Medicine").

Asthmatic people have intervals—often long ones—of comparative freedom from these attacks, but "asthmatic" birds, so called, once affected rarely improve, but gradually waste away, and die, sooner or later, without experiencing any mitigation or suspension of their symptoms. See also the articles on BRONCHITIS, EMPHYSEMA, and LUNGS, DISEASES OF THE.

ATROPHY.

From the Greek *a*, negative, and *trephein*, to nourish. This is a progressive wasting of the whole or a portion of the body, caused by the decrease in size or number of its *histological*, or minute component elements, and is of very frequent occurrence among cage birds. Unless the treatment be undertaken at the very commencement of the disease, the prognosis is in the highest degree unfavourable. As a rule, it does not kill rapidly, and a bird so affected may survive for months, or even, in some cases, for years; in other examples, again, it may progress with great rapidity, and carry off the patient in a week or two, or even in a few days.

Symptoms.—These vary with the exciting cause: for instance, if the food is of an insufficiently nutritious quality, the bird will be found eating ravenously, and voiding incessantly, a large proportion of the substances ingested passing almost unchanged in appearance; and if the sufferer be taken in the hand, it will be found to consist chiefly of feathers. While, if the disease be due to morbid changes in some of the internal organs, there will be a corresponding listless, dull demeanour, on the part of the sufferer, who will evince a marked distaste for food, and sit, for the most part, with its head under its wing, only moving when forced to do so by the calls of Nature, or the attack of a companion.

Treatment.—If the complaint has been brought on by an insufficiently nutritious diet the remedy is obvious; let the poor captive have as much as it can eat of suitable nourishment—that is to say, give to an insectivorous bird a supply of its natural food, and cease to feed a graminivorous, or granivorous bird, on animal food of any kind. But the treatment, to have any effect, must be immediate, as a prolonged course of unnatural feeding provokes such and so great changes in the digestive organs, that they become, after a time, incapable of assimilating even the diet for the digestion

Atrophy—continued.

of which they are specially adapted. See the article PHTHISIS for further information.

BALDNESS.

See ALOPECIA and FEATHER-EATING.

BATHING, Rules for.

As many complaints are brought on by the injudicious use, or the deprivation, of the bath, it may be advantageous in this place to give a few general rules upon this important subject. In their wild state, the greater number of birds bathe, often several times a day; and the immersion, or sprinkling, is necessary to them for the preservation of their plumage in good condition, no less than for the cleansing of their feet and skin from such foreign matters as they have been brought in contact with.

1.—Do not let birds, especially those of foreign extraction, bathe in cold water during the winter.

2.—Do not allow them to make themselves so wet that they are unable to fly, as they are apt then to sit and mope at the bottom of their cage, and to take a chill.

3.—Let the bathing vessel be of convenient depth, as I have known instances of birds being drowned in a deep pan, in which they had tried to wash themselves.

4.—Never allow a bird to drink the water it has washed itself in.

5.—Let a bird bathe every day during the fine weather, but not more than once or twice a week during the winter, and then let the water be at least lukewarm; and remove it after a minute or so, to prevent the bird from wetting itself too much.

6.—It is safer, on the whole, not to permit sitting birds to wash, unless the weather is very dry, when a slight sprinkling will do good, both to the bird and to her eggs, while a thorough wetting would be very apt to chill both.

BEAK, Overgrown or Broken.

Occasionally one or both mandibles of captive birds will grow to an abnormal length, and may even interfere with the creature partaking of its food, in which case the excessive growth must be removed by means of a small pair of sharp scissors, taking care not to go near the quick.

Sometimes, especially in the case of Parrots, the point of the upper mandible gets broken off, and the under one develops to such an extent that it has to be periodically cut. In such a case, the broken point is seldom reproduced, and the bird

Beak, Overgrown or Broken—continued.

becomes accustomed in time to the altered condition of its beak, and experiences no inconvenience from its loss.

BLINDNESS. See OPHTHALMIA.

BLOOD FROM INTESTINES. See DYSENTERY.

BLOOD, Want of. See ANÆMIA.

BONE, Diseases of.

Some of the small foreign Finches are subject to an affection of the bones of the toes, which causes these to shrivel up and fall off. The causes are obscure, but may generally be attributed, I fancy, to the uncleanly surroundings of the poor birds on board ship, where they are packed in thousands, in small cages that are never cleaned out during the voyage. There does not appear to be any cure for this complaint, and I have seen Zebra Finches with only the stumps of their feet left. The loss of their toes does not seem to affect them very much, and they manage to hop about on their stumps quite gaily, though of course they cannot perch, and should be supplied with a sleeping-box, to which they retire at night, and occasionally during the day.

Sometimes the bone of a bird's leg or wing may become diseased in consequence of an injury, and will require to be removed. For details see the article on AMPUTATION.

BOWELS, Inflammation of the.

This is not an uncommon disease of cage birds, and may be attributed usually to an error in diet, to the effects of a chill after bathing, or a sudden change in the weather. If discovered in time, it may be cured, but if the sufferer is left to go unrelieved for a day or two, there is but small probability of its recovery.

Symptoms.—Fulness in the abdominal region, a greenish, acrid discharge from the vent, excoriating the surrounding parts, frequent efforts on the part of the bird to relieve itself, great thirst, and loss of appetite.

Treatment.—This must be commenced by giving the bird from one to six drops of olive oil, according to its size, by the mouth, and anointing the vent with the same, by means of a small camel hair pencil, or a feather, and medicate the drinking-water with "Quinella," sold by Spratt's Patent, Ltd., which allays the inflammation. Keep the patient warm, and on no account suffer it to be disturbed and annoyed by inquisitive and unsympathetic companions. Let the food be simple and non-stimulating ;

Bowels, Inflammation of the—continued.

a little bread and milk freshly made is useful in this complaint for all kinds of birds, whether naturally hard or soft-food feeders.

BOWELS, Obstruction of the.

Independently of CONSTIPATION (which see), the intestines of birds are occasionally liable to be obstructed by the introduction of foreign substances, especially sand, by the mouth. One of the most remarkable instances of this complication that I have ever seen occurred in the case of a pet Bullfinch, belonging to a lady correspondent, who sent me its body in order that I might verify the cause of death. No doubt the poor creature had been tenderly cared for, as far as the owner's knowledge of its requirements allowed; but one thing she had unfortunately omitted to do—namely, to supply it with coarse sand, or even garden mould, from which it would have been enabled to pick out little stones for use in its gizzard, or stomach; for birds, it need hardly be said, have no teeth, properly so called, and all swallow stones, which supply the place of the dental arrangement that exists in the mouths of the Mammalia and of many kinds of fish. This poor Bullfinch, then, having neither teeth nor Nature's substitute for them, in the shape of small stones in its gizzard, soon became a prey to all the horrors of indigestion, and swallowed such a quantity of the fine sand with which his mistress had plentifully strewn the floor of his cage, that the whole of his digestive tract, from the mouth to the rectum, was crammed with it, and the poor bird, of course, succumbed, in untold agony, to the combined effects of Obstruction of the Bowels and starvation. A dose of castor oil in the first instance, and a sufficient supply of coarse sand, or even a handful of mould from the garden, would have saved it; and the complication is not likely to occur again to any bird if its owner reads the above lines carefully and acts upon the hints there given.

There is not much danger of intestinal obstruction arising with small birds from any other cause than the one specified above, for large substances, unwittingly swallowed, are detained in the crop; and the reader is referred for further particulars to the article on CROP-BINDING, not an infrequent accident in the case of birds that feed on hard, dry corn. See also INDIGESTION.

BROKEN LIMBS.

See AMPUTATION; LEG, BROKEN; and WINGS, INJURY TO THE.

BRONCHITIS,

From the Greek *bronchos*, the windpipe, and the termination *itis*, is the name applied to an inflammatory affection of the mucous membrane that lines the bronchial tubes, and may be either acute or chronic. It is caused by exposure to cold or wet, or to local irritation, such as the bird being placed above the level of the gas burners in a room, or in a draught between a door and a window.

Symptoms.—Hard breathing, a chirping or rasping noise accompanying every breath, and occasional paroxysms of coughing; the bird sits with ruffled plumage and closed eyes during the greater part of the day, but wakes up every now and then to feed, and, if spoken to, answers in a harsh, croaking voice; it scatters the seed about a good deal, and drinks more than usual; but, except in the case of the larger Parrots, there is not usually much discharge of fluid from the nostrils.

Treatment.—If the affection be due to a cold, a little oxymel of squills, as sold by ordinary chemists, must be given three or four times a day, in doses varying from one drop to six or ten drops, according to the size of the patient. The temperature of the room must be carefully regulated, and maintained at not less than 60degs. Fahrenheit, night and day; while, in the case of the African Parrots, it may advantageously be raised to 80degs., 85degs., or even 90degs. Draughts, of course, must be studiously avoided, and an ordinary bronchitis kettle be used to supply the necessary amount of moisture to the atmosphere of the room. If there is much prostration, one or two drops of brandy or whiskey, or even port wine, may be conveniently mixed with the oxymel of squills.

The acute form of this complaint usually follows upon exposure to a current of air, and may be recognised by its sudden onset; while the chronic form comes on gradually, and is due to the influence of hot, dry, and exhausted air, such as exists in the upper part of a room where gas is burning. The latter form of Bronchitis is, perhaps, the most common, and is generally, but erroneously, termed by bird-keepers *ASTHMA*, to which the reader is referred. See also *CATAARRH*.

BRUISES.

Newly-caught birds are very apt to bruise their heads, and the points of their shoulders, in their frantic efforts to escape, and Doves of all kinds are particularly liable to this form of injury. In their case, prevention is better than cure, and the thoughtful aviarist will see that his birds do not thus disfigure themselves, by clipping the feathers of one wing before turning them into the aviary.

Bruises—continued.

Should, however, a bird that has already bruised its head, or wings, or both, be received by a connoisseur, he must at once carefully bathe the parts affected with warm water and a soft sponge, or a piece of old linen rag, and, if the skin is broken, apply a little vaseline to the abraded part. He must then place the bird by itself, in a cage provided with a padded top, in order to prevent it from further injuring itself, while a cover, or screen, had better be placed across part of the front of the cage, so that the captive may take refuge behind it when anyone comes near; in time its shyness will wear off, and unless the bruise has been very severe the patient will soon recover and show no trace of the hurt it inflicted on itself through fear.

I once received a hen Golden Pheasant that had so severely bumped her head against the lid of the box in which she was sent to me from a distance that her entire scalp hung down over one of her eyes; and though I replaced this in its proper position, adhesion did not take place, it partially withered and dried up, and ever afterwards the poor creature went about with a bald head and one closed eye—a most unattractive-looking object.

Doves, Pheasants, and Quails are the most liable of any birds I know to be thus terribly disfigured, and should never be sent a journey, long or short, except in a box carefully padded at the top and round the sides; any bit of soft old material, stuffed with hay, will do, and will effectually prevent the involuntary travellers from hurting themselves *en voyage*. Upon arrival at their destination it is a good plan before turning them out into the aviary to clip the feathers of one wing; this will effectually prevent them from dashing themselves against the wires of the aviary, which most of them, even when comparatively tame, are in the habit of doing when first turned loose into a strange place.

CANCER.

From the Latin *cancer*, a crab, because in some forms of this disease the skin covering the cancerous tumour presents a hard, dry appearance that bears some resemblance to the stony covering of a crab. The only birds I have known to be afflicted with this terrible, and so far incurable malady, are Parrots; but I believe that Fowls and Pigeons are also occasionally similarly affected.

Symptoms.—A tumour forms at the side or top of the beak, over the eye, or at the joint of the shoulder or thigh, and may be distinguished from an abscess by its hardness,

Cancer—continued.

as well as by the absence of discharge; as a rule, it does not appear to cause pain, but I have, nevertheless, seen cases in which the poor patient undoubtedly suffered a great deal, as was evident from the way it pecked at the tumour continually. Sometimes the tongue is affected, and, in a few instances, one of the feet.

Treatment.—Absolutely none for cure, and scarce any even for mitigation of the disease. If the tumour is so situated that it can be excised, a veterinary surgeon should be called in without delay; but in the majority of cases no interference is possible—that is to say, with any hope of successfully relieving the patient—and a merciful owner will have the poor thing destroyed as expeditiously and as painlessly as possible. Perhaps the best way to promote *euthanasia* or, an easy death, in these cases, is to saturate a small sponge with chloroform and place it and the sick bird in a small air-tight box, when an end will be almost immediately put to the poor creature's sufferings. See also TUMOURS.

CATARRH.

From the Greek *katarrhoos*, a flowing down. This is an inflammation of, and discharge of thin fluid from, a mucous membrane, and is generally understood to signify a common cold affecting the nostrils.

This disorder is very prevalent among cage birds, as well as among human beings, and is only of importance in so far as it may be the precursor of some more serious ailment, such as bronchitis or inflammation of the lungs. Parrots are especially liable to be attacked by it, and in their case it must be taken in hand at once, or it may lead, and promptly too, to the most disastrous results.

Symptoms.—A discharge of thin, watery fluid from the nostrils, which appears at first to cause the bird no great inconvenience; but, if the complaint is left unnoticed, it soon passes from the first stage of fluid to that of mucopurulent discharge, which shortly invades the trachea, or windpipe, and the bronchial tubes, which it may quickly block up, inducing death by suffocation.

Treatment.—"The question in treatment is to endeavour to keep the Catarrh at its place of origin. How are you to stop a cold? Catch it at its commencement, and feed it by an opiate. Twenty drops of tincture of opium, or ten of solution of the acetate of morphia, given twice, at an interval of three hours, will usually accomplish this"—for an adult (Charteris).

Catarrh—continued.

For a small bird I can recommend one drop of the opium tincture and half a drop of the morphia solution; but a Parrot may be given from four to six drops of the first and from two to four drops of the latter, with advantage. It will be advisable also to take away the drinking-water, and only permit the patient to take a mouthful twice or thrice a day, as the free ingestion of fluid feeds the Catarrh, and the object of the physician is to get rid of it by starvation; cut off the supplies, and the objectionable visitor will quickly run away.

Where the nostrils have become blocked up by the discharge, a small feather may be dipped in olive oil and carefully and gently passed up them, when the obstruction will be removed and the patient greatly relieved.

CHOREA.

From *chorea*, a Greek term signifying a dance. A disease of the nervous system attended with erratic movements of an involuntary character. I have seen a Goldfinch and a Parrot thus afflicted, but it is not a complaint of frequent occurrence among birds, and is usually attributable to a fright. This disease is also known by the name of "St. Vitus's Dance."

Symptoms.—Involuntary twitching of the muscles, and movements of the limbs, without any reference to the will of the individual; these twitchings and erratic movements are usually intermitted during sleep, but not invariably so.

Treatment.—This should be tonic and strengthening, as this disease is usually accompanied by debility. If the bowels are constipated, as they usually are, an aperient, in the shape of one or two, up to ten, drops of castor oil—regulating the dose according to the size of the patient—must be administered. The tincture of perchloride of iron may also be given, in doses of from one to six drops, in water, twice or thrice a day: or from half a drop to three drops of Fowler's Solution of Arsenic. Good nourishment is indispensable, and a portion of bread and milk may be advantageously added to the ordinary food.

COLD.

See APHONIA, BRONCHITIS, and CATARRH.

CONGESTION, General.

Many dwellers in London will, I dare say, be familiar with the "congested" state of the traffic in some of the principal streets in the City during the busy hours of the

Congestion, General—continued.

day, and have sighed, at some time or another, for wider thoroughfares, when their progress towards a terminus has been arrested by the crush of vehicles and pedestrians, all as anxious as themselves to arrive at their several destinations, but unable to proceed on account of the narrow way and their own ever-increasing numbers. Well, such a state of affairs not inaptly represents the condition of the smaller blood vessels, called capillaries, when a sudden outward chill has driven the blood from the surface of the body to the interior; these small blood vessels then get clogged and blocked up with blood corpuscles, and, the cry being "still they come," an inconvenient and sometimes dangerous "crush" is the result; for, unlike the crowded streets of the City the capillaries give way under the unwonted pressure to which they are subjected, and precipitate their contents into the surrounding tissues, where they act the rôle of "foreign bodies" and give rise to inflammation.

As the capillary vessels cannot by any possibility be enlarged so as to admit of free circulation for a larger number of blood corpuscles than Nature has intended to pass through them at a given moment, it is obvious that to prevent a congestion from taking place should always be our aim. But when it has unfortunately occurred, what are we to do? By the application of warmth, and judicious friction where practicable, endeavour as quickly as possible to restore the circulation to those parts from which it had been driven, and thus relieve the pressure upon those that are overcrowded and subjected to unnatural tension. It will be readily understood that if this can be done at once not much harm will result from the momentary "block"; while, even in cases where an actual rupture of one or more small vessels has occurred, as well as in others where the *serum*, or watery portion of the blood, has been forced through the walls of the capillaries into the surrounding parts, a prompt return of the circulating blood to the surface will greatly relieve the system, and give Nature a better chance of restoring matters quickly to their normal condition.

Cold feet constitute a prolific source of Congestion, and a bird should never be compelled to sit upon a metal perch, as too many unfortunate Parrots are obliged to do. Having mentioned this objectionable practice, it is unnecessary to insist upon its positive cruelty. But should the reader reply: "What am I to do? my bird cuts up its wooden perches in no time!" I answer, give him a small log of semi-decayed wood to amuse himself with, and he will let his perch alone.

Congestion, General—continued.

Symptoms.—These are easily defined, but less readily recognised. On being exposed to a sudden chill, a bird will shiver and ruffle up its feathers, looking thoroughly miserable and uncomfortable; and if taken in the hand, the feet will be felt to be cold, and the surface of the body, under the wings, will also be cooler than usual to the touch. If the Congestion has already existed for some time, the bird will be feverish instead of feeling cold, while the mucous membrane of the mouth and the eyes will be more or less harsh and dry.

Treatment.—No time must be lost in either case in applying warmth. Let the bird's cage be covered over, except the front, and be placed near the fire. Give warm water to drink, and some bread and milk, also warm, if the patient seems inclined to eat; and for medicine, a dose of from one to ten drops of homœopathic tincture of aconite to each two tablespoonfuls of drinking-water will answer admirably. Should the symptoms not be promptly relieved under the above treatment, the Congestion will have passed into INFLAMMATION, to the article upon which serious complication the reader is referred for further information.

CONGESTION OF THE LIVER

And consequent biliousness are more frequent causes of illness amongst birds kept in captivity than the majority of people seem to imagine. It has been well said that "evil is wrought by want of thought as well as want of heart," and bird-keepers often err grievously in regard to the food they provide for their pets, with the result that the liver is affected and the whole system suffers.

Symptoms.—Impaired appetite, bilious evacuations, depression.

Treatment.—Tiny doses of calomel followed by an aperient is the best remedy. As the doses of calomel are of necessity very small, it is best to mix about one scruple of the drug in two ounces of dried and powdered Osborne biscuit. Keep the resultant powder in a bottle, and when wanted for use take as much as will lie on a shilling, mix with a little warm milk or water, and give to the bird at night. In the morning administer two drops of castor oil, or for small birds three or four drops of olive oil. This may be done every alternate day until benefit is apparent. When the bird seems better a little powdered gentian mixed with some bread and milk will have a tonic effect.

CONSTIPATION

May be defined as an accumulation of fæcal matter in any part of the intestinal tube, though it usually occurs in the

Constipation—continued.

lower portion; and, if permitted to go on unrelieved for any length of time, not unfrequently gives rise to inflammation. Want of stones in the gizzard—without which the bird cannot possibly digest its food properly—will often produce Constipation, which is frequently caused, in soft-billed birds, by partaking of too much hard food.

Symptoms.—The sufferer will be seen making frequent ineffectual attempts to relieve itself, shaking the lower part of the body, and jerking the tail towards its feet; occasionally it pecks at the vent, and, when any evacuation takes place, it will be found to be hard and lumpy; in bad cases there is a swelling of the lower part of the abdomen, which has a white appearance.

Treatment.—A change of diet is the most certain method of getting rid of this complication; thus a bird that has been dieted for a long time on dry seed will be greatly benefited by the use of a little bread and milk and a small quantity of fresh green food, such as groundsel, every day; while one that is usually fed on sop, or some similar preparation, should be given more insect food, mealworms, blackbeetles, or a branch of a tree or plant covered with green fly.

Castor oil, or, in the case of very small birds, olive oil, may be administered, both by the mouth and as an injection, and will generally give relief at once; but in this complaint, as in many others, prevention is easier than cure. See also BOWELS, OBSTRUCTION OF THE.

CONSUMPTION.

See PHTHISIS and TUBERCULOSIS.

CONVULSIONS.

See APOPLEXY, EPILEPSY, HEAT APOPLEXY, and VERTIGO.

CROP-BINDING.

Birds that live chiefly on hard corn, such as the *Gallinaceæ* and the *Columbidæ*, are liable to this distressing complication, which usually occurs in the following manner: The owner has forgotten to feed his birds at the regular time, and they have emptied their food-pan, or had it emptied for them by the mice, and are actually starving when their unfortunate predicament is discovered. They are then given an unlimited supply of dry maize, wheat, barley, or peas, as the case may be, and fill themselves to repletion, with the result that, as the grain swells in the crop, the latter becomes so unduly distended, that it is rendered incapable of fulfilling its natural

Crop-binding—continued.

function of preparing the food, by maceration, for digestion in the gizzard.

Not only are Fowls and Pigeons subject to Crop-binding, but I have also seen it occur in the case of Waxbills and the small ornamental Finches. Young Pigeons often get Crop-bound in consequence of their parents feeding them before the grain they have swallowed has been sufficiently prepared in their own crops.

Symptoms.—A bird that is Crop-bound goes about in a listless manner, with its feathers ruffled up, refuses to eat, and, if it drinks, the water trickles back, mixed with mucus, from the mouth. On examination, the crop is found to be greatly distended, and the saliva flows from the throat, showing that the poor bird is as full as it well can be.

Treatment.—A dose of castor oil may be tried if the Crop-binding is only of recent occurrence, and will very often give relief, and cause the complication to disappear; but where it has existed for some time surgical assistance alone will be of any avail. Should the amateur not like to take on himself the responsibility of performing an operation, he will, of course, call in a veterinary surgeon to his assistance; but if there should not be one within ready distance, he may very confidently proceed to relieve the bird as follows: The patient must be held between the knees, in such a position that the crop will be away from the operator, and held as high up as possible; and, if the bird is likely to struggle, it must, with the exception of the head and breast, be wrapped up in a cloth.

Having placed the patient in a suitable position, the operator will proceed to blow aside the feathers, and uncover the distended organ, when, avoiding all blood vessels, he must make an incision, an inch or so in length, through the skin, down to the serous covering of the distended crop beneath; then, either pushing back one side of the skin as divided, or drawing forward the exposed membrane, he will make another incision right through this, on to the food, which he will squeeze gently out, inserting his finger cautiously, to remove any that may be left, and to search for foreign bodies, which sometimes become impacted in the passage leading from the crop to the gizzard. When this has been done, he will carefully wash out the crop with warm water (to which a little Condy's Fluid may be added), by means of a syringe.

On releasing the bird the wound will close naturally, and the skin stretching over the incision in the coats of the crop

Crop-binding—continued.

will keep air from the latter, and also prevent the escape of food. For a few days the bird must be only allowed a soft diet, say bread and milk, and must not be permitted to drink, and will generally be quite well on the fourth day. No sutures or stitches will be required if the above directions are carefully followed; but where it is thought desirable to use them carbolised catgut can be recommended, and the crop and outward skin should be sewn up separately, by bringing the edges of the wound well into apposition, and, by means of a curved needle, or an ordinary one if the other cannot be had, securing, by a single stitch, carefully knotted, the severed skin, or mucous membrane, as the case may be.

Occasionally some indigestible substance, such as leather, a piece of bacon rind, some tough leaves, a fragment of glass, or a bone, will cause an obstruction to the passage of food from the crop to the gizzard, and this can generally be diagnosed to be the case by the less distension of the crop than in the case of ordinary Crop-binding. Directly it has been ascertained that the bird is suffering from this form of impaction, it must be operated on as already stated, the foreign body removed, and the bird afterwards treated exactly as described above, when it will also usually make a speedy recovery.

AFFECTIONS.

See ECZEMA; PRURITUS; and SKIN, DISEASES OF THE.

DEBILITY, General.

Sometimes a bird will be found to get very weak without any apparent cause, so much so, occasionally, that it will be unable to sit upon its perch; and yet, on handling, it will be ascertained to be fairly plump, and no symptom of actual disease can be detected beyond the excessive weakness from which it suffers.

To such a condition of things the term "General Debility" is fairly applicable; and it will be found that this is in some manner connected with either an error in dieting the bird or with the reproduction of its feathers.

Age, sometimes, it is true, is the immediate cause of the Debility of which I am speaking, and in that case nothing can be done, for the elixir of life is yet a desideratum in the Pharmacopœias of all nations. Where the affection is due to improper feeding, this must be at once discontinued, and a suitable diet substituted; while in cases where the want of strength is connected with moulting, a very suitable

Debility, General—continued.

medicine is Parrish's Chemical Food, which may be administered to large birds in doses of ten or fifteen drops, once or twice a day, on a lump of sugar or a piece of soft cake; this is generally taken very greedily. The phosphates contained in this excellent preparation supply some of the material necessary for the elaboration of the new feathers, besides imparting tone to the blood and strength to the muscular fibres of the body. See articles on FEEDING and MOULTING.

DECLINE.

See ATROPHY.

DEGENERATION, FATTY.

This term does not imply that an internal organ "is overloaded with fat, and has on its outside, or even dipping in between its muscular fibres, an increase of adipose tissue, but that the healthy transverse strise and nuclei of its muscular fibres are soft, and easily broken. It will thus be observed, that Fatty Degeneration differs from a fatty growth, the latter being usually associated with general obesity" (Charteris).

The organs most subject to this abnormal change are the liver and the heart, but occasionally the whole muscular system is involved. The exciting cause is obscure; there is, sometimes, very little fat to be found in the situations where it is usually deposited, and there is no doubt the disease is due to mal-assimilation of the food taken into the system.

Symptoms.—These are not very apparent, the principal being a feeble action of the heart, weakness, giddiness, and sometimes fits, or, more correctly speaking, fainting.

Treatment.—We can only meet the symptoms as they arise.

DIARRHŒA.

From the Greek *diarrœcin*, to flow through. This is, properly speaking, a symptom rather than an actual disease, for it occurs as an accompaniment of several disorders, especially typhoid fever and phthisis, as well as some forms of liver complaint; but when the discharge from the bowels is excessive, special treatment may be required for its relief. The character of the discharge varies with the exciting cause, and it is seldom advisable to stop it altogether, as it is Nature's way of carrying off offending matter from the intestinal canal.

If the complaint is due to the presence of indigestible food

Diarrhoea—continued.

in the bowels, a dose of castor oil, or of tincture of rhubarb, in doses of from one to ten drops, proportioned to the size of the patient, will be the best method of causing it to cease, and can be especially recommended where the evacuations are acrid and offensive.

If, however, the Diarrhoea is connected with Fever or with Consumption a different mode of treatment is to be adopted, for details of which the reader is referred to the articles on PHTHISIS, SEPTIC FEVER, TUBERCULOSIS, and TYPHOID FEVER.

DILATATION OF STOMACH OR GIZZARD.

This is not a very unusual complication among cage birds, and results from errors in feeding, and especially from the want of small stones in the gizzard, where they are necessary to enable that organ properly to triturate its contents.

Symptoms.—The disease is seldom detected during life, though the enlarged stomach occasionally forms a considerable tumour in the upper part of the abdomen, especially in Canaries, which appear to be particularly liable to this complaint.

Treatment.—None is of any avail when the disease has advanced to any extent, but prevention is easy. Feed the bird on food suitable for it, and let it have an abundant supply of coarse sand, from among which it will select enough small stones to keep its principal digestive organs in good working order. See also FEEDING.

DISLOCATIONS.

Birds are seldom troubled with Dislocated Limbs, but sometimes nevertheless the bones of the leg or wing will get put out of place by a blow or a fall.

Symptoms.—That some hurt has been sustained by his pet will be at once perceptible to the amateur, who, on examination, will find that the seat of injury is a joint, and is not in the middle of a long bone; and he will thus be readily enabled to distinguish whether the accident has resulted in a Fracture or in a Dislocation.

Treatment.—Few amateurs possess sufficient anatomical knowledge to enable them to readily return the misplaced bone to its socket, and recourse should at once be had to the assistance of a veterinary surgeon. Should, however, the owner of the injured bird be able to reduce the Dislocation, he will do well, if the wing has been hurt, to surround the body of the bird for a few days with a soft bandage; but if

Dislocations—continued.

the leg has been the seat of the injury, he had better put it up for two or three days in splints that will be described under the head of **LEG, BROKEN.**

DROPSY.

This term is applied to a collection of fluid in one or other of the cavities of the body, and is, consequently, known by different names, according to the situation occupied. Abdominal Dropsy, for instance, has been already considered under the heading **ASCITES** (which see); and as the other forms of this disease are excessively rare among birds, it will be sufficient to say, that general Dropsy is usually called **Anasarca**, and is practically incurable, as it depends upon advanced disease of some one of the vital organs of the body.

DYSENTERY.

From the Greek *dus*, bad, and *entera*, bowels, or, as Bechstein terms this disease, "Bloody Flux," is an acute inflammation of the mucous, or lining membrane of the large intestine; it is usually brought on by exposure to cold and sometimes follows a prolonged cold bath.

Symptoms.—A discharge of blood or bloody mucus from the intestines, preceded by irregular action of those organs, the patient suffering one day from diarrhoea, and the next from constipation. There are also general lassitude, loss of appetite, and considerable, sometimes excessive, thirst. As the inflammatory condition of the gut progresses, blood is expelled, and little faecal matter is afterwards passed, the evacuations consisting of blood only, or of blood and serum, intermixed with portions of what look like raw meat; faintness from loss of blood follows, and, unless relief be shortly afforded, collapse ensues, and the patient dies exhausted.

Treatment.—Remove the discharges frequently, and disinfect them with carbolic acid; or, better still, put them in the fire. Give water, acidulated with aromatic sulphuric acid, to drink—five drops of the acid to one ounce of water—which may be advantageously given warm. Let the diet be nourishing, and such as will not cause large stools. Milk and strong beef tea are useful, and, as the thirst is usually great, the bird will, as a rule, freely partake of both; if not, they must be given with a spoon. Opium is the best medicine, and can be given either by injection or by the mouth, in doses of from one to six drops of the tincture, according to the size of the patient.

Dysentery—continued.

Warmth, and hot fomentations to the abdomen, are also of use; the former, indeed, is indispensable. See also BATHING, RULES FOR, and INFLAMMATION.

DYSPEPSIA.

From the Greek *dyspeptos*, hard to digest. See INDIGESTION.

Eczema.

From the Greek *ekzein*, to boil out. This is an inflammatory disease of the skin, characterised by the formation of vesicles, which, from irritation or some other cause, may become pustules—that is to say, the watery contents of the blisters may thicken and become converted into pus or matter.

It is extremely doubtful whether birds are ever subject to this complaint, although the name has been loosely applied to other forms of skin disease that occasionally afflict them. See also articles on PEURITUS and SKIN, DISEASES OF THE.

EGG-BINDING.

This is about the most formidable complication to which female cage birds are subject. Its causes are obscure in individual cases, and often can only be ascertained by post-mortem examination; while the course it runs is various. In some seasons it almost constitutes an epidemic among our feathered pets, while in others, under almost identical climatic conditions, scarcely a single case occurs.

Occasionally it is caused by the bird's excessive fatness, and the consequent blocking up of the egg passage by a deposit of adipose tissue; more frequently, however, the egg is soft, or shell-less, and cannot be expelled by the natural efforts of the bird, on account of its offering no resistance to the action of the sphincter, or circular muscle that closes the aperture of the cloaca, and, consequently, failing to dilate it. In other cases, where the egg is perfect, and no cause can be detected why it was not laid, the whole of the egg passage will be found, after death, to be in a high state of inflammation, and often adhesions between the egg and the surrounding parts may be noticed, effectually preventing its being laid. It is probable that such an unfortunate state of things is due to cold, and yet I have found it existing when the weather was extremely mild and genial, as well as when it was cold and raw. This latter form of Egg-binding is always, and necessarily, fatal; fortunately it is not as common as the other two. Occasionally the abnormally large size of the egg prevents its being laid.

Egg-binding—continued.

There are some birds, such as the larger Parrots and Cockatoos, for instance, some Pigeons, and gallinaceous birds, that scarcely show any symptom of what is the matter with them, and die without making a sign, as happened with a valuable Goffin's Cockatoo of mine that succumbed to this complaint without giving me any reason to suspect, during her life, that she was suffering from it.

Symptoms.—A bird has built her nest, and everything seems ready for the reception of her eggs; but several days pass, and none make their appearance; after another day or so, she is found sitting in the cradle she has prepared for her future offspring with ruffled feathers, and her head tucked in beneath her wing. As what may be termed her "labour" progresses without result, she leaves the nest, sits on the floor of her cage, more bunched up, as regards her plumage, than ever—a veritable ball of feathers in fact, looking as if she must expire every moment—and unless assistance is rendered, she very often will die; though sometimes the egg, long retained, is passed spontaneously at what appears to be the very last minute, when the bird generally perks up at once, and looks as if nothing had been the matter with her; at other times she does not rally from the effort of laying, and either dies immediately afterwards, or in the course of a few hours.

In all the above circumstances, an examination of the bird will discover that the vent is swollen, and, in bad cases, discoloured—red in some, purple, or even black, in others; these last do not recover. The signs, then, of Egg-binding are usually so apparent that the merest tyro in bird-keeping can scarcely mistake or overlook them.

Treatment.—This may be divided into preventive and curative. In the first place, let the amateur see to it that his breeding hens are not too fat; secondly, that they are supplied with a sufficiency of lime, in the shape of old mortar crushed up small, powdered egg or oyster shells, or even a lump of slaked lime, to enable them to elaborate shells for the eggs they are about to lay; thirdly, that their cage is not open all round, but only in the front, and that it is not placed in a draught; also that, if the birds are kept in an outdoor aviary, they are supplied with suitable snug retreats, "where they may build their nests and lay their young"; and lastly, that they have enough soft and green food to prevent constipation. If the above rules are attended to, the amateur will not be troubled with an epidemic of Egg-binding in his aviary, for sporadic cases will always occur in a large mixed

Egg-binding—continued.

collection, and cannot be accounted for, but must be referred to the idiosyncrasy of the individual affected.

When a bird is actually Egg-bound, she must be caught, and given a dose of castor oil proportionate to her size—namely, one drop for a Canary, up to ten or fifteen drops for a Parrot, and twenty for a Fowl; a brush of suitable size must be dipped in the same, and be passed gently up the rectum, where it is to be turned round with care once or twice, in order thoroughly to lubricate the interior of the passage; the bird must then be returned to her nest, and usually, in a minute or two, the egg will be laid. If not, the patient must be taken out again in ten minutes or a quarter of an hour, the dose of oil repeated, and the vent held for a couple of minutes over the steam of hot water, when the egg will often be dropped at once, or, at all events, immediately after she has been replaced upon her nest. Should retention, however, still continue, nothing more can be done, beyond putting the sufferer in a small cage near the fire, when the heat will sometimes cause the egg to be laid; but if not, we can only trust to the *vis medicatrix Naturæ*, and the probability is that the bird will die.

Ergot, or, rather, the liquid extract of that powerful drug, has been vaunted as a remedy in Egg-binding, but, in my opinion, it is useless, and, where it has seemed to do good, I believe the relief to have resulted from mechanical relaxation of the sphincter of the rectum, caused by the introduction within it of the brush charged with the drug, and not from any virtue possessed by the ergot itself.

It has also been recommended to puncture the retained egg; but, for reasons already explained when speaking of the form of this complaint caused by a soft or shell-less egg, I consider it extremely dangerous to do so, and cannot advise anyone to adopt the plan.

I may mention, in concluding this rather long article, that, in the case of very small birds, such as Waxbills, olive may be substituted for castor oil in the treatment of Egg-binding, and that great care must be taken not to saturate the plumage of the bird.

Do not attempt to breed again the same season from a bird that has once been Egg-bound, for the complication will, in all probability, recur again and again, and ultimately the poor creature will die; or if not, will be too feeble to rear her young, should she have any, for an egg-bound bird is a weak bird, and can in no case prove a desirable mother.

EMBOLISM.

From the Greek *embolismos*, an insertion; the obstruction

Embolism—continued.

of a blood vessel by a fibrinous clot, which has been detached from the heart, or one of the large vessels.

When the plugging occurs in one of the vessels of the brain, the accident causes one form of apoplexy, and its result depends upon the size of the vessel that is obstructed. Birds, however, are seldom thus affected, and as the condition can only be discovered by post-mortem examination, it is scarcely worth while to occupy space with its consideration. See also APOPLEXY.

EMPHYSEMA.

From *emphísēma*, a Greek word signifying inflation. This term is applied to an escape of air into the connective tissue of the lungs, as well as to the dilatation of the minute air cells themselves. These air cells may be ruptured by outward violence, as by a broken rib, or from within, as by an obstruction of the larynx, causing great pressure. Air then escapes into the connective tissue outside the air vesicles, and may pass to the root of the lung, neck, or, in extreme cases, all over the body, converting it into a kind of balloon. In birds, the air cells of the lungs usually give way in consequence of their exposure to the impure, overheated, upper strata of the atmosphere in a room where gas, or some other light, is constantly burning; at the same time, I have known of cases where Emphysema was caused by a bird's strenuous exertions to out sing a rival.

Symptoms.—Great difficulty in breathing, and, on examination, a puffy condition of the skin round the neck, and, in bad cases of long standing, over almost the whole body.

Treatment.—At best this can be but palliative; remove the bird's cage to a level below the gas, and do not expose it to extreme fluctuations of temperature. Ipecacuanha wine, or tincture of lobelia, may be administered in doses varying from one to ten or fifteen drops, two or three times a day, the quantity being regulated according to the size of the patient. The food should be nourishing, and of the best quality, as birds thus afflicted seldom eat a great deal; a little bread and milk should be given daily, and is usually relished; but, unless the complaint is noticed and treated from the very first, there is no chance of cure, and but little of any improvement. See also TYMPANITIS.

ENDEMIC DISEASE.

The term "endemic" is derived from the Greek *en* among, and *dēmos*, the people, and is applied to any malady that is

Endemic Disease—continued.

confined to a particular locality; thus, when, say septic fever, breaks out in an aviary, and, after a long interval, during which the place has been disinfected and left empty, attacks a fresh colony of birds that has just been placed in it, the fever may be said to have become endemic there; and, if the amateur is wise, he will have his building taken down, its component parts consumed by fire, and a new habitation for his birds erected elsewhere. See also QUARANTINE and SEPTIC FEVER.

ENTERIC FEVER.

From the Greek *enteron*, bowel, which is supposed by some physicians to be the seat of origin of the disease. See TYPHOID FEVER.

ENTOZOA.

See PARASITES.

EPILEPSY,

From the Greek *epilepsia*, a seizure, may be defined as a sudden and complete loss of consciousness, accompanied by a series of convulsive movements.

This malady occasionally attacks Parrots, Pigeons, and Bullfinches, but I am not cognisant of its occurrence among any other birds. The prognosis is, on the whole, unfavourable, for although the patient may recover from a number of attacks, it is pretty certain, sooner or later, to die in one of them. Epilepsy is often brought on by derangement of the digestive apparatus, in consequence of the ingestion of unsuitable food; by moulting, and by constipation; while fright is a prominent exciting cause in an individual predisposed to an attack.

Symptoms.—Whether a bird has any of the “warnings” that usually precede a paroxysm in the human subject is more than anyone can possibly tell, but the probability is that “the lower creatures” have some unpleasant premonitory sensation of what is about to happen, for it has been remarked that a bird or other animal troubled with this complaint is more than usually restless before an attack comes on.

The fit is often ushered in by a sharp cry; the bird falls down, to all appearance senseless, and struggles in more or less violent convulsions; the toes are usually contracted, and the evacuations are frequently passed involuntarily.

When the paroxysm has subsided, the patient awakes with a peculiar stupid or dazed appearance, and some minutes elapse before it regains its self-possession, is able to climb

Epilepsy—continued.

up to, or sit upon, its perch, and recognise its owner as before.

Treatment.—The first thing to be done when a bird falls down in a fit of Epilepsy, is to put it in some soft, secure place, where it will not injure itself during its convulsive struggles; but if none such be at hand, it is well to wrap it up in a towel, and hold it carefully, but firmly, in the hand, care being taken to avoid the beak, as an epileptic Parrot may bite severely.

Before the fit, and while the bird is in the preliminary stage of restlessness that often precedes an attack, a sedative may be administered, and probably with advantage; I have known impending fits averted by a dose of from one to five grains of bromide of potassium, dissolved in a little syrup; and this may be continued once a day for a day or two.

After an attack, two or three drops of a solution of atropine in spirits of wine (two grains of the former to two drachms of the latter) has been strongly recommended, but as I have not given this dangerous drug a trial in this connection, I am unable to report personally of its effect, and would give the preference to that old and trusty servant, bromide of potassium, the value of which, in this disease, I have had many opportunities of ascertaining.

Care must, of course, be taken to suitably regulate the diet; to see that the bird is not unnecessarily alarmed, and is not exposed to unsanitary surroundings, all of which conditions have a tendency, if not to initiate, at least to precipitate, the occurrence of an attack in a subject predisposed to Epilepsy.

As the tendency to this complaint is decidedly hereditary, amateurs will do well not to attempt breeding from birds thus afflicted.

ERYSIPELAS.

From the Greek *erysipelas*, from the redness of the skin which characterizes the disease.

Erysipelas is very uncommon among birds, but I have seen one Parrot that was certainly affected by it. This complaint may be defined as a local inflammation of the skin, accompanied by a feverish condition of the body generally; occasionally the inflamed skin swells, and portions of it rise into blisters, that discharge a thin, acrid fluid. In mild cases, the inflammation gradually subsides in a day or two, and is followed by desquamation—that is to say, a peeling off of the cuticle, or outer skin, in small flakes or scales.

Erysipelas—continued.

Erysipelas usually follows an injury of some kind, but it may arise spontaneously, and then becomes both contagious and infectious; but as a rule it is not a dangerous disease, although it may be, and has proved fatal, by the extension of the inflammation to the brain or its membranes, as well as by inducing a poisoning of the blood, owing to re-absorption of the inflamed secretions.

Treatment.—Place the patient in a cool, well-ventilated apartment, but free from draughts, where it will not be interfered with by its owners or companions; administer a purgative, say castor oil, as already recommended, or as much powdered jalap as will lie on a three-penny piece, diminishing the dose according to the size of the bird affected; and when it is convalescent, give a few drops of Parrish's Chemical Food, twice a day, for a week. See also INFLAMMATION.

EYE, Affections of the.

See OPHTHALMIA.

FATTY DEGENERATION.

See DEGENERATION, FATTY.

FEATHER-EATING.

This is a troublesome and not very infrequent complaint, to which many captive birds are subject. Parrots are, perhaps, the chief offenders in this respect, but fancy poultry frequently do it; and some of the small Waxbills are incorrigible devourers of their companions' plumage, the beautiful little Cinerous Waxbill, commonly, but erroneously, called the Lavender Finch, being about the worst of them in this respect. But I have never known any bird, save a Parrot, to mutilate itself.

In the case of birds that strip their fellow-captives, there is no doubt they are often prompted to do so by a craving for animal food—as evinced by their eagerly sucking the quills of the abstracted feathers; or by a desire to utilise them in the construction of nests for themselves. But it is difficult to understand why Parrots, which in their wild state are chiefly graminivorous, should take to eating their own feathers. I have seen some of these birds stripped of every plume, and every particle of down even, that they could reach, except the large quills of the wings and tail, which last, however, do not always escape, and the spectacle presented by their naked bodies and fully-feathered heads was ludicrous in the extreme,

Feather-eating—continued.

reminding one of the plucked fowl that was rudely thrown into the lecture hall of one of the most celebrated of the old Greek philosophers, by a rival professor, with the contemptuous exclamation: "There is Plato's man for you, gentlemen!" that learned disciple of Socrates having defined the genus *homo* as "a two-legged animal without feathers."

Symptoms.—The offender is usually caught red-handed, *flagrante delicto*.

Treatment.—In cases where birds continue persistently bare, the amateur should watch, and, if he discover one of the inmates of the aviary in the act of despoiling a companion of its natural covering, he must at once remove the culprit, and consign it to rigorous solitary confinement until such time as the naked are clothed again, when the offender will, probably, have forgotten his or her malpractices, and the birds will all live together in peace for ever after, as the story books say.

Sometimes intense affection seems to be the exciting cause (and this reminds one, irresistibly, of the amorous swain who declared to his friend that his bride of a week was so nice he could eat her! but six months afterwards confessed that he was sorry he had not done so!) for occasionally the male, but more frequently the female, will so assiduously plume the head of its companion, that, little by little, as lawyers are said to gain the realms of bliss, the recipient of so much devotion will be as bald as a Coot, and the amateur, if he wish to preserve his specimens in perfect plumage, will have to constitute himself judge and jury in one, and pronounce a decree *nisi* on the spot.

So far the treatment for Feather-eating is simple enough; but when one has to do with a Parrot that has fallen into the deplorable habit of plucking out and sucking its own feathers, there is, perhaps, nothing more difficult than to effect a cure. I consider these cases as analogous to those of that Protean complaint, hysteria, so frequently met with in the human subject, and look upon it as mostly engendered by *ennui* and idleness. The remedy would, *primâ facie*, appear to be society and occupation; but not only is this not always successful, but occasionally it proves to be worse than the disease, for I have known of cases where the self-mutilator, instead of giving up his bad habits on being introduced into the society of one or more of his congeners, actually corrupted these previously innocent creatures, and made them as bad as himself; while nearly all the birds I have seen that were

Feather-eating—continued.

afflicted with this complaint obstinately refused to be amused or occupied.

Some I have cured by turning them adrift in an outdoor aviary where there was an abundance of branches of trees and logs of wood, upon which they could exercise their beaks, and so forget to pluck their feathers, and their convalescence was complete; but I have failed with others under precisely similar circumstances, especially with two Adelaide Parakeets, that ultimately died of cold from the self-inflicted loss of their feathers.

Tin collars have been recommended, but have not, I fancy, proved a success; at all events, they failed utterly, in several cases coming within my knowledge, where they had been worn for months; they are, besides, difficult to apply and very terrifying to the patient. Bathing with wine, or a decoction of aloes or quassia, has also been advised, but without much result; while the practice of giving bones to pick, from which as much meat as possible had been removed, though said, in some bad cases, to have brought about a cure, has, to my knowledge, induced the disease in other birds that had been previously free from it.

On the whole, the plan that appears to me to offer the best chances for success, is to turn the feather-eater loose in an outdoor aviary, or an empty room, in which there is an abundance of objects upon which it can gratify its natural taste for gnawing and cutting things to pieces—and the former is much the better situation of the two. Of course, attention must be paid to the diet, which, while nourishing, must not be too stimulating, and should not include, in my opinion, animal food in any form—that is to say, neither meat, butter, egg, nor milk, but, on the contrary, should consist of good sound hemp and canary seed, maize, oats, dari, buckwheat, fruit, green food—such as lettuce, green peas, and cabbage—a bit of sugar now and then, but no salt, and, above all, a log of half rotten soft wood, for nearly all the Parrots eat woody fibre, and some of them make it almost their exclusive diet when wild. Spratt's Patent sell a mixture named "Pennakura," which is worth a trial, as occasionally I have found it effective in preventing Feather-eating.

In some cases, however, the patients resist all and every treatment, and remain self-mutilators to the end.

See the article on FEEDING.

FEATHERS, Loss of.

See ALOPECIA and FEATHER-EATING.

FEEDING.

As so many diseases of tame birds arise from errors in diet,

Feeding—*continued.*

it will not be inappropriate in this place to give a few general directions upon this exceedingly important subject.

Birds may be divided, as regards their food, into four principal classes.

1.—Those that live on seeds, and the succulent leaves of plants such as groundsel, chickweed, grass, &c.

2.—Those which, in addition to the above, eat insects, such as flies, small beetles, moths and their larvæ, &c.

3.—Those that live on insects and berries.

4.—Those that partake of an exclusively insect diet.

To the first class belong, among others, the true Finches, most of the Parrots and Doves, and many of the Waxbills. To the second, the Larks, Buntings, and the pseudo-Finches, the Chaffinch and Saffron Finch, for example. To the third, the Thrushes, Redbreasts, Blackcaps, and Tits. And to the fourth, the Wagtails, Pipits, Redstarts, Swallows, and so forth.

The merest tyro in bird-keeping will readily understand, that it is easier to preserve birds belonging to the first of the above classes in confinement than any of the others; but a little care and judicious attention will also enable him to keep those of the second and third classes with comparative ease; while birds belonging to the fourth class can only be preserved with extreme difficulty, and usually only for a limited period.

A fifth class of birds will consist of all the corvine birds, whose appetites are so accommodating that scarce anything comes amiss to their gizzards; but their ungainly forms, harsh cries, and copious excreta, render them so undesirable as pets, that the consideration of their case may be left out of the question. The same may be said, with even greater force, of a sixth class, living mainly on fish, such as Gulls, Herons, and Kingfishers; with the exception of the last, these can scarcely be called attractive birds to keep, but do well in semi-captivity, with one wing cut. While a seventh class, consisting of birds of prey—Owls, Eagles, Hawks, &c.—are more suitable for Zoological Gardens than for the houses and aviaries of amateurs.

It will be seen, from the above remarks, that, with the exception of the birds comprising the fifth class, the food appropriate for one group of birds cannot be successfully substituted for that of any of the others. For instance, a Hawk would soon starve on a diet of canary seed and groundsel; while a Canary, though it can be accustomed to live, for a time, on animal food—*e.g.*, egg—soon contracts disease of the

Feeding—*continued.*

liver and bowels from the use of an unnatural diet, and dies, as thousands, ay, tens of thousands, of these favourite songsters do every season, victims to the antiquated and most foolish practice of giving egg-food.

This, of course, has been most vehemently denied, and not always by interested parties; and it has also been asserted, that not only is egg indispensable for these strictly seed-eating birds, but that without it they will not live long (the contrary is actually the case), will not feed, are small, and of bad colour, and, positively, that the young will all be females!

I have proved, to my own complete satisfaction, the reverse of the above propositions, and my experience has convinced me that, in order to get the best Canaries that can be obtained, egg is not only unnecessary, but injurious.

The only time at which animal food should be given to young Canaries is when they are being brought up by hand, when a little milk is necessary to replace the secretions of the parental crop; but it must be discontinued as soon as the birdlings are able to feed themselves.

Many fanciers deprecate the use of green food—some during the breeding season only, others at all times; but my experience is that, the more the birds have of it, the better it will be for themselves and their progeny; in proof whereof I may mention that I have had far greater success with birds in a well-grassed aviary full of shrubs than with others kept in cages and fed on the old-fashioned plan.

At the same time the fancier must beware of allowing an unlimited supply of green food to be suddenly offered to a bird that has not been accustomed to it, for it would gorge itself, upset its digestive apparatus, have diarrhœa, and in all probability die. There is a medium in all things, and birds must be dealt with accordingly.

There are many seeds—hemp for instance, rape, maw, and flax—that may be partaken of freely by birds that exist in a state of semi-liberty in a large outdoor aviary, where there is plenty of room for them to fly about, and take free exercise, which would soon kill them in a cage.

As regards water, the amateur cannot be too particular; it must be frequently changed, and had better be given in earthenware than in wooden or metal dishes; the former are much the easiest to clean, and do not foul as quickly as the others. Closed fountains are to be deprecated, as the insides cannot be readily cleansed. Shallow pans are preferable to those of greater depth; and the birds should never be allowed to drink water in which they have bathed.

Feeding—*continued.*

Many amateurs, who are strictly attentive to the above rules, never think of giving their birds sharp, coarse sand, but strew the floors of their cages with sand so fine that it is really dust, and of no service to the toothless creatures, who must have small stones in their gizzards, to enable them to triturate their food, which they swallow whole, or in large fragments, and which is only moistened, not masticated, in the crops.

FEVER.

See PAIRING FEVER, SEPTIC FEVER, and TYPHOID FEVER.

FITS.

See APOPLEXY, EPILEPSY, HEAT APOPLEXY, and VERTIGO.

FOREIGN BODIES IN CROP.

See CROP-BINDING.

FRACTURES.

See LEG, BROKEN, and WINGS, INJURY TO THE.

FRENCH MOULT.

See ALOPECIA.

FROST-BITE.

Occasionally, during a severe winter, the toes of birds will become frost-bitten, and if the amount of cold suffered has been severe, they will wither and fall off. But if the injury be slight, the bird must be removed indoors, placed in a cool room, in a cage, the floor of which must be covered with dry moss or flannel; and in from an hour to an hour-and-a-half afterwards, the feet should be bathed in warm water (60degs. Fahrenheit) to which a little spirit (whiskey or brandy) has been added. The bathing should be continued for a few minutes, until the feet feel warm, when they should be carefully dried, and the bird replaced in the cage, furnished as already mentioned, but without perches; or these latter should be covered with baize. See also GANGRENE.

GANGRENE,

Or Mortification, signifies the death of any part of the body consequent on injury or disease. Cold is one of the exciting causes (*see* FROST-BITE), and strangulation another. For instance, a bird gets a piece of thread or wool tightly twisted round a toe, or a leg, and, the circulation being

stopped, the toe or limb perishes, and ultimately drops off. Occasionally mortification results from constitutional causes, and sometimes is an effect of old age.

Symptoms.—The part affected becomes deep red, then livid, or blue, or greenish; it loses its sensibility, and, in some cases, blisters form on the surface. As the Mortification proceeds to what surgeons term *sphacelus*, or complete and irrevocable loss of life, the affected part may become dirty brown, or black; if moist, it will decompose, and smell offensively, and often swell largely, in consequence of the gases evolved, by decomposition, in its interstices.

Treatment.—As soon as a bird's foot is perceived to be affected, it must be at once examined, and search made for any constricting fibre, which must be carefully removed by means of a pair of sharp, fine-pointed scissors, and the injured member at once treated as recommended in the case of FROST-BITE (which see). If the affection is constitutional, or proceeding from old age, not much can be done to arrest its progress; but strict attention to cleanliness and the prevention of contact with any irritating substance will afford relief, and the addition of a stimulant, such as Parrish's Chemical Food, in suitable doses, according to size, of from one to twenty drops, two or three times a day, will, in the milder cases, arrest the progress of, if it does not entirely cure, the disease.

GAPES.

This is chiefly a disease of the poultry-yard, but it is also common to pheasants, rooks, wood-pigeons, sparrows, starlings, and linnets. It is caused by the presence of a number of Roundworms in the bird's windpipe. The male, which is smaller than the female, is permanently attached to the body of the latter, and this has given rise to the popular name of Forked Worm.

Symptoms.—A gasping for breath, unaccompanied by wheezing and panting, but with frequent attempts of the bird to relieve itself by shaking its head.

Treatment.—Take a feather—small or large, according to the size of the bird affected—dip it in spirits of turpentine, and twirl it rapidly, two or three times, round, at the back of the throat. One application will usually dislodge the parasites; but if not, the operation may be repeated after a few hours. I have never known it fail, or do any harm, which is more than I can say for some other plans that I have seen recommended. See also WORMS, INTESTINAL.

Garlic has been mentioned as an infallible cure for this

Gapes—*continued.*

affection, but I have not had an opportunity of trying it. See also PARASITES and VEGETABLE PARASITE.

GOUT.

This "aristocratic" complaint occasionally attacks old Parrots, usually those that have been fed "not wisely, but too well"; for, as Sydenham, the father of English medicine, said: "It kills more rich than poor, more wise than simple"—that is to say, more learned than uneducated men. It was formerly thought to be a catarrh, and got its name from the French *goutte*, a drop, because it was imagined to be produced by a liquid which was distilled, drop by drop, into the affected part. It is now considered to be a specific inflammation.

Symptoms.—The Parrot seems feverish and ill for a day or two, eats scarcely anything, but drinks a good deal, and then a foot—rarely both feet—swells, and the bird is evidently in a good deal of pain, from the way it holds up the suffering member, and abstains from any effort to use it, lying, usually, at the bottom of the cage. An examination will show that it has not been injured, has not got any thread or fibre twisted round it, and is not abraded or cut. The symptoms usually pass off in a day or two, and the bird seems himself again; but after repeated attacks he may partially, or even entirely, lose the use of the affected limb, which may remain permanently swollen.

Treatment.—Abstinence from delicacies of all kinds, especially "sweets," a plain, wholesome diet, and a soft perch, or floor, until the pain has subsided. For medicine, give a purge: castor oil, ten or twelve drops; or some jalap—as much as will lay on a three-penny piece—which can generally be administered in sop, or may be made into a pill with a little honey, and thrust down the bird's throat. But with this complaint, as with so many others, "prevention is better than cure."

HEART, Diseases of the.

Two forms of Heart Disease only are likely to affect birds, namely: 1st, *Hypertrophy*, or *Dilatation*, occasionally ending in rupture of the organ itself, followed by instant death, and sometimes by syncope, or fatal faintness; and 2nd, *DEGENERATION, FATTY* (which see).

Symptoms.—Very obscure; the disease can usually only be determined by an autopsy.

Treatment.—None of any avail.

HEAT APOPLEXY.

I have often seen poor birds hung outside a window in the full glare of the sunshine concentrated against a brick wall, and wondered that they never succumbed to Sunstroke (otherwise Heat Apoplexy); but they sometimes do, although not so frequently as might be expected.

This form of Apoplexy differs from that already mentioned in that the *serum*, or watery portion of the blood, alone escapes from, or is exuded through, the walls of the blood vessels, which do not give way upon or into the tissues of the brain. The prognosis is, therefore, all the more favourable; but nevertheless, if the attack has been a severe one, the patient will almost certainly die, or at least remain in a more or less paralysed condition for the remainder of its days. Here, again, it is easier, and altogether more satisfactory, to prevent than to cure the disease.

Symptoms.—A bird that has been exposed to the full heat of the sun for a long time, will sometimes be found lying in a panting condition at the bottom of its cage, and, on being removed into the shade, will be seen to be partially, or even wholly, paralysed, although it was quite well when the cage was hung out. Such a bird has had a Sunstroke, or stroke of serous Apoplexy, caused by the direct action of the solar heat.

Treatment.—All that can be done is to place the patient in the shade, give it a little lukewarm water to drink, and put its feet into water at blood heat. See also APOPLEXY

HUSKINESS.

See APHONIA.

HYPERTROPHY.

See HEART, DISEASES OF THE.

INDIGESTION.

With birds this is either the result of injudicious feeding or of the absence of small stones in the gizzard. Many captive birds, but especially Parrots, are liable to this complaint.

Symptoms.—The bird is sullen and irritable, sits with its feathers ruffled up, and in bad cases vomits, or has a watery, acrid discharge from the mouth, similar to the *pyrosis*, or *water brash*, that often troubles the human dyspeptic. *Flatu-*

Indigestion—continued.

lence is also frequently present, and there is usually a loss of appetite, though at first the bird will eat ravenously.

Treatment.—If the attack is due to improper feeding, at once place the bird upon its natural diet if you can, or upon one as nearly approaching it as possible, and give some liquid magnesia—a teaspoonful to each ounce of drinking-water. But if pyrosis be present, substitute five grains of bicarbonate of potash for the magnesia. Where there is vomiting, the amount of liquid supplied for drinking must be curtailed, and a mouthful of the magnesia water supplied three or four times a day. If the patient seems cold, as dyspeptic birds often do, it should be placed near a fire, and a comfortable degree of warmth maintained around it night and day. See article on FEEDING.

INFLAMMATION.

A perfect definition of this morbid condition is not possible, because medical men are not agreed as to the several processes which shall be included under the term. The nearest approach, perhaps, to a true definition, is that given by the late Robt. Druitt, in his "Surgeon's Vade Mecum," namely: "A diseased process, including hyperæmia (from the Greek *uper*, above, and *aima*, the blood), stagnation of the blood (congestion), and exudation, with disturbance of the minute structural or cell elements of the part affected."

Symptoms.—These are pain, heat, redness, and swelling, to which may be added impaired function of the part inflamed, and a greater or less degree of feverishness. It will thus be seen, that it is easier to recognise an Inflammation than to define it.

Of course, in treating or diagnosing the ailments of birds, we can only guess that they are suffering from "pain" by their actions, for they cannot tell us how they feel; but an experienced aviarist will be able to say, at a glance, whether a favourite bird is ill or not. "Heat" can be recognised by the hand, "redness" by the eye, and "swelling," by both the eye and hand; while the "impaired function" will be apparent to the attentive observer, who will see his bird panting, if suffering from internal Inflammation, or holding up its leg, if that or the foot be affected. The "feverishness" that accompanies Inflammation will be marked by thirst, and occasionally by *rigors*, or shivering.

Treatment.—This will necessarily vary according to the part affected, and the reader is referred to the articles BOWELS,

Inflammation—continued.

INFLAMMATION OF THE; CONGESTION; ERYSIPELAS; LUNGS, DISEASES OF THE; MENINGITIS; OPHTHALMIA, &c.

INFLUENZA.

An aggravated form of CATARRH (which *see*).

INJURIES.

See LEG, BROKEN; and WINGS, INJURY TO THE.

ITCHING.

See ECZEMA; PRURITUS; and SKIN, DISEASES OF THE.

JAUNDICE.

From the French *jaune*, yellow. This is really a symptom, and not a disease, although the presence in the blood of the colouring matter, and other ingredients of the bile, undoubtedly gives rise to morbid conditions, that may increase to formidable proportions, and must be met by special treatment as they appear. It is rare in birds, but I have seen Fowls and Ducks that were completely jaundiced, owing to the inability of a long-diseased liver to perform its function of purifying the blood from a certain class of effete, or used-up, substances.

Symptoms.—The skin, and the conjunctiva (or white) of the eye are of a yellow colour, while the dejections are white, or clay-coloured.

Treatment.—The symptoms must be met and treated as they arise, but the prognosis, in birds, is most unfavourable, as the exciting causes cannot always be ascertained during life.

KIDNEYS, Diseases of the.

It will, perhaps, be as new to some of my readers to hear that birds have kidneys, as it was to an occasional correspondent, some time ago, who absolutely refused to believe in the existence of such organs among birds; they occur, nevertheless, and are to be seen, in the shape of small, irregularly-formed, dark masses, that fit into a small cavity on each side of the spine, below the liver. There is no bladder, but the renal secretion is carried, by two or more ducts, to the cloaca, whence it is ejected, along with the fæces, in the form of a white, chalky-looking fluid, or semi-fluid, of creamy consistence.

Symptoms.—**FATTY DEGENERATION** (which *see*) is the only form of Kidney Disease I have found existing in birds, the symptoms of which are an increase in the quantity and consistency of the renal secretion.

Kidneys, Diseases of the—continued.

Treatment.—I know of none likely to be of any use, as the symptoms I have mentioned are the accompaniment of a state of disease that is beyond the reach of remedies.

LEG, Broken.

It is not an unusual occurrence for a captive bird to have one of its legs accidentally broken. This may be caused by a fellow-prisoner, or by the bird itself getting entangled in the wires of its cage, or in some of the threads or fibres supplied to it for nesting purposes, or the consequence of clumsy efforts to catch the bird.

Symptoms.—These are self-evident; the bird is unable to stand, and, on being caught and examined, the fracture will be easily discovered, and may be situated in the leg itself, at the thigh, or at the knee joint.

Treatment.—In the first case, it will be best not to interfere unless the foot is misplaced, which must be very gently restored to its natural position by careful manipulation, and maintained in it by means of splints. With a larger bird, such as a parrot, a goose quill makes a good splint. Split one in half or in three pieces, according to the size of the limb, soften by soaking in boiling water, then smear the inside with good gum, hold the broken limb in position, apply the splint, and bandage with thin tape; in the case of very small birds, by wrapping it round with a piece of Court plaster or even gummed paper. The patient must then be placed in a small cage without perches, and with the floor covered with moss, hay, or flannel, and be left in a quiet room, where it will not be disturbed, with a sufficient supply of food and water within easy reach to last for at least one day.

When the fracture is in the thigh, the case had better be left altogether to Nature, and the recovery will usually be perfect; but when it occurs at the knee joint, the leg will probably be stiff, and will sometimes wither and fall off. It is to be remembered, however, that the quieter the bird can be kept for a couple of weeks, the more certain will be the chance of a complete restoration of the injured limb.

LEPROSY.

See SKIN, DISEASES OF THE.

LIVER, Diseases of the.

These are FATTY DEGENERATION, and ATEOPHY (which see) of the organ, which are practically incurable, and CONGESTION. See also ASCITES.

LOSS OF FEATHERS.

See ALOPECIA, FEATHER-EATING, and SKIN, DISEASES OF THE.

LOSS OF VOICE.

See APHONIA.

LUNGS, Diseases of the.

In birds, these are Inflammation and Tuberculosis.

Inflammation of the Lungs, otherwise Pneumonia, a Greek term signifying an acute inflammatory condition of the substance of the lung, is one of the most formidable complaints to which cage birds are subject, as well as one of the most frequent. It may occur at any season, but is, perhaps, more common in spring and autumn than in summer or winter. House birds are more liable to be attacked by it than those living in an outdoor aviary, and the cause is, in nine cases out of ten, exposure—often brief—to a cold current of air.

Symptoms.—Difficulty of breathing, and great prostration. Pneumonia may be diagnosed from bronchitis by the suddenness of its onset, and the greater gravity of the attendant symptoms. In extreme cases there is a discharge of blood-stained mucus from the mouth and nostrils. If the feathers are blown back behind the wing, the red inflamed lung will be plainly visible through the skin.

Treatment.—The only remedy to be depended on is warmth, or, I should say, heat, for 90degs. is not too high a temperature for a pneumonic patient; and this must be maintained regularly and constantly, night and day. While the air must be heated, it must not be dried, and a sufficient amount of moisture must be supplied by means of the ordinary bronchitis kettle. As the gravity of the symptoms subsides, the temperature may be gradually lowered to that ordinarily obtaining in the room. The diet must be simple and nourishing; bread and milk, sweet, and newly prepared, is the best, as the object is to support, without embarrassing, the system. For medicine, put a teaspoonful of the Liquor ammoniæ acetatis and five drops of homœopathic tincture of aconite to each ounce of the drinking-water, of which the bird may be allowed to partake freely; but bear in mind that the sheet anchor in this case is a warm, moist atmosphere, without which there is very little chance of the bird's recovery. See also PHTHISIS, and TUBERCULOSIS.

MEMBRANITIS,

Or inflammation of the investing membranes of the brain, is scarcely, in birds at all events, to be distinguished from the same complication affecting the substance of the brain

Meningitis—*continued.*

itself. I am not aware of its occurrence among the inmates of the aviary, except as the result of direct violence, and it is then, if not immediately fatal, productive of permanent paralysis.

Treatment.—Expectant only; symptoms must be met and treated as they arise, but the prognosis is always unfavourable. See also INFLAMMATION.

MORTIFICATION.

See FROST-BITE and GANGRENE.

MOULTING.

Although a natural process, this is often attended with veritable disease, and all birds require a little extra attention while it is going on; that is to say, if they are kept in cages indoors. In an outdoor aviary I never interfere with them, and they seem to get on as well as our wild birds do at this time; nor can I recollect ever losing one of mine from Moulting alone. I am speaking, of course, of British birds, and of the hardier sorts of foreigners, such as Cardinals, Saffron Finches, Parrakeets, Blue Robins, and so forth.

It is, no doubt, a wise provision of the great Creator that birds moult at a period of the year when their natural food is most abundant, and this must be borne in mind, whether we keep them in outdoor or indoor aviaries or in cages.

Symptoms.—The feathers fall out, often in such quantities as to leave the bird nearly bare and almost incapable of flight; and this happens, usually, in August, but sometimes in July, and occasionally in September. But newly-imported foreign birds are liable to cast their feathers at any time, although, once they have become acclimatised, they adapt themselves to our seasons, and moult with the denizens of our own woods and fields.

As I have said, the feathers fall out, but new "quills," containing and protecting the young feathers, make their appearance almost directly, and the birds will be observed to pay more frequent and longer visits to the seed-pan, and the food-dish; in other words, to eat considerably more than they usually do. Wild birds, when moulting, seldom bathe as much as at other times, and the amateur will do well to take the hint, and not allow his pets to "tub" as frequently as when they are in full plumage, and, when they have enjoyed the luxury of a bath, to see that they are quickly dried again.

Treatment.—An abundance of food, of more generous quality

Moulting—*continued.*

than usual; thus, maw, flax, and hemp may be added to the ordinary canary and millet for birds belonging to the first class (*see* the article on FEEDING), as well as plenty of green food; and for birds of the second and third classes, a few more mealworms and ants' eggs, and fruit and berries, must not be forgotten.

Draughts, and exposure to unusual cold, must be guarded against, and attention paid to the supply of sand.

If the process of renewing the feathers is unduly protracted, put, for all birds, ten drops of Parrish's Chemical Food in each ounce of the drinking-water, and add a pinch of sulphur to the diet of such as eat soft food. A little bread and milk, sweet, and newly prepared, may be given every day, and will be relished by every class of birds. I am now speaking of such as are kept in cages, for, in a large, well-grassed and shrubbed aviary out of doors, little or no special treatment will be required. *See* also ALOPECIA.

MOUTH, Ulceration of.

See APHTHÆ and VEGETABLE PARASITE.

NAILS, Overgrown.

With some birds, especially those that are kept in cages, and have to sit continually on round perches, the nails frequently become so long and curved as to impede locomotion, besides endangering the life of their owners, by getting them fixed in the wires or furniture of the cage or aviary. When such a state of affairs has been discovered, the overgrown nails must be cut with a sharp pair of scissors, or a pair of pliers, such as are used by cage-makers for snipping wire, care being taken, of course, not to go too near the quick, which can be readily recognised, in Canaries and other birds with white claws, by the little blood vessel that runs through it.

NERVOUS SYSTEM, Diseases of the.

Birds are very sensitive creatures, easily alarmed, and are often seriously injured by a sudden shock to the nervous system, such as an attempt to catch them, a fall (with their cage), or the unexpected appearance of a cat or a bird of prey. Songsters may lose their voice, and even drop down in convulsions or a fainting fit, from such a cause as the above; and the effects, though usually transitory, are sometimes permanent, or, at least, extremely difficult of cure, this being more the work of time than of treatment. *See* also CHOREA and EPILEPSY.

NOSTRILS, Obstruction of the.

See CATARRH and PIP.

OBESITY,

Or excessive fatness, is a veritable disease, not always caused by enormous eating, or by the ingestion of a food too rich in nitrogenous compounds, although it very frequently arises from one or both of these causes, or from the two combined, but especially from the last.

Symptoms.—An unusually sleek and plump appearance, shortness of breath on the least exertion, and disinclination to move or to take sufficient exercise. In some cases that I examined after death, there was a thick casing of fat surrounding every organ of the body; and in one, the adipose tissue was so solid as to have the appearance, and almost the consistence, of yellow wax.

Treatment.—If the bird has been too generously treated, it must be put on short commons; if fed on unsuitable food, this must be discontinued, and a diet supplied more in accordance with the natural habits of the bird. Exercise must also be permitted and encouraged. See article on FEEDING.

OPHTHALMIA.

By this term, which is derived from the Greek *ophthalmos*, the eye, is meant an affection of the outward organ of vision, whether seated in the eye itself or in the eyelids; it is usually the result of exposure to cold, but may be the result of violence. Some forms of this disease, however, are infectious, and these are by far the most serious and likely to end badly.

Symptoms.—A discharge of fluid from one or both of the eyes, sticking to and hardening the surrounding feathers; a tumefaction, or swelling of the eyelids and surrounding skin, which is sometimes so severe as to render the patient completely blind.

Treatment.—Bathing with a lotion, consisting of one ounce of rose water, and one grain of sulphate of zinc, or two grains of alum, for the first class of cases; but for the second, fomentations with warm decoction of poppy heads or of camomile flowers. A gentle purgative is advisable in every instance—say liquid magnesia, in doses of one drachm to each ounce of drinking-water; a non-stimulating, but nourishing diet; and, if the bird appears weak, some Parrish's Chemical Food, in doses of from one to fifteen drops, once or

Ophthalmia—*continued.*

twice a day, regulating the quantity according to the size of the bird.

Warmth, too, is indispensable, especially where the complication has arisen from exposure to cold; but in no case should the temperature be allowed to fall below 60degs.

Some birds, especially Canaries, will gradually become quite blind without any assignable cause, and the only thing that can be done for them, is to put them singly into a small cage, where they can readily find their food and water; after a while, they become apparently quite reconciled to accomplished facts, and sing as cheerfully as when they could see.

PAIRING FEVER.

The intense desire that seizes some birds at the beginning of the breeding season to mate with a companion of the opposite sex; amounts, in some cases, to a veritable disease, for, if left ungratified, or if the bird's attention is not otherwise engaged, it will certainly die, and from no other cause. The presence of a single female in the bird-room is sufficient to bring it on in all the males of the same family that are present, even though they belong to different species.

Symptoms.—The song, which at first was vehement and continuous, becomes weaker and less frequent, and finally ceases altogether; the appetite fails; emaciation follows; the bird sits listless, with ruffled feathers; and, if left unrelieved, death puts an end to the sad scene in a few days.

Treatment.—The removal of the female out of sight and hearing occasionally acts like a charm, and the males begin, almost directly she is gone, to eat and sing again. Of course, where the inclination to pair is gratified, the affection soon disappears; but I have noticed, that birds troubled with this complaint become very weak if placed in the society of a female; and if it is desired to mate a bird that has been affected with this form of fever, the sooner it is done the better.

PARALYSIS.

From the Greek *paraluein*, to loosen or relax, may be defined as a diminution, or total loss, of voluntary motion or sensibility, or both, and is the result of some lesion of the brain or of the spinal cord.

Symptoms.—Loss of power following an injury, or a fit, or sometimes coming on without any apparent cause. "As the disease progresses to its almost invariably fatal termination, the physical powers diminish, and the patient is unable to

Paralysis—continued.

walk, stand, or sit, death occurring either from the difficult deglutition (swallowing), leading to choking, or from sheer exhaustion."

Treatment.—Very little can be done for a paralytic bird; friction is almost out of the question, and so is the application of electricity. Some preparation of strychnia, preferably the homœopathic tincture of *nux vomica*, might be tried in suitable doses; but the prognosis is so very unfavourable, that, for my part, I am more inclined to advise a merciful recourse to chloroform administered until total insensibility is followed by a speedy and painless death. See also APOPLEXY.

PARASITES.

Most old cages are infested with troublesome mites, which often cause the inmates sleepless nights and lead to the loss of many a brood of young. These creatures are commonly known by the name of bird bugs, or bird lice, and belong to the *Acarus* (from the Greek *a*, negative, and *keirô*, to cut) family. In size they are minute, but make up in numbers for what they want in bulk, and constitute a veritable plague to bird-keepers, no less than to the birds themselves. Their natural colour is greyish brown, but when distended with the blood of their victims they are bright red, and more easily seen.

Symptoms.—A bird that is troubled with these creatures will be observed to wake up suddenly from sleep, and peck or scratch itself furiously, generally about the rump or the breast; it will be dull and listless during the day, seldom singing, but not otherwise giving evidence of being in ill health.

Treatment.—An attentive examination of the cage with a lens, or even the naked eye, will reveal a number of minute white or greyish spots round the joints of the woodwork, which are the excreta of the Parasites. When these have been detected, the bird or birds must be taken out of the cage, which must be scalded with boiling water, and then dried before the fire; or it may, if small enough, be baked in the oven, care being taken not to leave it in long enough to char the wood, but yet a sufficient time to kill all the Parasites and destroy their eggs. As a further precaution, the crevices should be painted with fir-tree oil, and the birds themselves well-dusted with pyrethrum powder. † As some of the insects may escape after all—for they are possessed of wonderful vitality—a second examination had better be made in a few days, and a white handkerchief, or cloth, be thrown over the

Parasites—continued.

cage at night; the bugs will stick to this, if any are present. The operation should be repeated until no more are to be found.

PHTHISIS.

This is, properly speaking, a form of TUBERCULOSIS (which see) attacking the lungs, and is not usually met with in birds, except as a sequel to the occurrence of the disease in other parts of the body, notably the liver and the spleen; however, as a secondary affection, it is not uncommon among our feathered friends, the Canaries, which, like their human prototypes, if attacked, seldom or ever recover, but gradually decline, pine, and waste away.

Symptoms.—Gradual emaciation; sometimes a husky cough, inability to moult; and lastly, diarrhoea. Such are the symptoms usually present in phthisical, or consumptive, birds. Canaries are the most frequent victims, but Fowls, Pheasants, and Pigeons also contribute their quota of sufferers from this fell disease.

The post-mortem symptoms are, more or less inflammation of one or both lungs, in the substance of which small millet-like bodies, of cheesy consistence and a yellowish grey colour, are found in greater or less abundance.

Treatment.—Palliative only; there is no cure known.

PIP.

There is some uncertainty as to the disease to which this term is to be applied. Bechstein defines it thus: "A catarrh, or cold, by which the nostrils are stopped up, and the membrane covering the tongue is hardened by inflammation;" while other authorities refer it to an enlargement, with or without inflammation and suppuration, of the rump gland that contains the oil used by birds for anointing and dressing their feathers.

I incline to the opinion of the Father of Bird-lore in this instance, although I hesitate to adopt the plan of treatment he recommends, for to me it seems as irrational to skin a bird's tongue because, from fever, it is hard and dry, as it would be to perform the same cruel operation on the human subject for the same reason.

Symptoms.—As Bechstein remarks: "The nostrils are blocked up with hardened mucus, and the tongue is parched and dry.

Treatment.—"Skin the tongue, scale away the 'Pip,' give a bolus, composed of salt butter, pepper, and garlic, and the bird will soon be well." Such was the old plan; but for my part

Pip—continued.

I cannot advise anyone to adopt it, though, when I was a boy, in France, I have seen it followed scores of times. Directly a bird looked ill, it was taken to an old woman in the neighbourhood, who picked off the "Pip" with a needle, crammed some salt butter into the poor creature's mouth, and sent it home—sometimes to get better, sometimes to get worse, and die.

The better plan is to ascertain, as well as can be done, why the bird's tongue is dry, and if it is the result of a feverish cold, to give it *Liquor ammoniæ acetatis* and tincture of aconite—one drachm and five drops respectively, to each ounce of drinking-water—a purgative of jalap or liquid magnesia, proportioned to the bulk of the patient, a cooling diet of soft food, and let its poor tongue alone.

PLAGUE.

See SEPTIC FEVER.

PLEURISY.

From the Greek *pleura*, the side, and the terminal *itis*, is an inflammation of the membranous bag that encloses each lung, and may or may not exist as an independent disease in birds, as it does in men, but is unquestionably often connected with their pneumonia.

For symptoms and treatment, see LUNGS, DISEASES OF THE.

PNEUMONIA.

See LUNGS, DISEASES OF THE.

POISONS.

Mineral or vegetable Poisons are occasionally the cause of loss of life to the inhabitants of the aviary. Sometimes the amateur indiscreetly gives his birds some plant that acts injuriously on their systems, and which, if it does not kill them outright, causes them a considerable amount of suffering; or some poisonous mineral may accidentally get in their way, with similar results.

In such a case, what is to be done? That will, naturally, depend upon the substance ingested. The following are some of the Poisons that have proved destructive to pet birds: Bitter almonds, the kernels of peaches and plums, laurel leaves, hemlock; aconite, or monk's hood; woody nightshade, or bitter-sweet; deadly nightshade (*Atropa belladonna*); laburnum; digitalis, or foxglove; and tobacco. To these may be added several kinds

Poisons—continued.

of fungi and their spores; also the various "vermin killers," which are usually composed of arsenic, phosphorus, or strychnine.

Symptoms.—Stupor, faintness, and sometimes cramp, vomiting, and diarrhoea.

Treatment.—This must be stimulating and nauseating at the same time—that is to say, the deadly faintness that follows the ingestion of the greater number of the above Poisons must be met by the administration of brandy or sal volatile, in suitable doses, according to size, of from one to twenty drops; while vomiting, if present, is to be encouraged by draughts of warm water, given by means of a small syringe, and ipecacuanha wine, in doses of from ten to forty drops. The treatment, however, is by no means easy of application; and in the case of poisoning by "vermin killers" there is absolutely no time for anything to be done—the poor bird is dead almost before one has time to realise the fact that it is ill, as happened with some of mine that accidentally partook of seed mixed with Battle's Vermin Killer, that was intended for their enemies, the mice.

Parsley was long popularly supposed to have the most deadly effect on Parrots, one writer even going to the length of saying that it is "the prussic acid of their race"; but it is nothing of the sort, for I have an old Parrakeet I would gladly see dead—he is so decrepit from age—and I recently gave him some parsley, which he ate greedily without its having the slightest effect upon him; stay, I am wrong—he even seemed more lively than usual after having partaken of it.

PROLAPSUS.

Occasionally a bird, from fatness or from debility—often from both causes combined—suffers a Prolapse, or fall of the egg-producing organs, known to fanciers as being "down behind."

Treatment.—Should the parts protrude externally, they must be anointed with oil, and gently returned; the bird must also be placed upon low diet, and the accident may not occur again. But should the Prolapse be internal, there is no cure, and the poor creature, as soon as her condition is discovered, should be mercifully chloroformed free from her sufferings, as already directed in the article on PARALYSIS.

PRURITUS.

From the Latin *prurio*, to itch. An irritable condition of

Pruritus—continued.

the skin, prompting the sufferer to scratch and bite itself incessantly, and giving rise to at least one form of feather-eating.

The causes of this distressing complaint are various; but it is usually associated, more or less directly, with indigestion or the presence of insect parasites in the cage or upon the body of the bird.

Symptoms.—Restlessness, and continual scratching or biting of the part or parts affected, which, in severe cases, quickly become denuded of feathers, and even converted into bleeding sores.

Treatment.—If the Pruritus arise from errors in diet, these must be seen to and amended; but if from the presence of insects, the cage must be scalded, or fumigated, and painted with fir-tree oil; or, better still, unless it is a valuable one, destroyed. The bird must be dusted with pyrethrum powder, or washed with a strong infusion of quassia—four ounces of the chips, soaked for two hours in half a pint of cold water—to which two ounces of methylated spirit must afterwards be added. Needless to observe, that the bird must afterwards be dried, first in a soft cloth, and then, as expeditiously as possible, before a good fire. See also ECZEMA, and SKIN, DISEASES OF THE.

PYEMIA.

From the Greek *puon*, pus, and *aima*, the blood, a contamination of the vital fluid by the absorption of pus, or matter, into the circulation.

This formidable complication is of such rare occurrence among birds, that its consideration may be at once dismissed with the remark that the treatment should be the same as recommended for SEPTIC FEVER (which see).

QUARANTINE.

Seeing that there is no source of infection so common as the introduction of newly-obtained birds into the aviary, it will be a wise precaution on the part of the amateur, to place all feathered strangers in strict seclusion for some time before turning them out among the established inmates. Bird shops are not always the cleanest places in the world, and the creatures purchased there have often the germs of serious disease lurking in their system, where it develops after their new owner has carried them home, to spread infection among his healthy stock. I have known whole aviaries depopulated in this way, and therefore advise my readers to put every newly-acquired bird, no matter whence obtained,

Quarantine—continued.

in strict Quarantine for two or three weeks before turning it out among their other birds. See also ENDEMIC DISEASE and SEPTIC FEVER.

RESPIRATORY ORGANS, Diseases of the.

See ASTHMA; BRONCHITIS; CATARRH; EMPHYSEMA; GAPES, LUNGS, DISEASES OF THE; PHTHISIS; and TUBERCULOSIS.

RHEUMATISM.

Birds kept in cold, damp, and dark places are very often afflicted with Rheumatism, which renders them more or less incapable of walking and flying about, besides producing a greater or less amount of distortion in their limbs. I need only mention this cause of a distressing complaint to have it at once removed.

There is, however, a kind of pseudo-Rheumatism, to which very old birds are subject, and for this, as for the other ailments incidental to old age, there is no cure—the philosopher's stone is yet a desideratum; but something may be done in the way of alleviation, by rubbing or dabbing the part affected with fir-tree oil, or even ordinary turpentine, diluted with half its bulk of olive oil.

RICKETS.

Young birds hatched in dark places are often found to be deformed in the wings and feet, and incapable of walking or of flight; they appear to have no strength in their limbs, which sprawl out in every direction when they attempt to use them; their joints are often swollen, and their feathers either grow very slowly or do not develop at all—and this, I fancy, is one reason why so many aviary-bred Budgerigars are weakly and half-feathered.

Young birds thus affected never improve, and had better be killed at once than suffered to drag on a miserable existence, a burden to themselves and an eyesore to the aviarist, who, by placing the parents in a more open and healthful situation, will not again be troubled and distressed by finding their progeny afflicted with this complaint, the prevention of which is easy and almost always in his own hands; at least, if it is not, he should give up keeping birds.

SAINT VITUS'S DANCE.

See CHOREA.

SCROFULA.

This complaint seems like a cross between Tuberculosis and

Scrofula—continued.

Rickets. It is strongly hereditary; and, knowing this, the amateur, for his own sake, should avoid breeding from a tainted stock, which may endure for years, it is true, but will always be unhealthy and unsightly. See also TUBERCULOSIS and RICKETS.

SEPTIC FEVER.

The term "septic" is derived from the Greek *sēptikos*, putrefying, and is applied to a febrile disease near of kin to *Typhus Fever*, but sufficiently distinct from it to occupy a place by itself in these pages. It is not as contagious as the latter complaint, but is even more deadly in its effect, scarce one victim in a thousand recovering from its attack.

It specially affects foreign birds, particularly such as are brought from the West Coast of Africa, and notably the well-known and justly favoured Grey Parrot (*Psittacus erithacus*), which is imported in vast numbers into Europe every year, to die wholesale from this disease. And if the reader will bear with me for a few minutes, while I relate the history of these birds, from the time of their capture until their arrival in this country, he will cease to wonder at the appalling mortality that overtakes them, often before they have left the shops of the large dealers.

The negro hunters trap these poor birds in immense numbers as they leave their nests, and while many of them are yet unable to feed themselves, cut their wings, and pack them together in boxes, or bamboo cages, so many together that they can scarcely move. What food is given them is flung down among their excreta, whence they have to pick it out as best they can; and, in a tropical climate, they are kept in this condition, without water, too, sometimes for weeks, while the trappers are waiting an opportunity to send them down to the coast, where they are handed over, at a price of a few pence a head, to the shippers, who do not trouble themselves to clean out their cages, or give them more roomy quarters, but hurry them on board the steamer, where their lot is not improved by their being placed in the engine-room or the cook's galley.

During the brief period now occupied by a steamer in performing the journey from Western Africa to one of our English ports, the poor birds have no chance of becoming gradually acclimatised, but are exposed to the greatest changes of temperature without any preparation; for, on the arrival of the steamer, say in the Mersey, the fires on board ship are at once extinguished, and the birds, that had been kept at a

Septic Fever—continued.

temperature of 100degs., or more, are suddenly chilled by a fall of 40degs. or 50degs. Whereas, in "the good old times," when sailing vessels took a couple or three months to perform the same voyage, the birds were gradually accustomed to the difference of climate, the sickly ones died, and were thrown overboard, making more room for the survivors, and consequently giving them a better chance of life; now, few die in transit, and almost all arrive in port with the seeds of Septic Fever in their systems.

Symptoms.—These usually develop themselves in the course of a few days after the arrival of the birds in this country, but are sometimes retarded for two, three, or more weeks; and a Grey Parrot that passes eight weeks after arrival may be looked upon as saved. At first these birds seem to be in good health, then—take an individual case—after a longer or shorter interval, it shivers a little, loses its appetite, a discharge appears from the nostrils, diarrhœa sets in, and the bird dies in from three to five days; if it passes the eighth day it will probably recover. But such a termination is exceedingly rare, not occurring more than once in a thousand cases.

Treatment.—Warmth is the only treatment that seems to offer the least hope of success. The room where a bird of this description is placed must be maintained, night and day, at a temperature of from 90degs. to 100degs. If the bird is a young one, it must be fed on bread and milk, sweet, and freshly prepared, and a little boiled maize; but if it is an adult, the latter diet will be sufficient, although it will be as well to accustom the bird to hemp as soon as possible. Water must not be left in the cage, but a drink, lukewarm, may be allowed once or twice a day. No medicine is of any avail in this complaint.

Other birds occasionally arrive infected in a similar manner, but Septic Fever is peculiarly a Grey Parrot disease.

SKIN, Diseases of the.

Captive birds are subject to several kinds of Skin Disease, of which two (Eczema and Pruritus) have been already described; and, in addition to these troublesome complaints, they are occasionally subject to a kind of Leprosy: but other forms of Skin Disease are of such rare occurrence in birds that they call for no special mention here.

The cause of this Leprosy appears to be somewhat obscure, and is certainly not due to want of water for bathing, as a friend of mine supposed, nor to disinclination on the part

Skin, Diseases of the—continued.

of the bird affected to make use of the "tub"; for one of my birds that became so affected lived in an outdoor aviary and washed regularly. And I have also seen this disease in other birds that were, indeed, kept in cages, but were thoroughly well attended to and kept scrupulously clean. Nor is it, I think, altogether due to unsuitable food, which one might reasonably think to be the cause if it occurred only in insectivorous birds, for I have known Finches to be affected, as well as Buntings and Hedge Accentors.

Symptoms.—The feathers fall off; the skin round the eyes, or round one eye, turns white, or greyish, and is dry and leathery; by degrees the head and neck are affected, and sometimes the joints of the wings; occasionally the whole body is involved.

Treatment.—Nothing that I have tried did any good; but possibly I did not persevere long enough, for I confess to losing patience, and having recourse to chloroform after a trial of neats' foot oil and vaseline.

SMALL-POX.

The Father of Bird-lore asserts that an eruption similar to that which characterises this formidable disease in man attacks both cage birds and such as enjoy their liberty in the woods and fields. But I must confess that I rather doubt the fact; at least, I have never met with an instance of it, nor have I heard of anyone but Bechstein who has. Further, if birds, wild or tame, were liable to contract this malady, I was once cognisant of a case in which a Canary ought to have done so, but did not. The bird in question belonged to a lady, who, unfortunately for herself, caught this loathsome complaint, and as "Dicky" was kept in her room throughout its entire course, I naturally looked for the result with something of curiosity; but nothing happened—the Canary sang gaily every day, never seemed sick or sorry, ate and drank as usual, and was as well when his mistress was convalescent as he had been all along, and afterwards continued to be; from which I conclude that birds are insusceptible to Small-pox.

I know that it is not safe to draw general inferences from a particular instance; but here was surely a typical case, and, had the bird been liable to catch the disease, he scarcely could have escaped; but he did escape, and I think I am thereby justified in assuming that our feathered friends enjoy a thorough immunity from Small-pox.

SPINE, Affections of the.

In birds, these are the result of direct violence, and generally have a speedy ending in death; but should the patient chance to recover from the immediate effects of the accident, it will assuredly be paralysed for the remainder of its days, when nothing will be left for it but the administration of chloroform, as already advised in other cases. *See also PARALYSIS.*

SPLEEN, Diseases of the.

The Spleen is sometimes, in birds, affected by TUBERCULOSIS and by FATTY DEGENERATION (to which the reader is referred); but nothing can be done for the sufferer in either case, for it is seldom that the complication occurs alone or can be diagnosed during life.

SUNSTROKE.

See HEAT APOPLEXY.

SURFEIT.

Young Canaries just able to feed themselves are peculiarly liable to this disorder, which is brought on by their partaking too freely of soft food in which egg is usually a prominent ingredient; but I have also seen it caused by an overdose of green food, injudiciously given to birds that were unaccustomed to it.

Symptoms.—The bird, previously quite well, becomes dull and listless after partaking freely of soft or green food, is generally constipated, and makes frequent ineffectual attempts to relieve itself; the abdomen swells and assumes a dark appearance, and, if the attack is allowed to progress to that stage the case is hopeless—the intestines have begun to mortify, and nothing can save the bird.

Treatment.—Two or three drops of castor oil in the mouth, and the vent to be anointed with the same, by means of a feather or a camel hair brush; or a teaspoonful of liquid magnesia may be given, in an ounce of water, for drinking purposes. *See article on FEEDING.*

SWELLINGS.

See ABSCESS, CROP-BINDING, DISLOCATION, DROPSY, EMBRYSEMA, GOUT, TUMOURS, &c.

TONGUE, Affections of the.

APHTHÆ, CANCER, PIP, and VEGETABLE PARASITE.

TUBERCULOSIS.

A diminutive of *tuber*, an elevation or excrescence.

By Tuberculosis is meant a certain peculiar condition of the system, probably originated in the blood, that manifests itself by the production of more or less numerous deposits of yellowish, cheesy matter, in different organs of the body, receiving various names according to the locality in which they are formed. When the lungs are affected, the disease is called *phthisis*; when the external glandular system is invaded, it is named *scrofula*, and so on. But the scrofulous *diathesis*, or morbid tendency (from *diatithēmi*, to arrange or dispose), can scarcely be looked upon as distinct from the tuberculous, for it is, properly speaking, a coarser expression of the same picture.

Treatment.—This should rather be prophylactic, or preventive, than curative, for, once the disease has progressed beyond its initial stage, all hope of recovery must be set aside. The amateur will, therefore, avoid using a bird with a tuberculous or scrofulous diathesis for breeding purposes; or, if he must do so, for the sake of preserving some special peculiarity or "point," he must mate his stock with healthy birds, and, by strict attention to hygiene and diet, endeavour to breed out the tendency to disease.

The best food and plenty of fresh air will materially contribute to maintain the health of cage birds and to restore that of subjects born with an hereditary tendency to any complaint; beyond this, nothing, as I have already said, can really be done, for, once Tuberculosis has fairly developed itself, no cure is possible.

See also LUNGS, DISEASES OF THE; PHTHISIS; and SCROFULA.

TUMOURS

Are occasionally developed in and upon the bodies of birds kept in cages, and are the outward expression of several different morbid conditions. Thus, we may have Scrofulous Tumours, Cancerous Tumours, and Sebaceous Tumours; others are rather of the nature of warts, and others are simply fleshy.

A Sebaceous Tumour, I may here observe, is formed by the closing of one or more of the pores of the skin, when the natural secretions accumulate and form Tumours of different size, containing a whitish matter, of cheesy consistence, that sometimes smells very badly, but is generally inodorous.

Symptoms.—Tumours may be differentiated from abscesses by the feeling of fluctuation in the latter which is absent in

Tumours—continued.

the former. The Sebaceous Tumour has a doughy feeling when pressed gently by the finger and thumb on either side of it, and may be taken for an abscess by an amateur; but the experienced touch of a veterinary surgeon at once detects the difference.

Treatment.—When a bird is suffering from a Tumour, or swelling of any kind, it is always better to call in professional assistance, as the surgeon will operate where necessary, or, at all events, say whether the case is one for active interference or not.

Scrofulous Tumours should be painted with tincture of iodine or rubbed with the iodide of potassium ointment of the British Pharmacopœia, both of which can be obtained from any chemist or druggist. Sebaceous Tumours must be opened, and the sac enclosing the cheesy secretion carefully dissected out; but Cancerous Tumours had better not be touched, as any interference merely precipitates the inevitable end. See also ABSCESS and ULCERS.

TYMPANITIS, or TYMPANY.

This complaint differs from EMPHYSEMA (which see), in that the air infiltrated under the skin does not come from the lungs, but rather from the crop; it is almost peculiar to nestlings that are being brought up by hand, and is, I imagine, a result of indigestion. Unless the swelling be very great, no interference will be necessary; but where the amount of air, or gas in the crop is so considerable as to hinder the bird taking sufficient food, the bladder-like swelling may be pricked with a needle, and the confined air aided to escape by gentle pressure, when, in all probability, it will not collect again, at least to any inconvenient extent.

TYPHOID FEVER.

From *typhus* and *eidos*, resemblance; a slightly contagious febrile affection, generated by decomposing animal matter, particularly fæces. It is also called *gastric* and *pythogenic* fever, either of which names would be more appropriate than the one which custom has appended to it, for it is not "like typhus," as it does affect the digestive organs, and is generated by putrescence; hence the term *pythogenic*, from *pythō*, to rot, and *gennad*, to generate. It is also termed *enteric* fever, on account of the ulcerations generally found in the intestines after death. This complaint is much less rapid in its course than septic fever, and far less contagious. True, a number of birds kept together will some-

Typhoid Fever—*continued.*

times sicken and die, one after the other, with the same symptoms—pointing to this disease; but there will be always something in their surroundings to account for their death, which, in the case of septic fever, is not always discoverable. This disease is rarely introduced from without, and is endemic rather than epidemic.

Symptoms.—Diarrhœa is more marked in this complaint than in septic fever, in which we have often found constipation.

Treatment.—Water, acidulated with dilute sulphuric acid—thirty drops to the ounce—should be given to the birds to drink, and is the only remedy that is to be at all relied on. If the purging is severe, and especially if any trace of blood appears in the excreta, one drop of laudanum may be added to the above mixture.

• ULCERS.

Ulceration consists of two apparently incompatible processes—namely, one formative and one destructive. It usually happens that a part of the body, whose vitality is already impaired, becomes inflamed, and is infiltrated, or penetrated, with cell-growths and lymph; this softens and perishes, and the infiltrated skin with it, bit by bit.

Some Ulcers are *indolent*—that is, have very little of the formative element about them—whether morbid or healthy; others are *active*, as evinced by their red appearance, and the swelling that accompanies them; while others, again, depend for their increase on the spread of the morbid cell-growths with which they began. Sometimes the cell-growths attain to considerable dimensions, and are then called *fungous*, or *fungoid* granulations, popularly known as “proud flesh.” The predisposing causes are debility, languid circulation, deficient nervous influence, and violence from without.

Treatment.—Indolent Ulcers must be stimulated by outward applications—touched by “blue stone,” for instance, every now and then. Active Ulcers require, on the contrary, a soothing mode of treatment, and must be dressed with cooling applications, such as spermaceti and zinc ointments, as sold by chemists. Where the granulations are exuberant and painful they must be cut down by touching their surface with lunar caustic, otherwise nitrate of silver. The general health must be attended to, and, if the bird pecks or scratches the ulcerated part—as frequently happens—means must be taken to prevent it doing so. See also ABSCESS and TUMOURS.

VEGETABLE PARASITE.

The only Vegetable Parasite of which I have any cognisance as attacking birds, is *Oidium albicans*, from *don*, an egg, and *eidos*, likeness, which is met with in Aphthæ, in the form of white patches on the tongue and throat. See APHTHÆ.

VERTIGO.

Without being a disease, properly so called, Vertigo is not uncommon among birds kept in confinement, and is brought on by their turning giddy and fall down. Birds belonging to the first class (see the article on FEEDING) are especially liable to this accident, but may be cured of the tendency by placing a covering on the top of the cage, by which they will be prevented from seeing anything above them, for it is by looking up that this giddiness comes on.

VOICE, Loss of.

See APHONIA.

WINGS, Injury to the.

Birds that have been newly caught and turned into a large aviary frequently hurt the joints of their wings by dashing themselves wildly, in their alarm, against the wire and perches, in some cases so severely as to make themselves bleed, and in others, to dislocate, or even break, the wings.

Where the injury is confined to a bruise, or even an abrasion, of the skin, no treatment will be required; these will soon heal of their own accord, if the flight feathers are cut, which will prevent the bird knocking itself about, and will cause it to become tame much sooner than if it were able to fly. But where a bone is broken or a joint dislocated another plan must be adopted; a bandage must be placed round the bird's body, so as to confine the injured wing to the side, and be kept in place by a strap running across the breast; this must be kept on for ten days or a fortnight, by which time union of the bone will have taken place and the injured part have recovered its usual strength.

WORMS, Intestinal.

A small species of *Oxyuris*, or thread worm, is not uncommon in gallinaceous birds, and appears to cause them little or no inconvenience, but should, nevertheless, be got rid of as speedily as possible by means of one or two doses

Worms, Intestinal—continued.

of jalap—as much as will cover a shilling for an ordinary fowl—for the chickens pecking about get the eggs of these parasites into their mouths, where they stick, and, hatching out, constitute, it is said, the formidable disease known to poultry fanciers by the name of GAPES (which see).

WOUNDS.

See LEG, BROKEN; ULCERS; and WINGS, INJURY TO THE.

ZYMOTIC DISEASES,

From *zumē*, a Greek term signifying leaven, are those which depend on some morbid poisons, acting on the organism in the form of a ferment, or yeast. They are contagious and febrile, and rarely attack the same individual a second time.

The only two representatives of this numerous class of diseases that attack birds are SEPTIC and TYPHOID FEVERS, to which the reader is referred.



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