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MR. J. L. BURGESS'S WHITE AFRICAN OWL. FIRST AND SPECIAL AT THE CRYSTAL PALACE, 1907, AND WINNING £15 SILVER CHALLENGE CUP AT CIRENCESTER FOR THE BEST PIGEON IN 1908 AND 1909, BESIDES WINNING A DOZEN FIRSTS AND SPECIALS AT PROVINCIAL SHOWS.

THE
PIGEON BOOK
BY A. H. OSMAN

LONDON
GEORGE NEWNES, LIMITED
SOUTHAMPTON STREET, STRAND, W.C.

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INTRODUCTION.

It will not be possible in a work of this description to give descriptive matter of any great length relative to the different varieties, but they will be briefly dealt with in order that a beginner taking an interest in the breeding of pigeons may know the main points of distinction between them, likewise their points of excellence and the most difficult features connected with their breeding. In this matter, as no man is a thorough master breeder of all the varieties, I have called to my aid several of the best-known breeders, who have been good enough to deal with some of the varieties as specialists of these varieties. I have to thank them for the help rendered me in the compilation of this book, adding so much to its interest.

Darwin expresses the opinion that all the varieties of pigeons that have been domesticated trace their origin to the Blue Rock Dove (*Columbia Livia*), and to establish this fact mentions that if any domesticated variety of the pigeon family is allowed to run to seed without the careful selection of the fancier, distinct features of *Columbia Livia* are reproduced in them.

In a small handbook of this description, it will not be found possible to trace the different varieties to their source, or to deal at any considerable length with the crossings that have been used by fanciers to improve or modify a variety. All manner of breeds have been used by the skilled fancier for this purpose, so cleverly in some cases as to leave little or no trace of their use, but I am convinced that there is hardly a variety in existence to-day in which a cross of some other variety has not been used to beautify it—it may be in colour, shape, or marking.

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THE PIGEON BOOK

CHAPTER ONE.

THE LOFT AND AVIARY.

The beginner having decided upon the variety that he intends to breed, must set about constructing his loft accordingly.

The size of the loft and its situation depend upon the means at command.

Pigeons will thrive under almost any conditions. Some have ample space in their gardens where a neat wooden loft can be built. But lofts over coach-houses can be utilised for some of the more hardy breeds, and I have known very successful fanciers who have used spare garrets near the roofs of their houses, with an outlet into a wire flight on the roof. In fact, so common is pigeon-flying in Belgium that most of the houses in some districts are so constructed that the upper part can be used for the owners to indulge in their favourite hobby.

One of the most common forms of keeping pigeons when they are simply looked upon as ornaments, and a

given number from time to time killed off, is the pole-house.

For this purpose an ordinary barrel can be used, with divisions for the separate pairs of birds. Common white

A USEFUL POLE DOVE-COT.

fantails, turbits, or members of the Oriental frill family make attractive inmates to such a dove-cot. The pole upon which the dove-cot is raised should be about 10 feet in height. An umbrella-shaped roof, made of zinc, should be fastened over it for shelter, and the barrel

can be divided down the centre with compartments for four pairs of birds.

Another form of the pole-house can be made in two stories on the most simple plan, with a V-shaped roof, in order to keep the locker-holes, in which the birds live and breed, dry.

Another simple form of keeping pigeons is the locker-hole nailed to the wall. I have known many beginners commence with a wall-box such as this. A cheap wooden

THE LOCKER HOLE LOFT.

orange-box or an old egg-box has often been converted into a useful cote by the eager beginner. Such was my own beginning, made with my own tools, and well do I remember how delighted I was when it was ready for the first pair of inmates, which I bought at a bird-shop

in Club Row, as cock and hen, and which turned out two hens, and, though they apparently mated together and seemed perfectly happy, eventually laid four eggs—a pair each—which never hatched.

It is, of course, useless and out of the question to think of breeding prize-winners under such unsuitable conditions as wall-boxes and locker-holes. The beginner whose ambition is to figure amongst prize-winners in the exhibition world, or in the racing world, will most assuredly fail unless his birds are well housed and well cared for.

I have, therefore, given illustrations of some useful lofts, both for racing birds and for breeding the fancy varieties for exhibition purposes.

Most pigeons can be allowed their liberty if it is given them early in life, but in the case of many of the merely fancy birds it is not customary to give them their liberty. They are kept in aviaries with the breeding loft in the rear and a flight in front.

Opinions differ as to whether the flight should be partially roofed. Pigeons delight in plenty of sun, but at the same time a damp loft and continually damp flight are fatal to success.

Convenience, of course, has often to be studied as to the direction in which the loft should face. The very best direction is S.S.E. Northerly or easterly directions are bad, as the cold winds will retard the growth of the youngsters in the spring, and westerly directions are also to be avoided, as we get very strong winds from those quarters, and if accompanied with rain, it saturates the floor of the loft.

A S.S.E. direction has many advantages, the birds getting the benefit of the early sunrise and less cold or moisture.

A TYPICAL LOFT FOR RACERS.

Interior of loft

H. B. Beer

INTERIOR OF LOFT SHOWING NEST BOXES AND PERCHES.

Bear in mind that a perfectly dry loft is absolutely necessary if birds are to do well, no matter what the breed may be.

It is a mistake to build a loft too high. Birds are apt to become wild and fly about madly in a very high loft. The height must, of course, depend upon the height of the owner. There should be just comfortable standing room for the owner, and no more.

I have given illustrations of a typical loft for racers and a garret loft with outside flight; a range of

A GARRET LOFT, WITH OUTSIDE FLIGHT.

wooden lofts with outside aviary attached; interior of loft, showing nest-boxes and perches.

Nest-boxes.

The breeding-boxes or nest-boxes in which the birds go to nest must, of course, be made to suit the accommodation of the loft. An illustration shows the interior of a loft with a small range of nest-boxes and small square boxes round the sides of the loft.

I like roomy and comfortable nest-boxes: 2ft. wide, 18in. high, and 18in. deep is a nice size, with a shelf at the back 9in. wide, in order that sitting birds can go to nest on this shelf with a second pair of eggs, whilst the youngsters from the prior nest are on the floor of the nest-box; for most varieties of pigeons are prolific breeders, and will often lay a second pair of eggs at the time when the young are from three to three-and-a-half weeks old.

Here is shown a very simple nest-box, just a square box with a hole in it, and a lid that allows the owner

A USEFUL NEST BOX.

to lift the nest-pans out or give an eye to the sitting birds if he desires.

Whatever description of nest-box is used in the loft it is most essential that the interior should be thoroughly get-at-able, otherwise vermin will speedily over-run the birds and ruin all chances of success with them.

It is a good plan to have the nest-boxes made with a movable front, in order to shut up any particular pairs of birds desired. Such fronts can be obtained in almost any sizes, ready made from the various dealers, or a

fancier handy with his tools can easily rig up such as will suit his convenience.

Feeding-hoppers.

Whether a fancier will require feeding-hoppers or not depends on the birds he keeps. The pigeon fancy has developed to such an enormous extent in recent years that all requirements are well catered for. Under the heading of management I shall refer to the advantages of hopper-feeding with those of hand-feeding. If hoppers

A RANGE OF LOFTS, WITH FLIGHTS ATTACHED.

are used they should be of such a nature that the food is not easily thrown out and soiled on the floor. A fancier can easily make himself a feeding-trough or hopper to suit his needs, but it should be closed at night and put out of the reach of mice.

Water Fountains.

I do not advise the use of water fountains that are hermetically sealed. These get coated internally with slime, and the water foul. Many diseases are traceable to their use. In my own loft I have a continual stream

of clear pure water passing through the water-troughs. This is not always possible. Still it is possible to frequently change the water, and it should be stored in open vessels with a cover, or in fountains made in two parts that can easily and readily be cleaned. Zinc fountains should be avoided. Cool, clean earthenware ones are the best, but are liable to get broken, especially in frosty weather.

The Bath.

A list of accessories for the loft would not be complete without the bath. These can be obtained in various shapes and sizes. Their depth should be about $3\frac{1}{2}$ in., size according to convenience.

Perches.

There are various kinds of perches in use. For my part I like the square box perches, about 1 in. by 1 in., and $\frac{3}{4}$ in. deep. These are easy to make and easy to fit up. V-shaped perches are also very popular and easy to clean. But with regard to perches, it is a question of convenience. In some odd corners you may use one kind of perch, and in others a different kind. I always like to have half as many perches again as I have birds in my loft, for unless there is plenty of perch-room there will be a considerable amount of fighting.

Nest-pans.

In pole-houses or locker-hole pigeon-cotes it is not, of course, possible to use nest-pans in which the birds lay and sit or rear the young. They must be allowed to build their own nests. For other lofts there are various kinds of nest-pans made: glazed earthenware, sold at about 4d. each; ordinary red earthenware, sold at about

2d. each ; and wooden bowls of all descriptions. Wooden nest-bowls can easily be made, and generally give the best results. An ordinary shallow box of about 9in. square and $1\frac{1}{2}$ in. deep makes an excellent breeding-pan, and I have reared many fine youngsters in simple wooden boxes of this description. The material for their construction costs about $1\frac{1}{2}$ d. each, and they can be burnt at the end of each season.

Cleaning Utensils.

These should consist of a triangular deck-scraper, which can be bought at a cost of 1s., a small hand broom, a shovel, and a whitewash brush.

A steel shovel with a good edge to it is best, as it can

THE CLEANING SCRAPER.

be used on the floor of the loft whilst the deck-scraper can get well into the corners.

The loft must be cleaned regularly or the birds will not thrive. At least once a day the accumulations should be removed from under the perches, and the nest boxes should be thoroughly cleaned out once a week.

As to the whitewash brush, at least twice a year this should be brought into requisition and the loft white-washed from top to bottom. For this purpose I use ordinary whiting (about a dozen of whiting to 2lb of size), and I add to this plenty of carbolic. I generally

A STEEL SHOVEL.

have my lofts cleaned in this manner before and after breeding.

Grit-boxes.

It is usual to keep a store of grit in the loft. The same hoppers are suitable for this as the ordinary food hoppers.

By far the best course for the beginner to adopt is to gain the acquaintance of some successful fancier who breeds the variety he thinks of taking up, visit his lofts, and make a note of the various appliances he uses. By one or two visits of this description much more information can be gained than from theory.

CHAPTER TWO.

MANAGEMENT—FEEDING, BREEDING, REARING—THE SQUAB, THE SQUEAKER, THE ADULT.

The selection of special birds for mating I shall deal with in a separate chapter.

The simplest method to get pigeons to mate is by the use of a mating-pen with dividing bars. You put a bird of each sex in each pen, when they can see one another through the bars. For a time they may sulk, but in a day or two they will "nod" to each other; then follows the ringing of beaks through the bars of the pen, and the cock will proudly and loudly coo and turn round and round, whilst the hen will sweep her tail in a gentle, lady-like manner. The marriage is now complete, the division in the pen may be taken away, and the birds removed to the nest-box in which they are to live.

In the case of fancy pigeons they are not so strong and robust as the sporting varieties, and it is best to separate the sexes as soon after July as possible, and to mate them up about the middle of February.

But here again the question of loft situation must be taken into account. In some parts of the West of England, Torquay, and the South you can with safety start breeding earlier than further north.

To be successful in the exhibition world you want to get the breeding over early in order to have both the old and young birds nicely moulted for the early shows.

With the racing bird, however, the matter is different, for you want to delay the moult in order that the birds

are in good wing and feather as late as possible in the season.

The moult is a matter of so great importance that I have dealt with it in a separate chapter.

Pigeons lay two eggs. In the case of hardy birds, the usual period at which the eggs are laid is eight days after being mated. The first egg is usually laid in the evening between five and six o'clock, and the second egg about forty-two hours afterwards. When the first egg is laid the hen stands over the egg at night, and when she is off the nest the cock takes her place. Incubation immediately commences from the laying of the second egg. The hen is answerable for the greater part of incubation. She sits generally from three o'clock in the afternoon until eight or nine in the morning. The period slightly varies in individuals, but usually you will find all the cocks covering the nest from about 10 a.m. until three o'clock or a little later. Sixteen days after the laying of the second egg the live embryo should emerge from the shell.

Within a few days after incubation has commenced it is easy to perceive if the eggs are fertile.

Without fertilisation the eggs remain clear. The cause of non-fertilisation may be old age, sterility, or immaturity. Overshowing in the case of exhibition birds will often result in many unfertile eggs being laid. The fertilised egg becomes opaque in colour, and the gradual growth of the embryo can be seen through the shell. The accompanying illustrations will be useful to the novice in order that he may be able to trace the egg in its different stages of incubation.

(1) Denotes the appearance of the egg after six days' incubation. It will be seen that the embryo has some what the appearance of a spider and its web.

THE EVOLUTION OF THE PIGEON.

(2) Shows a double-yolk egg with two germs. These are very uncommon in the case of pigeons.

(3) Shows the egg the tenth day of incubation.

(4) The appearance of the egg on the sixteenth day.

(5) The chipping stage of the egg when just ready to open.

(6) The shell after hatching.

(7) The embryo ten days old, natural size, front and side view.

(8) The position of the pigeon in the egg on the seventeenth day of incubation ready to be born. (a) the beak, (b) wing, (c) down, (d) part where egg breaks.

In the case of the more delicate and highly-bred varieties a much larger percentage of eggs do not hatch than is the case with the more hardy varieties. Under diseases I have dealt with several of the causes of youngsters dying in the shell, eggs not hatching, &c.

When on examination of the eggs a fancier finds that one or both are unfertile, it is a mistake to force the birds to lay again too quickly. This may only add to the trouble. They should be allowed to sit for ten days at least, and then separated for a week or two before they are allowed to lay again.

There is nothing more helpless than the newly-born pigeon. It can simply sprawl in the nest-pan, lift its head, and take the "pigeons' milk" its parents feed it on.

I say "pigeons' milk"; but, as a matter of fact, this is a farinaceous food that forms in the crop during incubation, and is ready accumulated to feed the young ones upon when hatching takes place. Some contend it does not form unless life is felt in the shell, but my opinion is

that as the process of incubation takes place so the soft food is gradually and steadily prepared. The crops of pigeons have been opened during incubation, and the food has been found to have accumulated, although they were sitting on dummy eggs.

A good and plentiful supply of this soft food is necessary if the young are to thrive, and it is for this reason that in the case of many of the highly-bred varieties feeders are used to rear the young. In fact, the fancier who wishes to succeed in the exhibition world has always a stock of feeders at hand under which to shift the eggs from his more valuable birds.

Foster parents have absolutely no influence on the young. They will not affect the colour, plumage, or type; but care must be taken to only use healthy feeders, for unhealthy feeders will beget disease in the young.

The eggs must be removed as soon as laid, and must be placed under rearers due to hatch about the same time as the feeders'. Pigeons' eggs will not retain their fertility exposed to the air any length of time, but in hermetically sealed boxes I have kept them a week or ten days, and have hatched them under feeders subsequently.

At the age of about seven days the fancier must ring the newly-hatched youngsters. In the case of nearly all the classified varieties for exhibition a special ring for each variety is sold known as the "conference ring." There is no difficulty in placing the ring on the young squab's leg. Three toes are carefully drawn through the centre of the ring, the fourth or hind toe being held back, the ring is carefully passed over the ball of the foot until the fourth toe is clear, and the ring now adorns the ankle.

It is at this period the nest-pan upon which incubation has taken place should be changed.

Before the youngsters are taken in hand to ring them a

new pan should have been got in readiness, and if early in the spring it is as well to take the chill off it for its new tenants. I always use sawdust and short ends of straw in the pans, but before putting these in sprinkle the bottom with a little carbolic powder, and on the bed of sawdust some Keating's Insect Powder.

At the time the ringing takes place the stud book should be brought into requisition. The number of the ring

YOUNG SQUABS. JUST HATCHED.

should be booked, and the identity of the parents entered against it. Thus a fancier keeps a correct record of his breeding, and later on is able to breed to line. For without such record is kept a fancier is apt to forget the identity of his young, and thus lose the opportunity of producing others from the same parentage should they turn out well.

When once the youngsters have been handled to be rung they should be allowed to rest in peace until ready to fend for themselves.

The less the young are disturbed when in the nest the better they will thrive.

But this does not mean that the nest-boxes should be allowed to collect an accumulation of excretions. Cleanliness is most essential. But the nest-boxes must be cleaned as quietly and carefully as possible, using the scraper round the sides of the nest-bowl but not lifting the youngsters in and out of the bowl to do so.

Good rearers will cover their young from fourteen days to twenty-one days after they are hatched. As a rule, the youngster will be by this time nicely feathered and able to withstand the cold.

In the case of robust young the feathers will grow steadily; they should not stand on end like so many bristles, but the flights and tails should gradually grow to their full length, until at twenty-eight days old you have a fully-fledged well-grown young pigeon.

Meanwhile if the weather is mild the parents have laid again, and are busy incubating another pair of eggs, and will hatch a second pair of young before the first pair are six weeks old.

When the youngsters are old enough to take care of themselves it is far better to remove them to a separate loft or a portion of the loft divided off for the purpose, so that they can have a place by themselves, otherwise they will be worried and disturbed by the old birds.

At this period they are very apt to go wrong unless the fancier gives them careful attention. Food and water must be placed within easy reach in abundance, and in galley-pots or vessels similar to those I recommend to be kept in the nest-boxes during the time the old birds are feeding and rearing. I use small rabbit-pots about half the size of 1lb. jumpots for this purpose.

At nights after removal the crop should be felt, and if

empty a few soaked peas should be given by hand. It is also as well to dip their heads frequently in the water-pots in order that they may learn how to drink. A few lessons and they can very soon look after themselves if they should not have learned to do so before separation from their parents.

Having traced the growth of the pigeon from the time of the laying of the egg until it is able to fend for itself, perhaps it will be as well to deal with the question of its food supply.

Many fanciers are probably situated like myself—in the summer early-risers, but away from home during the greater part of the day. In these circumstances it will be found far more economical and much wiser to use hoppers with food constantly before the birds.

But here let me say how very essential it is that the grains used should be of the finest possible quality.

Cheap grain is usually nasty.

Beans, tares, and peas make the finest food for the hardy and strong varieties.

During the breeding-season a little wheat, small maize, and dari may be added.

I also make a practice of giving my birds, during the early part of the breeding-season, some bread-crumbs, of which they are very fond.

I do not like to make too free a use of hempseed early in the year, as it has a tendency to overheat the system, and make the birds too amorous and neglectful of their young.

In the case of the short-faced varieties good tares and good wheat with a little dari are the best grains to use.

These must be stood in pots such as I have described, because the beaks of the shortfaces are really so short

they cannot well take the grain from the floor or out of ordinary hoppers.

I invariably find it best to close up all hoppers at night. Then, again, I do not mix grain in the hoppers. If this is done they pick it over and throw so much out that is wasted. I limit the supply of the grain that they

SQUEAKERS READY TO LEAVE.

like best, and force them to eat a good quantity of the other I know is good for them by leaving it in the hoppers always before them.

They will eat the cereals much more readily than the pulses, but too great an abundance of the former creates fat.

Those who decide to feed their pigeons by hand—that is to say, by distributing the food on the floor of the loft at given intervals—must take the greatest possible care to ensure that it is not fouled by the excretions. Only so much as they will eat up at each meal must be given.

Opinions differ as to the use of salt. I always keep a piece of rock salt in the loft, but it is dangerous to keep them without salt any length of time and then to break up salt in the loft, as they will eat it greedily, and become poisoned from so doing.

As to grit, there are many and various kinds on the market, all equally good. A fancier should make his choice. But the grit must not be allowed to mix with dirty excretions, as it will cause sour crop and other ailments if partaken of and eaten in a foul state.

Opinions differ as to the best covering for the floor. In the case of exhibition birds I think sawdust best; but it must be laid to a depth of $1\frac{1}{2}$ in. to 2 in. over the whole floor, and will not then blow about. The flight should be well dressed and covered with gravel, which must occasionally be renewed and kept clean.

For racing birds I like a wooden floor to the loft, raised off the ground, and under the perches only I sprinkle clean dry sand to enable the cleaning to be more readily carried out.

But in Belgium you seldom see any sand or grit on the floor of the lofts, as they believe this creates dust in the loft, which permeates the plumage and acts counter to the natural oil in the feather necessary to resist the elements when the birds have long journeys to make.

CHAPTER THREE.

SELECTION—CROSSING VERSUS IN-BREEDING—ATAVISM.

The ambition of every fancier who becomes interested in pigeons should be to produce a strain of his own. In pigeon-breeding as in every other sphere there is room at the top.

The most expeditious way to gain success is to make a good start. This of course means expense not always within reach of the beginner.

No matter what variety I was taking up, I would sooner go to the fountain-head and obtain birds of a known good strain than chance-bred birds picked up at shows. Many beginners buy cheap birds in selling classes at shows. This is a mistake, because these birds as often as not have no pedigree behind them.

In my opinion, a second or third-rate bird that comes from a family bred to line for several generations will eventually give much better results with breeding than many passable birds that are mere "sports" but whose ascendency is faulty.

It is as true in breeding pigeons as any other live stock; blood will tell, and if two men were to start at the same time, one with pure-bred stock and the other with mixed blood of doubtful pedigree, the man who starts with thoroughbreds will most assuredly the more quickly reach the top.

In the exhibition world, of course, there are always wealthy men who buy up the champions the little man produces, and by this means are able to turn out fairly

strong teams; but it is to the successful breeder, not merely to the successful exhibitor, that the beginner should go for "strain."

The first thing the beginner has to master is to breed and rear sound pigeons. Attention to the advice given in the chapter on Management will lead to this.

The beginner is wise if when he starts he specialises—that is to say, selects one variety and endeavours to thoroughly master the difficulties in the path of producing champions of the variety without dabbling in too many breeds.

Some birds are hardier and easier to rear than others. Some birds are much more popular than others. The greater the popularity of a variety the more difficult is it to gain success, owing to the keenness of competition.

Some of the fancy varieties are very pretty in colour and markings, and breed fairly true to type, but they are not popular. Competition is very meagre, and only a few shows provide classes for them. These and other matters must be considered by the beginner who desires to take up the fancy and is considering the variety to select.

The situation of the loft must be taken into consideration when selecting the breed.

If in close proximity to a smoky town white birds will not thrive as well as dark-coloured ones. True, they can be washed, but it is a tiresome process, and too much hard work mars the pleasure derived from a hobby.

Having decided upon the breed he intends to keep, if it is to be one of the fancy varieties for show purposes the beginner must obtain the standard of the variety, and at every opportunity visit shows where he will see specimens of the breed he desires to produce.

The most economical way to start, as I have pointed

out, is to go to the breeder who has created a strain, obtain several pairs, and mate them according to the advice he may give.

Do not for one moment suppose that this is all that is necessary. Thousands of pigeons are bred annually, but the number of champions bred is very few indeed.

From the young you breed you will have plenty that come of the wrong colour, wrong type, or wrong markings. Don't bother with these; screw their necks, as they will only eat food unnecessarily and take up the valuable air space useful for the better ones.

What may prove a poor cock, on the one hand, would be a fairly good hen, hence it will be perhaps as well if I offer a few remarks here on the way of judging the sexes when very young. You can often tell this better before the squab has commenced to feather than afterwards. Providing there are two youngsters in a nest the young cock will stand up more boldly in the nest-pan and strike out with his shoulders and wing at the approaching hand. The hen will sit quietly still and merely squeak. The squeak of the cock is louder and gruffer than that of the hen, and when the young leave their parents the young cock will start grunting much more quickly than the hen, which will squeak for some time after.

As a rule in silver duns, mealies, light and dark red chequers, if there are dark ink tick marks in the tails or flights these generally denote the cocks, as hens are seldom marked in this manner, the splashes in hens being of a brownish colour and not distinctly black, although occasionally I have seen hens plainly marked with these inky ticks.

Another distinguishing characteristic of the young cock in the nest is the broader and bolder beak, thicker head

and throat. If the characteristics I have pointed out are noted at the time the birds are in the nests, and the ring numbers taken, a mistake will seldom be made in the sexes; but left until after the youngsters are moved from their parents it will take some time to distinguish the sexes.

When birds arrive at maturity it is much less difficult to tell the sexes than before they have completed the first moult.

Mr. Redmond, the well-known fox-terrier breeder, took up pigeons for a time, but expressed disgust to me at the difficulty experienced in determining the sex. He had but to look at the face of a terrier pup and he knew at once its sex without any other examination.

The same thing really applies to pigeons, for as soon as a fancier gains experience he has little or no difficulty in distinguishing the sexes. There is a certain softness or sweetness about the face of the hen pigeon that the cock does not possess. In all breeds it is the same. The sheen on the neck of the cock is deeper in colour than that of the hen; he is gayer in his actions about the loft. The cock coos longer and louder, turns completely round when he coos, blows his crop fuller, and is far more active about the loft, playing up to every and any other bird. The hen is more shy and gentle—in fact, in every way more ladylike. She gently sweeps her tail and walks in quite a ladylike way, and seldom if ever makes a complete circle when cooing, like the cock, nor does she distend her crop nearly so much when cooing.

The breastbone of the cock tapers off more towards the vent than that of the hen, which comes to a more abrupt ending, and is further removed from the vent to allow of the passage of the egg. The cock generally has a longer breastbone than the hen, and is closer behind.

The idea that pigeons always breed a pair in a nest is fallacious, as I have known pairs that have been regular cock-breeders in nest after nest giving nothing but males, and strange to say the following year this same pair have thrown a preponderance of hens. No reliance can be placed on the breeding of pigeon pairs, as some suppose.

In selecting birds for reproduction soundness must be one of the first considerations. Let me warn the beginner against breeding or attempting to breed from very old, worn-out stock, or to attempt to reproduce from immature young birds; both will give equally disappointing results.

You can only obtain healthy offspring from healthy stock. In the case of show birds that have been run off their legs they will not give anything like good results. The same thing applies to old racers. Birds that have been raced year after year on the road will not give such sound young as the more youthful ones that have not had such exhaustive journeys to make.

I do not despise young birds bred from yearlings—that is to say, pigeons of a year old. In fact, providing the ascendancy is right, I find the best way to breed to line is through the yearling descendants of champions.

The beginner, having purchased his stock, having mastered the many details of rearing, is anxious to produce a champion. Can he the more speedily do so by crossing or in-breeding?

My own opinion is that the easiest method to reproduce form, colour, and type is by close in-breeding. The better bred the stock the easier is the reproduction of the good typical pigeon. But here let me point out that excessive in-breeding leads to loss of constitution, and I

agree with Darwin and other authors most distinctly in their expressed views as to this.

In the "Origin of Species by Natural Selection" Darwin says: "Crossing communicates vigour to the offspring and assists fertility." He adds: "Consanguineous reproduction to too close a degree diminishes the vigour and fecundity."

The fancier who keeps the purely sporting varieties, where vigour is so essential, must bear this in mind, for if he does not do so and continues in-breeding to too great and too prolonged a period his strain will suffer accordingly.

The skilful breeder knows just how much and how little to in-breed. The beginner must probe in the dark.

Whether in-breeding or crossing is resorted to, breeding gives uncertain results, but I think outward form and type can be the more easily obtained by in-breeding than crossing.

The better the ascendancy of the parents the greater will be the chances of success.

The methods of in-breeding that have given good results in my own experience are by breeding from half brothers and sisters to reproduce the parent on one side or the other of them.

In my opinion you can breed truer to line through the hen than through the cock. For breeding I always prefer strong, bold, well-developed hens without a blemish in their constitutions. It is through the hen that the young, in my opinion, get their physical properties.

Having been fortunate in producing a hen of good quality, my method of reproduction would be to mate her with two different cocks, both as nearly perfect as possible, or possessing some points of perfection that she

lacks. I have now children from my hen that are half brothers and sisters.

From the young cocks of one family I shall select a cock as near in colour, type, and markings to his dam as possible. From the hens of the other family I shall select a hen as closely resembling their sire, and by this means I shall hope to reproduce stock possessing in marked degree the characteristics of the granddam, of which it will be seen there is a superabundance of blood in the young.

You can breed to line to reproduce the cock in the same manner.

Cousins mated have seldom given me good results, but father and daughter mated together, selecting a daughter as much like its father or its father's mother as possible, have often bred a champion if the father was such. The same with mother and son.

My experience is that in well-bred pure stock the sons descend through the dam and the daughters through the sire.

Thus the son of A (his mother) is more likely to revert to A (his mother) than to his father, and through A (his mother) he will revert to his maternal grandsire, the father of A.

It is surprising the important part colour plays. From some parents you may breed many young with here and there a champion; but the champion is invariably found of the same colour and markings. So much have I found this the case that after a time, particularly with racers, the youngsters that certain birds bred that did not possess the colour of eye and plumage that was desired speedily found their way into the pot without waste of time.

The question of crossing and in-breeding is a very interesting subject.

Where it is so necessary to retain physique, as in the racer, as I have pointed out the practice of in-breeding must be guardedly resorted to.

La Perre Deroo, one of the greatest French authors on pigeons, states that consanguineous alliances are not harmful; in fact, that they assist the progress of the race. Gigot, of Belgium, holds the same opinion. On the other hand, Rodenbach, Wittouck, Gits, and many other successful fanciers are opposed to the practice.

In my opinion, a fancier must use his own discretion as to the method he adopts. Directly the least semblance of deterioration is to be seen from the practice of in-breeding, whether in the exhibition bird or the sporting variety, crossing must be resorted to to counteract the effect of this.

It must be borne in mind that in the case of an epidemic in a loft, if all the birds are of the same blood they will be more prone to the attack.

I am sure from practical experience that continual in-breeding enfeebles the blood of the progeny. In the case of the sporting pigeon, when the bird is valued according to the work performed the training panner will rid the loft of such encumbrances.

From full brother and sister mated together I have produced game and good workers, but I seldom carry the in-breeding beyond this. Still, I must confess closely in-bred birds have thrown me some of the gamest and best racers I have owned.

On the other hand, it must be borne in mind that the present fine specimens of the many breeds are the result in nearly all cases of direct crosses made by the skilled fancier who is continually seeking to improve, and it is doubtful if such improvement is possible without the aid of an occasional cross.

The period at which fanciers must mate their stock depends to a great extent on the variety. It also depends on the situation of the loft and its environment. In a brick loft in the south a start can be made earlier than in a wooden loft in the north.

Dragons and the hardy varieties can be well mated in the middle of February, but some of the toy varieties are best left later.

If you want to gain success in the early shows the breeding should be terminated as early as possible and the stock separated in order to help the moult. Breeding retards the moult.

Generally speaking, the best plan is to mate up in February and to separate the sexes early in July. This of course refers to the show varieties that are kept for exhibition purposes only. Different treatment is necessary in the case of the sporting varieties, but I shall refer to that in the special chapter devoted to pigeon-racing.

I cannot too strongly warn the fancier who wishes to succeed against the foolish policy of keeping more birds than his loft will accommodate comfortably. Success is only possible by keeping a watchful eye on each and every pair of birds.

Whilst the birds are breeding a faint smell permeates the loft. Use carbolic freely in odd corners. Under the sawdust in the nest-pans I always well sprinkle the pan with this disinfectant, and from the time the birds start sitting until the time the youngsters are old enough to leave the nest I use Keating's powder freely, as it keeps down the insects—fleas and lice—that worry pigeons at this period of the year.

CHAPTER FOUR.

THE MOULT.

So important do I consider the moult that I propose to deal with the subject at some length.

Many run away with the idea that the moult is a disease. It is nothing of the kind; it is simply a natural function.

Nature ordains that almost all animals and birds shall, partially or totally, annually renew the fur or feathers that serve as a coat or covering.

If this renewal did not take place, after a time the feathered tribe would be denuded of feathers and unable to fly.

Birds suffer from many ailments during the moult; it is a very trying period, as the drain on the system to supply the necessary sap or blood to the growing feathers is very great. In consequence of this, when the time is due ailments are contracted, but this in no wise proves that the moult is in itself a disease.

In the case of all pigeons I look upon a good first moult of a young bird as an augury that the pigeon is sound. On the other hand, any check, tardiness, or irregularity in the moult is a sign of weakness.

Climatic influences very considerably affect the moult. An enormous percentage of parrots imported from abroad die during the first year of their importation into this country. This is due to the fact that the first moult they make in this country falls at a difficult season of the year. When once, however, they have passed through this first moult little or no difficulty is experienced.

For this reason I find that the best pigeons to export

to the colonies are late-bred subjects that are more likely to come into line with the colonial moult, which, in the case of birds bred in the spring, starts at about the period ours is ending.

Birds do not actually die of moult, but the drain on the system is so great that they will contract diseases during the moult which at once cause a check, and this check, with the illness combined, may result in death.

As I have stated, a good moult is the best sign of perfect health.

Now let me deal with the moult as it naturally proceeds in the bird.

The first feather to be moulted in a natural way is the shortest of the ten primary or flight feathers.

The wing is composed of twenty-two feathers, of which the ten outside, or long ones, are called primary flights, and the twelve small ones secondary flights. I have known birds with eleven primaries and eleven secondaries, but these are not common.

The commencement of the moult is governed by the time of the year a bird was bred and the period at which it is mated.

Generally speaking, the moult will commence about five and a half weeks after the hatching of the first nest of young of the year, that is to say, when the hen is on eggs for the second nest and the first youngster has been taken away.

An examination of the wing just before this period will show that the flight feather is lifting. It will have the appearance of being slightly longer than its natural length, and eventually there is a gap in the wing from which the feather is thrown.

In the case of a strong, healthy bird the new feather steadily takes its place, first in the shape of a small bulb

protrusion from the follicle, which gradually, as it lengthens, unfurls the webbing, and a new, tight, strong feather takes the place of the old one. Meanwhile the next feather to it has been thrown, when the first was at half its length, the period dividing the fall of the two feathers being about a month. The subsequent flight feathers or primaries fall in succession, according to conditions of breeding and health of the subject.

After the fifth or sixth flight has been thrown the moult extends to the humerus and the shoulder feathers. About the time when the sixth or seventh flight has fallen the moult becomes general.

Pigeons moult more freely when they are sitting than when they are feeding young.

The food the young require and the drain of feeding will retard the moult. In fact, whilst feeding young they will often hold the next feather to moult until the young are old enough to be taken away, but directly the youngster is removed the next feather is thrown.

Sometimes, through a check in the early part of the year, the moult is retarded, and I have known cases of two or three flights thrown at once, as well as the whole of the tail. Still, this need give no cause for alarm so long as the birds are keeping strong and well, as they will renew the growing feathers without difficulty.

Sometimes when a new feather is grown it will be shrivelled in comparison to its fellows. This may arise from various causes—an injury to the follicle, want of sap at the time of its growth, or general debility. It is a mistake to pull out such a feather while the moult is still in progress, for the reason that a worse one will generally grow in its stead. I have, however, removed such partially-deformed feathers when the moult has been thoroughly completed, and a perfect feather has

grown in its stead, but I do not recommend their removal owing to the risk entailed.

If upon the renewal of a flight or tail feather it is found to be split in the centre, this is a deformed feather, arising through an injury to the feather follicle, and I have seldom known a good feather to grow in its stead. Generally speaking, it may be taken for granted that when once a deformed feather grows it will always grow.

The natural moult of the tail is rather curious. There are twelve tail feathers in most varieties of pigeons, but some have more, this being a special feature of the variety.

The tail feathers are called rectrices, and consist of six on each side.

I have possessed birds with fourteen and sixteen tail feathers. It is these "sports" that have led to the production of different varieties, as Darwin points out.

The moult of the tail usually begins when the sixth or seventh primary has fallen, and takes place in like manner as the flights.

The first two tail feathers to fall are those immediately next to the medians, or two feathers in the middle of the tail. When these have reached three-fourths of their length the medians, or two middle feathers, are thrown. After these the third and fourth feathers fall on each side, counting from the centre. The two outside tail feathers fall after the fourth, and the fifth, or next feather to the outside, falls last.

A gradual steady moult and regrowth of the feathers is the best possible sign of health, and does not drain a bird's strength so much as irregular, broken moults, with bare patches of feathers missing at a time.

As breeding will retard the moult, so will its cessation, when once it has started, hasten it. Successful exhibitors

at the early shows know this so well that they separate their exhibition birds early in the year, stop all breeding from them, and thus force the moult in order that they may be in the best possible plumage during the show season, and, moreover, the moult, taking place in the warm, summer weather, is much more easily accomplished.

The Moult in Young Birds.

This commences shortly after they leave the nest and are able to take care of themselves. The moult proceeds in the same manner as in the old birds, the first feather to fall being the first short primary flight, or, counting from the outside of the wing, the tenth. It is a good sign for this to be thrown without difficulty or delay.

If any difficulty is experienced in throwing this feather it often goes badly with the subject.

The least difficulty takes place in the moult of youngsters hatched in April, May, and June. January and February youngsters sometimes are very tardy in the moult, and youngsters bred the latter part of June and after the end of that month seldom moult completely the same year. They will moult the small body feathers, but not the flights or tail.

The whole of the secondary feathers are not moulted each year. There are some authors who contend that you can judge the age of pigeons by the number of secondary feathers moulted; that is to say, at three years three will be moulted. This method of judging the age might have been more useful before the introduction of the marking ring, but the latter is a better means of denoting age than the uncertain indication of the secondaries. The new secondaries are broader and more rounded at the ends than the original nest feathers.

There is not as much wear on the secondaries as on the flights and tail, and hence, I suppose, Nature has not ordained the necessity for their annual moult.

The moult is comparable with the fall and growth of the leaves of a tree. The new feather is the leaf, the blood that feeds it is the sap, and when the plant is healthy so it grows a healthy leaf. A stoppage in the moult of late-bred birds indicates that there is no sap left to feed the growing leaf.

A good moult depends upon the health of the subject. An irregular moult indicates want of health.

If a pigeon is not making a good moult nothing will denote this more plainly than the colour of the plumage. If there is a lack of lustre, you can depend upon it the subject is wrong. If it is found on examination there is a stoppage in the moult, or it is late or slow, means must be taken to assist Nature. I have found that close confinement in a warm pen in the house, with some moist hay to stand on, will often be the means of assisting a sluggish moult. The bird should also be fed liberally on hemp seed and small seeds, such as rape, canary, and a little linseed, but all of good quality; added to this in some cases I have found a capsule of linseed oil, 5 minim, very effective.

The moult may be retarded by mating late in the spring, and it should be borne in mind that June youngsters do not moult as a rule as early in after life as those bred earlier in the year. Moreover, late-bred birds, when in their third season, as they do not moult completely until the end of the second, retain their flights much longer than early-bred ones. This information is useful in the case of racing pigeons, in connection with which a full wing means so much if they are to accomplish long journeys.

During the general moult I find a mixed diet as good as anything, but there must be no stint of good food. Linseed, buckwheat, and hemp seed assist the moult. A little new wheat is also good. In a state of nature birds get an abundance of food in the fields during the moult, assisting them to renew their plumage without difficulty in the autumn, and yet the food is new and fresh, and this acts as a purge and keeps the blood cool but rich. A piece of rock salt in the loft at this period is a useful adjunct, and a regular supply of green food, such as lettuce and watercress—which, if sprinkled with a little salt, the birds will eat with avidity—will all help to bring about the renewal of the feathers.

The most dangerous and trying period in the life of a highly-bred bird is the first moult. After this has been well and successfully accomplished it is seldom that further trouble takes place, except where hens have been allowed to lay too great an abundance of eggs or cocks to feed too many young. The racer is also affected, and may have a bad moult through a great strain in racing.

After a good moult a pigeon is at its best. The colouring should be light and clean, and the sheen on the neck sparkle like diamonds in the sun.

Any pigeon that suffers from a bad or faulty moult will seldom breed sound young the following year, and in the case of the racer, if given any difficult trials, failure and loss will result. The only course open in the case of a valuable bird that has a faulty moult is to lay it aside until the next moult has been accomplished, taking care meanwhile that nothing can drain its resources or sap its strength, to interfere with a good and thorough moult on this occasion.

I do not know if others have noticed the same thing, but I think I can safely say that a very warm, badly-

ventilated loft inclines to a fast moult, and, moreover, in such conditions the newly-grown feathers will not be as hard and healthy as they ought to be.

Frequently birds are found with blood quills both in the wing and in the tail.

This, in my opinion, is due to lack of vitality, and the treatment that I have found best in the case of blood quills is to hold the affected feathers under the tap so as to give the bird a gentle shower bath. In fact, during the growth of the feathers I know of nothing so important as a regular bath, and to improve the feather and enrich the blood, particularly when in the moult, I believe a free life in the fields, with plenty of green-meat, most essential. In the case of town lofts, the green-meat should be served regularly in the loft, and when lettuces are in season I know of nothing better.

If fanciers will bear in mind the importance of the moult they will have no difficulty in keeping their birds in the best of health.

During the moulting season not only do birds renew their feathers, but it is the period at which they throw off any effete matter from the system.

CHAPTER FIVE.

DISEASES.

Upon the aptitude of a fancier to know when his birds are healthy or when they are diseased depends his success as a pigeon-breeder.

First let me describe the appearance of a healthy pigeon.

The most important consideration is the plumage.

The feathers should be close-fitting and the ground-colour clear and clean.

In self-coloured birds the bars should stand out clear and well. Any dulness of one colour against the other is an indication that all is not right.

Pigeons' feet should be moderately cool, and the colour of the legs and feet clear and bright.

When the colour of the feet is pale and dull, combined with dull plumage, it is a sure sign all is not well.

The eye is an important factor from which health or condition can be judged.

The experienced fancier can learn much from the eyes of his pigeons. They appear to speak to him and tell him just how the subject feels. Immediately the birds become sick the eye indicates the trouble sooner than anything. A clear bright eye is the surest indication of health, and as soon as a fancier can understand reading the health of his pigeons through the optic organs he has learnt much.

Clear white wattles and hard clean cere are also good indications of health.

Birds that keep clean in the wattle when feeding their young are generally all right inside; but birds that go greasy on the beak and dirty in front must be watched, particularly if in addition the plumage loses colour and sheen.

Now let us examine the mouth and throat.

In young and old the most common disease amongst pigeons is throat trouble.

Open the beak, examine the throat well, and look for a small yellow spot.

If these or yellow growths are to be found anywhere in the mouth it is a certain indication that the blood is diseased.

In young birds of from four or five weeks old canker is very common either in the pharynx or mouth. When the surface can be got at, it can be treated and cured; but if the growth is low in the pharynx treatment is very difficult, and it is best to kill the subject.

Examine the beak. It should be dry and free from stain.

Should there be any indication on the beak of stain under the wattle, carefully press the wattles and see if there is any mucous discharge. Catarrh and one-eyed cold show themselves first in this form.

Birds in good health are lively, vivacious, their feathers tight and close-fitting, appetites good, droppings firm and clean, nicely tipped with urine, which is the white against the coloured ground of the droppings.

Too much importance cannot be attached to the examination of the excretions in order to judge as to the health or disease of subjects.

Green, watery, foetid droppings are a sure sign that the health of the bird is faulty.

Small, clear, pebbly excretions from youngsters in the nest and old birds is a sign that the food is right, and that they are thriving.

I have penned this brief introduction in order that the beginner can examine a pigeon he may be about to purchase, and generally form an opinion as to its health and soundness.

Once learn exactly how the subject should be in its normal state, and you will readily appreciate when disease is present. A pigeon is diseased when any of its functions are not carried on in a normal manner, when there are unusual growths, injuries, or parasites affecting any of the organs.

One of the most important habits to acquire is to look

at a bird not as an individual object but as an individual made of many parts, each of which has its special function to perform.

Thus the beak, the tongue, the œsophagus, the crop, the ventricle succulent, the liver, the gizzard, the gall, the duodenum pancreas, the small intestine, the cæcum, the large intestine, the ureters, the oviduct, and the rectum all perform their respective parts to give nutrition to the subject.

The health, the condition, and the very life of a pigeon depend upon the organs of nutrition doing their work well and effectively.

After being eaten the food passes into the crop.

The crop is simply a store to enable a bird to carry food from its feeding ground to its nest.

From the crop the food passes into the stomach (ventricle succulent).

Viewed from the front, this has the appearance of a small subterranean passage leading from the crop to the gizzard.

In the crop the grain becomes softened and swollen in the water mixed with it. After this and during its passage through the stomach to the gizzard it is impregnated with gastric juice. It then passes into the gizzard, which is really the second stomach, or last stage of corn in its complete form, for although swollen in the crop and mixed with gastric juice in the stomach, it remains whole corn, and affords no nourishment to the bird until it reaches the gizzard. The gizzard is the true jaw of the pigeon, and here it is that digestion has its seat of action. In the gizzard, by the help of grit and its contractions, corn is reduced to a pulp and afterwards discharged into the intestines. The intestines are composed of two parts, the small and the large intestine.

The small intestine is a long narrow tube folded many times. The large intestine is the last stage of the food. The digestive canal terminates at the rectum.

I look upon the organs of nutrition as amongst the most important in pigeons. Let these be deranged in ever so slight a manner, loss of power immediately follows, for the blood becomes disordered, leading to inanition.

A free, easy digestion is the surest sign that birds are in good health.

A full crop at night and an empty crop in the morning, with sound, healthy excretions in the nest-boxes or on the floor of the loft is a happy augury for the fancier, for his birds are well.

The very first symptoms that the organs are deranged is the remaining of food in the crop beyond the normal time.

Take as an example the hen that has just laid her egg.

Generally it will be found that for forty-eight hours after laying the digestion is slow, and the crop will contain food in the morning partaken of the previous night.

Besides the organs of nutrition we find in a bird's body the nostrils, larynx, trachea, lungs and air sacs, which together constitute the respiratory apparatus.

The principal functions of this apparatus are to supply oxygen to the blood, and receive in return carbonic acid gas and watery vapour.

Then we have the circulatory apparatus, composed of the heart, arteries, capillaries, veins, and lymphatics, which carries the nutriment and the oxygen to every part of the body, and brings away the waste and cast-off material.

There is also the urinary organs, made up of the kidneys

and ureters, which separate and remove from the blood the greater part of the waste of the body. In addition, there is the genital apparatus, consisting of testicles in the male, and ovaries and oviducts in the female, their purpose being the reproduction of the species.

Having briefly explained the different organs that make up the whole pigeon, the reader will be better able to appreciate how minute these organs are, and with what mechanical exactitude all must do their work to keep the subject in health, and if any one organ becomes deranged the damaging effect it must have on the whole.

In order to be able to cure a disease we must know something of its cause, and in order to appreciate to the full the cause we must know the agents liable to injuriously affect the diseased organ.

In my long experience with pigeons the greatest difficulty has been to correctly diagnose the disease from which the patient was suffering.

Once you can do this with certainty, the remedy of the trouble is less difficult.

The veterinary surgeon who attends to the suffering animal or bird has a much more difficult task than the healer of human sufferings. We poor mortals know where we feel a pain or ache, and can tell the healer our feelings and sufferings, but not so with the animal or bird. Examination and symptoms are all that the diagnosis can be based upon.

Here I should like to state that in many cases I have found pigeons respond readily to treatment, but in others drugs would have little or no effect.

The very formation of the organs of nutrition makes treatment all the more difficult, as pigeons have a nasty habit of vomiting anything objectionable before it passes from the crop into the stomach. For this reason, I

advise generally, as far as practicable, the administration of drugs in capsule form.

Improper food and improper feeding are answerable for more disease in pigeons than all the other causes put together. In fact, when I am consulted on the subject of birds suffering from ailments I at once enquire into the nature of the food used, its quality, and method of distribution.

The chief causes of disease in pigeons are food, water, atmosphere, contagion, heredity.

If pigeons have the hopper containing food always before them I do not think they will take food to excess; but if they are fed at intervals, especially if these intervals are too great, then I think obstruction of the crop and stomach will take place, and irregular digestion cause many diseases of the organs of nutrition. In fact, most pigeon troubles are traceable to this cause.

I have from time to time warned fanciers against the use of maize, because I have traced so much pigeon disease to its constant use.

The like warning is necessary with regard to tares.

Good sound tares make the finest nutrition for pigeons, but they are very expensive, and so subject to fungoid growths that fanciers cannot be too careful in the use of this grain to ensure its being of good quality.

Bearing in mind that grain in the least manner contaminated by fungus will cause incalculable harm to pigeons, fanciers cannot be too careful to obtain dry, sound corn, and to store it in such a manner that it always remains so.

Barley stored in a low temperature will become rampant with weevil; stored in a high and dry temperature the weevil cannot hatch or live.

I have kept samples of the same corn and stored it in

high and low temperatures, and the effect on pigeons fed on it has been most marked.

Therefore, to ensure the food retaining its good qualities it should always be stored in the driest possible part of the house.

On the appearance of any disease in the loft at once look to the food and water, and see if the cause is traceable to this source.

Many fanciers use covered fountains to store the water. These will keep it cool, but bear in mind that closed fountains, unless gritty matter is used to clean and thoroughly scour them out, are apt to accumulate slime, and, therefore, it is absolutely essential that they should be thoroughly cleaned. For this reason, I like fountains in two parts, in order that you can thoroughly clean the part holding the water regularly.

Either water or food fouled by excretions is the worst thing you can possibly give to pigeons.

Fanciers in the habit of throwing small seed on the floor of the loft promiscuously to their pigeons should bear this in mind. The seeds fall on the top of recent deposits of excretions, and eaten by the birds do serious injury.

Invariably clean the floor on the part of the loft you use as a feeding-ground before distributing rice and small seed.

Dampness in the loft is also fatal to success, and will cause wing disease, rheumatism, catarrh, and various diseases of the respiratory organs in addition to feather rot.

A dry, well-ventilated loft is essential to success.

Another important matter is the necessity for proper air space for the number of birds kept.

Sunlight and air must permeate the loft, but even this

in plenty is useless if the air within is vitiated with too great an abundance of pigeons, not kept properly clean.

Twice the number of birds can be kept in the same air space if they are cleaned out regularly.

The secret of the success of some of those fanciers who appear to keep far too many birds in lofts big enough, apparently, to accommodate but half the number, is that they spend half their days with their pigeons, and droppings are never allowed to lie on the floor for a minute. If others dared to keep the same number in the same space, giving less attention, the birds would be rife with disease, and useless for anything in a very short space of time.

The number of birds to be kept in lofts of various sizes depends generally upon the fancier's aptitude to attend to them, therefore I cannot define with exactitude the size of lofts and the number to be kept therein. Still, it is always safest to err on the side of amplitude of room, and never overcrowd.

I do not propose to go into minute detail as to each of the diseases of pigeons. I shall simply mention the disease, what in my opinion is the cause, and what I have found to be the best and safest remedies, bearing in mind when one remedy has sometimes failed I have changed the treatment with success, and hence in some cases I give two or three remedies for the same disease.

Apoplexy (the Bursting of a Blood-vessel in the Brain).

This disease is more common amongst pigeons than fanciers imagine. In the spring I have known birds to drop dead from apoplexy one after another. Their owner immediately assumes poison has been at work. Prisoners are more prone to the disease than birds having their freedom.

Want of exercise, improper feeding, the use of too exciting food, hot weather or sudden changes in the weather, and fatty degeneration are amongst the many causes.

For treatment I have found it best to immediately suppress the use of heavy beans, confining the feeding to peas, and peas only of about two years old and well harvested.

Avoid hempseed or anything of a heating nature.

Mix about half an ounce of iodide of potassium to two quarts of water, and give to drink every other day ; or gently purge with sulphate of soda, half an ounce to one quart of drinking-water.

Canker.

This disease is undoubtedly one of the worst, if not the very worst, and most common amongst all classes of pigeons.

Cultivations have not been taken of the growths, but M. Wittouck is of the opinion, from experiments made, that canker in pigeons must not be confounded with ordinary cases of diphtheria, although the symptoms of canker in very young pigeons are very much the same.

I believe that canker can be fed into young birds from the old birds, and in cases where this is common some cause for it can be ascertained : either in-breeding has been resorted to or the old birds have only a partial or improper moult.

My own opinion as to canker is that in some forms, although epidemic and attacking the majority of the youngsters in the loft, it is not exactly contagious ; that is to say, birds suffering from canker will not give the disease to others by mere contact. And for this reason

I should have no fear of placing birds suffering from canker in my loft, and should not expect to find healthy subjects take the disease from contact with them.

The general cause of canker is foul water, fungoid food, or vitiated air. Although fanciers may do everything possible in their own lofts, if their birds are in the habit of sitting out on housetops there may be poison to be obtained from the gutters through the water remaining in rusty or foul gutters and the birds drinking it. It is surprising how apt they are to take water of this kind in preference to cool, pure water in their own lofts. Therefore it is essential that a fancier who wishes to keep his birds in health should not only look after his own gutters but those of his neighbours, as it will cost little to occasionally clean them out.

The birds most subject to canker are those fed on maize, particularly the large, cheap classes of this grain.

I know of nothing worse than maize to feed canker into pigeons, and therefore fanciers should avoid the use of this grain. Good English-grown barley, wheat, and peas in equal parts make the best diet if an epidemic of canker should break out in the loft, and every care should be taken to regularly purge the birds.

The following prescription I have found to be invaluable for this purpose: 2oz. sulphate of soda, 1oz. alum, 2oz. ordinary white table salt, dissolved in a quart of boiling water; half a pint to be added to two quarts of drinking-water once or twice a week. Fed in the manner described, with regular exercise, a cure will speedily be effected. Plenty of green-meat should also be given to the birds. In mild cases, where the growth is in the mouth or throat, it should be removed with a small stick or piece of wood, and the part painted with equal parts of perchloride of iron and glycerine, painting well down the throat and

over the affected part. This treatment has been the most efficacious that I know of.

If the growths are on the outside of the body, then they must be burned with caustic pencil ; but if the growth be near the eye great care is necessary. I have at times cut away large pieces from birds near the vent as large or larger than an egg, and subsequently the wound has healed and the birds recovered. Still the best advice I can give to fanciers who have birds attacked with canker is to breed from them as little as possible, no matter how good they may be, as I think that a canker deposit in the body, wing, or joints, or in any other part of a pigeon denotes a scrofulous tendency, and is hereditary.

Diarrhœa.

The symptoms of this disease are a looseness of the bowels, sleepy look about the eyes, ruffled feathers over the frontal, and a dejected appearance of the subject.

Youngsters in the nest quickly succumb to this disease if not taken in time. When fanciers see that the droppings of their birds are watery the cause must be looked to at once.

The excessive partaking of water through eating too much salted grit in hot weather will also cause it.

But the most serious cases are when the birds go to the fields and partake of nitrate of soda, or earthy matter saturated with this, which, if taken in excess, will not only cause incessant diarrhœa but death.

New wheat or new corn will also cause it.

Fungoid grain will cause it, and particularly will it arise from birds eating corn contaminated by their droppings.

A hot, close loft, imperfect ventilation, the accumulation of the droppings on the floor will all bring about the trouble.

In the breeding season birds will generally go into the fields and eat the worm-castings. These cause the bowels of the youngsters in the nest to be free in the morning, but as soon as they get the hard corn in the crop and it passes through the system the droppings during the night are firm and solid. No uneasiness need be felt in these cases.

If persistent, look to the corn. If too new, change to something a little older. Whatever you do, avoid maize; this, if of poor quality, will induce diarrhœa more quickly than anything.

Try a little old baked English wheat or good sound peas two years old.

A gentle aperient in the shape of a dose of castor oil will sometimes effect a cure if taken in hand at once. Diarrhœa is the forerunner of many evils.

When the droppings are loose and greenish two drops of chlorodyne will sometimes at once effect a remedy, but when the disease affects the majority of the inmates of a loft the cause will generally be found in the food and feeding.

In some cases I have found a teaspoonful of camphorated chalk added to a quart of water effect an immediate remedy.

The disease is more common in hot weather, and bad ventilation and overcrowding will cause it.

Eating Droppings.

If pigeons are kept very short of corn they will acquire the filthy habit of eating their droppings, particularly if any husk is passed, or if bad linseed is used, which through its hardness may be passed through the digestive tract in the same manner as small grit or stones that the gizzard expels that it has no use for.

A pigeon's teeth are in the gizzard in the shape of grit, but here let me briefly describe the process it goes through before reaching the gizzard.

First of all, the food, after being eaten, passes through the gullet into the crop. It is surprising to what extent it swells. At the bottom of the crop is a receptacle which looks like a subterranean passage; that is the stomach of the pigeon, where the food eaten mixes with chile, and is still further softened before passing into the gizzard, where, as I have stated, mastication takes place, and if the food is good and the pigeon healthy, only waste matter is thrown off, and eventually is discharged in conjunction with urine from the rectum.

It is a very bad sign indeed for pigeons to pass the grain they eat through their system without digesting it. Depend upon it, there is something wrong either in the grain or the bird.

I have frequently found in the case of bad linseed and some other small seeds pigeons will pass them in this manner, and being passed whole the hungry birds will eat them again and at the same time eat their droppings. Plenty of good digestible food is the best remedy for the trouble.

Egg-binding.

Frequently in the early part of the year young hens have trouble with laying their eggs. Generally the cause is through being too fat or weakness.

They will be found sitting on the nest moped up night after night with the parts above the vent swollen and hot. When walking about the loft they look miserable and the feathers are ruffled.

Sometimes the trouble arises through the egg being abnormally large.

The best remedy is to hold the bird's vent gently over steam from a jug, taking care not to scald the parts, or hold it in warm water for half an hour so as to relax them. Administer a dose of castor oil, and then anoint well up the vent with hot olive oil applied by means of a feather, gently pressing the parts to help the passage of the egg. It is not advisable to handle birds suffering from egg-binding too much.

If the above treatment fails an operation may be necessary to remove the egg, but if undertaken by an unskilled person will generally prove fatal.

Feather Rot.

This is one of the worst diseases I know, and, unfortunately, in latter years has become more common than formerly.

I cannot find in any of the old pigeon works a single reference to this disease. My old edition of Fulton is silent with reference to it.

Lyell does not speak of it.

Nor is a single reference made in any of the Belgian works.

Why is this the case?

Is this disease a modern one, and is it common to this country only?

Feather-eating fowls I have seen denuded of their feathers.

I have also owned feather-eating or plucking parrots.

But the disease known as feather rot is altogether of a different nature to either of these troubles.

It is becoming common in some districts, more so than others. It frequently attacks most valuable birds.

I have visited Belgium pretty regularly for nearly twenty years past, and yet I have never seen a single case there of feather rot.

As I have stated, none of the Belgian books I have read refer to it. Why should English birds be prone to it and not Belgian?

I have kept pigeons over thirty years. During this period I have had but three individual cases of feather rot.

They arose in different strains and different birds.

Still, I have had a number of cases sent me by young fanciers for advice and examination.

After most careful consideration I am inclined to think that the disease, as we know it, commonly called feather rot in this country, must be classified under three different headings: 1, disease of the blood; 2, skin disease, parasitic; 3, atmospheric.

The symptoms of feather rot are that the feathers become rotten and fall out. First the chest is attacked with bare patches, then follows a looseness in the shoulders and wing-coverts.

In both cases one and two the symptoms are generally as described, but in the case of three the flights and tail apparently become brittle and rotten, the webbing breaking off in flakes and particles, and having the appearance as though eaten by some feather-devouring mite.

The disease generally makes itself known in the breeding season.

Birds suffering from feather rot will moult at the same period as others, but the bloom and sheen that is to be found on a healthy bird does not last; the feathers become dull and dry, and as sure as the breeding season again comes round after the first nest is reared the disease again makes its appearance, more marked than before, until in bad cases the whole body may be denuded of feathers.

Cause 1 (disease of the blood) is due to the kidneys not doing their work properly. Earthiness of the system

arises, and there is no proper secretion supplied to the feather-glands.

If I am right in assuming that one form of the disease is due to kidney trouble or blood disorder, what is the best remedy?

I have noticed that the disease in this form is more prevalent in localities nearer the sea and where salted grits are obtainable in abundance than in other districts.

If the gizzard and kidneys are given too much work to perform the blood immediately becomes disordered.

Improper grit, salt "cats," that induce birds to eat more grit than is good for them, or salted shingle from the sea beach eaten too freely as grit by the birds will, in my opinion, induce this disease more quickly than anything I know.

The disease when it arises from Cause 1 is hereditary, but if the environment is changed and if the management of the birds when at fault is changed the descendants will not show any traces of the disease whatever, and I have known cases where neither the ascendants nor descendants of the affected bird have shown the least taint.

In the case of a valuable bird that is affected a cure may be effected by the following treatment. After the moulting season separate the subject, and don't allow it to breed in the spring.

Feed on good peas, tares, and beans, not too old.

Avoid hemp seed, canary seed, or small heating grains.

Do not give any artificially-salted grits until the patient is well again.

Occasionally give a 5-minim capsule of olive oil in order to regularly purge the subject, which is very essential, and administer capsules of Parrish's chemical food twice weekly.

The bath should also be in constant and regular use.

After a season's rest from breeding, when the moult has taken place, the feathers will be stronger, richer, and more lustrous, and the birds will probably show no more symptoms of disease.

In all cases where the disease is due to kidney and blood trouble as I have described, the birds become heavy and the skin hot and there is difficulty in flying and breathing.

(2) Skin disease—*Acarus* (the tick or mite).

At one time I considered that feather rot in all forms was due to one and the same cause, but careful examination of the subjects affected has convinced me this is not the case.

When the trouble arises from kidney disease or earthiness of the system the subject becomes fat and loses power of flight. The secretions do not show the same tint of the urine as in healthy birds.

But when the trouble arises from parasitic causes, which is often the case, there is no fatty degeneration, and the only symptom is the attack of the parasites on the feathers, generally in small round patches on the breast, and sometimes on the shoulders; starting with a small patch, it may be as large as a bean and extending in size.

In order to ascertain if the disease is of this nature some small feathers in the immediate vicinity of the trouble should be removed; they should be carefully laid on a clean piece of white paper, and the root of the feather examined with a pocket lens or microscope of low power. If small, moving particles can be seen moving about near the root of the feather there is no doubt as to the nature of the disease.

The disease in this form is, I think, somewhat akin to mange in dogs and horses, or sheep-scab in sheep, with this difference: I cannot find traces of contagion amongst pigeons, but it may be that certain birds are immune from

the disease, and the body and health of the subject must be in a low state before the acarus can attack it.

I have heard of cases where fanciers having birds suffering from feather rot have totally immersed them in paraffin oil. This would probably wipe out the acarus if due to this cause, but a remedy I effectively tried in a serious case that came under my observation was to remove the feathers close to and around the affected part, thoroughly rubbing in, night and morning, an ointment of vaseline and sulphur, and for other treatment administering a mild aperient and capsule of Parrish's chemical food twice weekly.

In the case of one bird which was treated for this form of the disease it proved a winner in a long, hard race, and after being anointed on the affected parts on two occasions was never again affected.

(3) Atmospheric.

This form of the disease consists of the breaking of the ends of the flights, brittleness, rotting of the web of the larger feathers, such as the tail and flights.

In my opinion this form of the disease is due to the loft being unsuitable, low temperature of the birds, and ammonia permeating the atmosphere, and so affecting the subjects that there is no power of resistance to the air or sun in the feather. In fact, the feathers at the extremes become worn out before their time.

This form of the disease is generally more prevalent in lofts over stables where horses are kept underneath.

In overcrowded humid lofts, where dung is allowed to accumulate on the floor, and the ammonia arises; or in lofts situated in marshy districts, where the birds are always living in a state of humidity.

So much for the predisposing cause.

The remedy lies in such immediate alterations of the loft as to ensure absolute dryness.

I am certain the higher and drier a loft the better it is for the birds.

Plenty of light from the sun's rays must be admitted into the loft, and the birds fed on sound, dry, well-harvested corn.

As I stated at the outset, I must confess I have never seen cases of feather rot in Belgium, and attribute the fact to the lesser humidity of the country. There lofts are generally in the house, and invariably much drier than ours. Consequent on this they can keep more birds in much smaller lofts.

There may be, and possibly are, other causes for this most troublesome disease, but the well-managed loft that is not overcrowded and where birds are managed in a simple, reasonable manner will generally be free from this as well as other troubles.

Going Light.

This disease is often compared with consumption, or a wasting of the lungs. I don't think it is.

I believe that more cases of going light arise from malnutrition than any other cause.

Some have concluded it is contagious. With this I disagree.

It is sometimes epidemic, and often attacks many inmates in a loft, spoiling the whole of the breeding season. In bad cases it is generally by a complete stoppage of the working of the organs of nutrition.

The bird shows great avidity for food, and feverishness, but the food remains in the crop until the subject eventually dies through the crop hardening and choking it.

Life can only be saved in bad cases of this kind by opening the crop and removing the obstruction.

When the obstruction is not speedily removed, acute

enteritis and dysentery follow, and the subject speedily succumbs.

The opening of the crop is a very simple operation. The incision should not be made too low down. Make a cross-slit in the crop. There are two membranes, an outer and inner. After clearing the crop, which it is as well to wash with Condyl's Fluid, carefully stitch the parts with a fine needle and silk. They will heal quickly, and if you can get the bird to pass a little castor oil sometimes the going light will stop as quickly as it came on.

When once a bird recovers from going light I have never known a case of one suffering from a second attack, and they will generally live to a ripe old age.

If taken on the appearance of the first symptoms, two drops of laudanum on a small piece of crust may allay further trouble.

The disease in the case of young birds is accompanied by a stoppage of the moult, or the moult of the first flight-feather does not start as it should.

The drawing of the feather and the growth of the subsequent feather may bring about a cure.

Old fanciers, for this reason, are wont to pull the tail-feathers of the young birds affected with this disease, prescribing this as the best and safest remedy. But the appearance of these tailless birds in their flights is so unsightly that the remedy seems to me worse than the disease.

Still, if the disease is accompanied by a stoppage of the moult should the next feather be naturally thrown the subject is well on the way to recovery, and will gradually recover.

During convalescence, in fact, in nearly all cases of going light, providing the organs of nutrition are doing reasonable work and medicine is likely to take effect, I have found cod liver oil and quinine capsules, a 5-minim

capsule containing a quarter of a grain of quinine, as good as anything.

As a tonic these capsules will be found very useful at all times.

Hard-shelled Eggs.

These arise through the egg remaining in the shell-forming portion of the oviduct too long. They are more frequent in the early part of the year than at a later period, and unless nature is assisted the embryo contained in such eggs as these will not break the shell but die in its prison. I have known the whole of the first round of eggs fail to hatch from this cause. The second, the birds being in better condition, lay the eggs more readily, and they naturally hatch. Should a fancier have the least suspicion that trouble in hatching is likely to arise, the best plan about four or five days before the date the eggs are due to hatch is to moisten the eggs twice each day with a little warm water. This softens the membrane lining to the shell, as well as the shell, but without this assistance given in time the hatching of hard-shelled eggs will be a complete failure.

Birds in health should expel the eggs without difficulty even early in the year. If the eggs are laid about eight days after mating takes place, and the majority of birds lay with regularity, hard-shelled eggs and their failure to hatch need not be feared; but if the laying is irregular and beyond the normal period, and a fancier has previously had any trouble in the hatching of the first round, he should adopt the course I have suggested.

Megrims.

This disease is hardly so common amongst some of the hardy varieties as it is amongst closely in-bred stock of the fancy varieties that are frequently being penned at shows,

and travel from exhibition to exhibition. The disease is really a form of apoplexy, and is sometimes called vertigo. It is a condition of delirium, the bird shaking its head and twisting its neck, and frequently falling down in a somewhat fainting condition, this peculiar condition particularly being more marked when the birds attempt to pick up their food or are in a stooping position. The difference between apoplexy—to which I have devoted an earlier chapter—and megrims is that in the case of apoplexy there is the bursting of a blood-vessel on the brain, whereas in vertigo or megrims there is a pressure on the brain due to some specific brain affection, or it may, in the case of young pigeons, arise from a severe blow on the head when flying hurriedly out of the loft. There is no certain method of determining if a bird is suffering from apoplexy or megrims. I have not found cases of this kind subservient to any specific treatment, and the only course for a fancier to adopt in the case of a valuable bird that he much prizes is to confine it in a quiet pen, feeding by hand for a time, and to administer Parrish's chemical food in 5-minim capsules.

One-eyed Cold.

This is a very serious complaint when it makes its appearance in a loft. It usually attacks young birds in the moulting season, and subject after subject is attacked without apparent cause.

In hot weather the disease is more rife than at any other time.

The first symptoms are a blinking of the eyelid, which the bird has difficulty in keeping open.

Then follows a watery discharge, and upon pressing back the lid red streaks will be seen under the lid.

If neglected the discharge thickens, and in some cases turns to contagious catarrh or roup.

Upon the appearance of the disease, immediately look to the food. See that it is clean, free from dust, and no fungus upon it.

At once administer a gentle aperient.

I have found the free use of Epsom salts in these cases as good as anything.

As a lotion I have found boracic acid lotion as good as anything. Dissolve as much boracic acid in warm water as the water will take up. Then dilute to about one-half with warm water each time the lotion is applied. Use a soft clean linen rag, and pull back the eyelid, gently bathing the inflamed parts; also bathe both nostrils with the lotion.

I have also tried a lotion of sulphate of zinc, one ounce to a quart of water, but this is a more dangerous lotion to use than the boracic.

One-eyed cold takes from fourteen to twenty days to run its course.

Youngsters showing the least symptoms of it should never be basketed for races or will be lost.

I have also found the following ointment useful:—Zinc ointment, 5oz. ; red oxide of mercury, 1oz.

My friend Dr. Ward recommends a mild lotion of nitrate of silver, three or four grains to the ounce of water; but I have not given this a fair trial, having found the boracic acid lotion usually effective.

But as I have pointed out, the Epsom salts should be administered freely. Avoid fattening grains, and see to the ventilation of the loft, and particularly change the water as frequently as possible.

Rheumatism.

I have dealt with this disease under the heading of wing disease, the symptoms and the cause in some cases

being the same. Generally it is due to a low temperature and a damp loft. In cases where the legs are affected, I have found rubbing with Elliman's horse oils as good as anything; or, in mild cases of lameness from rheumatism, I have cured the subject by a warm flannel bandage saturated in turpentine. Where rheumatism, leg-weakness, or cramp seizes very young birds before or just after leaving the nest don't attempt to cure them, but pull their heads off.

Roup.

The ravages that roup plays annually amongst pigeons is really alarming. Some, I think, will scorn the suggestion, but I know from experience that it is only too true. It is because I know and feel this that I propose to give young fanciers the benefit of my experience. Catarrh and roup are no friends of mine, nor are any diseases, and, as I have said on so many occasions, I do not write with the idea or object of curing sick pigeons, but by giving an outline of the diseases and my experience as to the cause, a young fancier is better able to guard against any outbreak in his own loft. Forewarned is forearmed.

Most of the old authorities on pigeons agree that roup is a contagious disease, and I must confess that I am of that opinion.

Roup must not be confounded with mild catarrh. Mild catarrh and one-eyed cold I do not think contagious, but, on the other hand, there is also a contagious form of catarrh as well as roup.

Roup and contagious catarrh nearly always arise from the same cause—badly reared young, overcrowded lofts, bad ventilation, and want of fresh air.

These lower the tone of the pigeons, and make it

subservient to the attacks of Protozoa, which invade the lining membrane of the mouth, pharynx, and even the crop and windpipe.

From this it will be seen that I think roup due in a measure to an animal microbe living on the birds. Once get this microbe in your loft, and the difficulty is ever to get rid of it.

It is the hot weather that the trouble from roup and kindred diseases is mostly to be feared. On one occasion a young fancier friend begged me to go over and see his birds; he could not make out what was the matter with them. I had no difficulty in doing so. He had a serious outbreak of roup in his loft.

I recommended him to do exactly the same as I have done in the case of other fanciers—to give his birds more air. I am a believer in fresh air for pigeons if you wish to keep them hard and strong.

With a loft with an open wirework front and a dry roof, you can keep pigeons as sound and healthy as it is possible to keep them; but once start boxing up and shutting out the fresh air, you are inviting trouble.

The greatest mistake that can be possibly made is to keep pigeons in a hot loft. Disease microbes to which pigeon flesh is heir thrive in heat—the roup microbe thrives in it. As cold and frosty weather will kill fleas, so will cool fresh air kill and conquer disease microbes such as roup.

Pigeons are birds of the air, no animals or birds more so. You can keep twice the number healthy and well in a loft with plenty of fresh air running through it as you can in one that is closely confined, stuffy, and hot.

Whilst I think roup contagious, still it will not make the same ravages amongst a healthy loft of birds if introduced as amongst those in such a state of health as to

be subservient to it, for the strong subject will resist its attacks.

I don't know if I have made myself quite clear. What I mean is this: Supposing a man's loft of birds is well-managed, the birds are well fed, they live in a cool, fresh atmosphere, there is just the possibility that if a bird suffering from roup was introduced to such a happy family, the change might cure the diseased subject and the others keep free from it; but still, old fancier as I am, I should not care to take the risk of the infection, and I would sooner give a £5 note than have a genuine roup subject introduced amongst my birds and left for forty-eight hours.

Where will you find a stronger or hardier bird for its size than a wood pigeon? The nest is built of twigs in the fork of a tree. The squabs get air all round, and yet are as strong as it is possible for them to be.

The fact of the matter is we don't study this question of air and health as much as we ought to. Many of us would have far better health if we had a little more fresh air.

If you have any birds suffering from roup, adopt the fresh-air treatment at once, and I venture to think when you see how rapidly they mend you will not store your pigeons in warm cosy cotes again.

In the case of an outbreak of roup it is best to at once isolate any subject affected.

As roup in fowls and pigeons is a kindred disease, I append the leaflet, No. 58, issued by the Board of Agriculture, 4, Whitehall Place, London, S.W.—the letter of application need not be stamped. It reads as follows:—

“Roup is one of the most contagious diseases from which fowls suffer. It is due—at least in part—to certain

very lowly-organised single-celled animals called Protozoa, which invade the lining membrane of the mouth, pharynx, and even the crop and windpipe. The virulent disease manifests itself either as loose, yellow, cheesy nodules, or as small firmly-fixed nodules in the mouth, the latter especially around the tongue and beak. In these false membranes and the tissue beneath them may be found the minute parasites, which either directly or indirectly cause the false growths.

“Certain authorities state that bacteria are the active agents, but the probability is that these Protozoa are entirely accountable for the disease. If left alone a diseased bird is almost sure to die.

“It is most important that any bird showing symptoms of this complaint should be at once isolated, and the drinking vessels, &c., in the run well disinfected by boiling and strong carbolic acid.

“The loose growths should be very carefully removed with one or two blunt needles, and the mouth well washed with a ten per cent. solution of salycilate of soda or boracic acid. Probably several operations will be necessary, as some small diseased areas may escape notice. In any case, the mouth is best treated several times with the disinfectant. The hard patches may be burnt away with linear caustic. Every dead bird should be carefully destroyed and the run or yard disinfected either by sulphuric acid or by a dressing of fresh gas lime after an outbreak. The best results in treatment have been obtained with salycilic acid or salycilate of soda, and it is advisable to place a one per cent. solution for the fowls to drink after any signs of the disease have been noticed in a run. In no case should a bird be allowed freedom until it has been completely cured. When the disease is very advanced it is best to kill the bird and destroy

the body; but if taken in time a cure can easily be effected."

There are several forms of roup in pigeons, the most common being wet roup and dry roup.

Whenever a pigeon starts a cold care should be given to it, for roup begins exactly the same as ordinary cold, with the difference the subject gives off an offensive smell.

The disease takes from a fortnight to three weeks to run its course.

Generally when roup breaks out in a loft such loft is overcrowded or badly ventilated.

If overcrowded, and there are too many birds, you can effect a remedy by killing off the smallest and weakest and at once suppressing any that show the least symptoms of contagion.

Providing the ventilation is seen to, overcrowding at once stopped, and the birds exercised freely, the following is the best general prescription for roup I know: Epsom salts, 1drn.; sulph. of iron, $\frac{1}{2}$ drn.; Glauber salts, 2drms.; water, 8oz. Give one teaspoonful to each pint of drinking water.

When feverish symptoms are noticeable (which are indicated by the bird being very thirsty) a small dose of tincture of aconite may be given. Two minims in a little water every two or three hours until the excessive thirst seems allayed.

Unfortunately, roup being contagious, no loft is absolutely safe from it, for it can be picked up at shows by contamination, or by birds that are discharging mucus, leaving some of the poison in the drinking water, which is thereby contaminated, and the Protozoa once in the system multiplies with the greatest rapidity.

In a week or more I have seen birds apparently well before the attack, choked first in the nostrils then in the

eyes, and subsequently in the throat, until death supervenes, and puts the subject out of its misery.

I can call to mind lofts that had an annual attack of roup, and where nothing seemed to suppress it. In this case the only effective cure might have been the suppression of all the inmates, a reconstruction of the loft on more hygienic lines, and fresh importations of vigorous birds from other districts.

Rice, good peas, and a little salted and baked bread-crumbs, as well as crushed hemp-seed is the best diet for a subject suffering from roup. When the disease is accompanied by an offensive discharge, it is best to bathe the affected parts with boracic acid lotion as recommended in the case of one-eyed cold.

Soft-shelled Eggs.

Generally, I have found the above eggs laid by pigeons when they have been too fat and fed on too heating a diet. The best remedy is to substitute stone eggs in place of the shell-less ones laid. Meanwhile, frequently administer a dose of Epsom salts to the patient, and, unless the laying of soft-shelled eggs is due to permanent derangement of the secreting glands where the shell is formed no further trouble will arise. Plenty of grit, consisting of old mortar, crushed fowl's egg-shells, crushed oyster shells, and cuttle fish bone, should be placed before the birds.

Surgery.

Generally speaking, it is unwise for in experienced fanciers to perform any surgical operations on pigeons. In the case of eggs embedded in the oviduct, if a fancier attempts to remove them by breaking them, death will generally supervene, but, in the case of outward growths,

sometimes a tumour can be lanced and removed, or a canker growth removed after being burnt away, but otherwise surgical operations should not be attempted by unskilled persons.

In the case of wounds resulting from shooting, the feathers should be removed from round the wound as cleanly as possible, and if it is thought that the shot is still in the wound, it can sometimes be removed by probing; but if the wound is kept clean and healthy in the course of a short period the blood will dry, and it may be possible to remove the core from the wound, bringing the shot away with it.

The best dressing for shot wounds I have found to be vaseline, which cools the skin round the wound, and allays irritation.

Broken legs can, as a rule, be repaired if taken in time, unless the break is at the knee-joint.

The knee-joint is of such delicate construction that it is seldom possible to repair a broken knee-joint in a pigeon. In the case of a broken leg, I have found that if placed in light splints, and carefully bound round with tape steeped in stiff starch, their recovery is very speedy.

A broken wing can be slung, but is seldom useful afterwards, and birds have difficulty in flying, although they will be able to fly round home.

Wing Disease.

This disease, commonly called lump in wing, is very prevalent in low-lying districts, and is due to various causes. I have been very fortunate in my long experience with pigeons in never having had a single case of wing disease in my loft.

When I used to take great interest in experimenting

upon birds sent me that were suffering from disease, wing disease I found was a very common complaint; "lump in wing" it was usually called.

The symptoms are first, the bird affected drops the outer part of the wing from the shoulder, then a swelling of the wing-joint takes place, some times in the shape of a soft swelling, and at other times a hard swelling. If neglected, the wing becomes entirely paralysed, and the bird is never able to fly again.

Opinions differ as to the cause. One of the most remarkable cases of wing disease I can remember was in the loft of the late John Day, several years ago. Bird after bird in his loft had the disease in a typical form. As soon as one was better others were attacked, and yet to all appearances the birds looked fit and well. He had consulted a specialist, but of no avail, and fresh cases continued to arise.

It was the cause he wanted to get at, not the cure, as I believe he killed every bird affected. I made a thorough examination of his loft, and could find absolutely nothing to suggest a cause for wing disease. The food was of the best and the water clean, but upon using my nose and examining some old mortar he was using as grit I came to the conclusion that this was the cause. This grit was mouldy. It was being taken into the gizzard with the food, and instead of pure blood being circulated through the bird's system it was impure, diseased by the foul grit, with the result that the birds suffered from general debility and subsequent affection of the wing.

After the removal of the grit and the adoption of the treatment I recommended not another case occurred.

Wing disease arises from several causes. It is one of the most troublesome complaints I know amongst pigeons, and one that I cannot say I am much in favour of curing,

because I am inclined to think that birds subject to this disease are of a scrofulous nature, because in nearly all cases where I have killed the birds and examined the wing I have found a cheesy deposit.

I think the primary causes are :—

1. A stiffness of the wing joint, induced by rheumatism. Birds sleeping in a loft which is of a damp nature, or where there is a cold current passing through, a warm loft would be more susceptible to this form.

2. Swelling caused by bruises. I have often found an outbreak of wing disease in a loft where there were several upright joists that the birds struck against when going out of the loft for exercise, or striking against wire netting would have the same effect. Their removal has been the means of stopping further trouble.

3. Debility, disorder of the blood, and scrofulous deposit, very common in the wing joint.

4. A great strain in flying. Cases of this latter class will arise when birds return from a hard race. They drop their wing, and unless given complete rest and most careful treatment they seldom, if ever, recover the proper use of the wing again.

I don't like a loft for pigeons over pig-sties or stables where they can get the fumes of the ammonia from below. It is very lowering, and I have seldom known pigeons thrive for any great length of time over pig-sties.

The best treatment I can recommend for wing disease is to pluck the feather round the swelling—in fact, I have known cases where drawing a few feathers from the wing has alone effected a cure—and paint the swelling with strong iodine liniment, or once or twice a day with iodide of potassium liniment.

To prevent any further outbreaks I recommend the *free use* of the following mixture : Sulph. magnesia, $\frac{1}{2}$ oz. ;

soda sulph., $\frac{1}{2}$ oz. For a fortnight clear them out with a dose of this twice per week; dissolve in one quart boiling water and add half-pint mixture to three pints of drinking water; let all the birds have a drink. Feed on maple peas of the *very best* quality and give a liberal supply. Don't let birds sit about in the damp. Take away all water and food the night before giving the mixture, and when they have all had a good drink in the morning take away the salt mixture.

Remove all obstacles in the loft against which there is a possibility of wing butts or shoulder being struck, and as a tonic to strengthen the birds give them occasionally a cod liver oil and quinine capsule; a 5 or 10-minim capsule containing half a grain of quinine will do.

Where the trouble arises from a collapse after a hard fly complete rest is the only cure, administering a tonic of Parrish's chemical food, a 5-minim capsule daily, and feeding on light, easily-digestible food.

Worms.

I have frequently come across cases of tape worms in pigeons. The bird becomes thin and languid, the eyes being dull and sunken in the head. The appetite seems to be abnormal, and the subject does not fly with its customary vigour. By carefully watching the subject the tape worm will frequently be found to protrude from the stern.

I have removed tape worms of from three to four feet in length in pigeons. There are, in addition to tape worms, other small worms and parasites which will affect them. The best treatment that I have found for the removal of worms is to give the bird a 5-minim capsule of male-fern oil on an empty crop, followed about two hours afterwards by a dose of castor oil, occasionally physicking with a little sulphate of magnesia. I have found this

most effective, and in one or two cases where I have had birds so affected they have afterwards performed good work, and the worms have not seemingly made their reappearance.

CHAPTER SIX.

JUDGING, SHOWING, PREPARATION.

The present chapter covers a very wide field.

Even though the different varieties have standards, judges are apt to value the points according to the difficulties they have themselves experienced in breeding them. Many varieties are popular enough to command good entries at shows, and specialist judges make the awards.

By far the best means for a fancier to gain enlightenment is to make a practice of visiting shows and thoroughly examining the birds penned.

He will thus learn more of the type that is winning and the judges' fads in this manner than by any other course.

The exhibitor who gains the most pronounced success is he who exhibits his birds to suit the judge under whom he exhibits. I don't mean merely follows a judge from show to show with a bird he has previously given a prize to, but, having exhibited certain birds under a judge and found out what he likes, he matches others to fit in with the judge's taste at a subsequent show, and thus scores again and again.

Exhibit your birds to please the judge and you will score, but if you exhibit them to please yourself and disregard the judge's whims and fancies you will not do so.

If you know a man fancies birds of a given type, show birds of that type under him. If you know he dislikes birds of a type you possess keep them at home.

The unfortunate part of it is that in a man's own loft he often views his birds with an exaggerated eye—all his ducks have the appearance of being swans. When, however, he pens these birds at a show he gets a rude awakening. Side by side with their more elegant brothers shown by old and experienced hands their faults become much more evident.

The cheapest and best method for a fancier to gain knowledge is to join a local association or Columbarian society which holds monthly competitive shows. Although the quality met here may not be equal to that met in open competition, still by meeting fancier exhibitors and comparing notes much valuable information may be gained.

In order to stand a chance of gaining prizes at shows the birds must have some education at home, and for this purpose no loft for fancy pigeons is complete without some exhibition-pens are fitted up in which the birds can be educated to stand and show themselves. In the case of Pouters, Pigmy Pouters, Norwich Croppers, and Fantails some time needs to be spent in training them for the pen. The Pouter should be taught to blow and distend its crop, a small block of wood being used in the pens so that the birds show their girth and thighs to advantage. The Fantail must be taught to shake and carry its head well back, keeping its tail well carried at the same time. There is, in fact, no variety that does not improve under a little home training, and it is frequently in this respect that the old hand gains such a pull over the beginner. His birds are taught to stand in the pen like models, and although it may be not possessing better points than some of the others, these through lack of training do not get justice done to them.

During a long and varied experience of judging in all varieties I have often been surprised and even disgusted

at the condition in which many birds have been penned, condition being totally disregarded. In my opinion the least semblance of disease, no matter what the variety, should be a disqualification. At dog shows a veterinary passes dogs before entry, and I hold that pigeons suffering from diseases should be inspected in the same manner. Frequently birds are penned side by side, one water-pot serving for two birds. Roup and kindred diseases can be spread wholesale in this manner. The judges are in a measure to blame, for I have seen birds suffering from catarrh and other diseases taking prizes over sound pigeons.

In the chapter on diseases I point out the distinguishing characteristics between health and disease.

The eye is a very important indication of health—a watery eye and a wet snout often indicate incipient roup.

The lustre of the plumage, colour of the sheen, cleanliness of the wattles, cleanliness of the legs and feet are all points that count, and even though a bird may be good in general points, condition in the eyes of most judges adds beauty to the beautiful.

In a smoky town a fancier cannot keep his birds as clean as those living in the country. Under such conditions it is better to keep a variety suitable to the surroundings.

White pigeons are quickly sooted in an exposed position in towns. It is, therefore, best to keep the darker varieties.

The plumage of birds keeps better in some districts than others, likewise the wattles and ceres.

Birds are never fit for showing when feeding young. In fact, during any part of the breeding season, no matter what the variety, they are best at home, except where a fancier has a good stud and can keep a number separate for showing at any period.

Frequently the wattles become dirty. These can easily

be cleaned with a small stiff toothbrush and a little warm water. When the wattle becomes coarse in some varieties there are those who file it down by means of a fine emery cloth, but I look upon this as faking, and when carried too far cruel to the bird.

Until the beginner has had some little experience I do not advise him to undertake the washing of his subjects. It is a very delicate operation and requires considerable practice. Well do I remember the first pigeon I washed. The soap dried into the webbing of the feathers, and it looked more like a porcupine than a pigeon.

The best way to gain practical experience in washing is by taking a lesson or two from an expert. Carefully copy his methods and practise for a time on birds of small value. If it is necessary to wash a pigeon before show it should be done three or four days beforehand, so that the feathers have recovered their natural sheen by the show day.

The materials necessary should consist of a good, clean, open pan, a plentiful supply of luke-warm water, and some soft towels for drying.

I like white curd soap, and have also found Scrubb's bath ammonia a good agent.

Having made a nice lather you gently cleanse the feathers, taking the tail, wings, and flights separately, rubbing gently in until all the dirt is removed. This is the easiest part of the process. It is the straightening out and getting the feathers right after that takes the time and wants practice.

Having removed the dirt, rinse in two or three clean waters one after the other, squeeze out all liquid from the feathers, and then gently dry with your warm towels. Take care to have everything ready before you start, for the operation needs to be quickly performed.

Care must be taken to keep the lather out of the eyes and mouth.

After gently drying as directed with the towels it is best to place the bird in a clean box with a wire front in the kitchen, but not too close to the fire, or the feathers may curl up in the drying process, and the bird will look a pitiful object.

I like the small baskets for drying purposes made of open wicker, which are really the exhibition baskets used in Belgium; there they do not use pens, but each man takes his bird to the show in one of these baskets and supplies his own pen in this manner with number already attached.

Plenty of straw-chaff should be placed at the bottom of the drying-basket or box.

In the case of a few feathers only being soiled Scrubb's ammonia and a little warm water and soap will easily remove grease and tar stains.

Birds must not be sent to shows in any sort of baskets. Baskets with suitable divisions must be obtained for the purpose, the divisions to be of a size to suit the variety. In sending birds to shows the greatest care must be taken to see that each bird is in the correct division of the basket to agree with the pen numbers on the labels.

Carelessness in this respect may lead to birds being penned in the wrong classes.

Another point of importance is to see that the address label to the show is properly and firmly attached.

The rules of the show must be strictly complied with as to time of delivery. Many a good bird loses its chance of success through arriving at the last moment and being hurriedly penned; consequently it has not settled down comfortably before the judge arrives to deal with it.

In the case of some varieties a little plucking is often

indulged in for the purpose of removal of foul feathers. How much or how little is a moot question, but unless I could show natural pigeons I would not show at all. The beginner is playing a dangerous game who indulges in the faking habit even in its mildest form.

After a bird's return from a show it should not be thrown into the loft without examination. It is as well to examine the eyes and nostrils to see if a cold has been contracted.

It is advisable to give them a tonic consisting of a capsule of cod-liver oil and quinine, and for a day or two feed on a mixture of light digestible grains. In fact, during the show season I find a little mixed seed acts as a wonderful restorative and keeps the bloom right.

Here let me warn the beginner against the habit of over-showing. Nothing tells on a bird's constitution more, and many a good typical specimen is spoiled as a breeder through being sent to show after show. The smaller the loft the greater care must a fancier take of his best specimens. About half a dozen times in a season is the most a bird should be sent out. It is not only the heat of the show-room but the journeys to and fro that tell their tale.

It must be borne in mind that the different varieties require somewhat different preparation for showing. As the beginner gains experience he will be the better able to condition his birds. Some men will never make fanciers. They have not the necessary patience. Others gain success without difficulty, for instinctively they master those little details which all help to make success. The beginner should not expect too much in too short a space of time. The man who gains his success by the slowest process finds it of a more lasting and permanent description.

CHAPTER SEVEN.

THE ENGLISH CARRIER, THE DRAGON, BARB, AND ANTWERP.

The English Carrier

has been described as the "King of Pigeons." It is one of the most difficult pigeons to breed, and for this reason its votaries have been very few in recent years.

The Carrier is often, through its name, confounded with a pigeon that carries messages, but the present-day Carrier is useless for this purpose, having for so many generations been bred for show and confined in pens that its homing properties are quite lost, and the bird is too heavy and cumbersome to fly. Antwerp fanciers used the English Carrier as a cross to obtain size and bone. There is no doubt that the bird was originally the true aristocratic homer in England, but, thanks to its cultivation for show purposes, it became too valuable to risk on the road. Moore and other old writers speak of the journeys made by this breed.

Whilst the Carrier still holds the title of "King of Pigeons," it is a pleasure to note that the Carrier fancy is the hobby of many good professional gentlemen and fanciers of standing and repute.

There are, as Fulton states, three stages in a Carrier's life—the young bird stage, the yearling stage, from the time the bird is eighteen months old, and the old bird stage. It is in the latter stage that the bird fully develops its valuable properties, such as wattle, cere, and beak.

In the days of the old school of fanciers Carriers were very considerably "faked." I have known men who

could make up the wattle of a Carrier to almost any shape. I remember the late Mr. Hammock, of Ilford, showing me how the wattles could be made up with cork so that a novice, or even anyone but a close student of the breed, could not tell the bird was made, and such birds often passed muster in the variety classes, but their owners took care not to show them under specialist judges of the variety.

The beak and the wattle, particularly the quality of the latter, are the main points in the variety. A good, straight, thick box beak is a most valuable point. While in the Dragon the skull should be wedge-shape, in the Carrier there is more equality in width of skull; but the fashion for a very narrow skull has died out, for in late years it has been found that such birds did not develop good wattles.

A really fine Carrier is a majestic bird. Its head and neck should be well set on a good-shaped body. A throaty Carrier or one with a bad gullet is an ugly specimen. But while the neck should not be too swanny still there should be a symmetry about the bird's neck and shoulders that lends to the balance and shape of the bird.

The most popular colours of the Carrier are dun and black.

There is no breed that I know that can well be used as a cross with the Carrier to improve it, although I fancy strong Dragons have sometimes been used, especially to get the latter-day blue and white Carriers.

Tick beans, maple peas, dari, wheat, and maize, mixed in equal parts, make the best food for Carriers.

These birds are of a pugnacious variety. It is best if possible to give them plenty of house-room and good roomy nest-boxes well separated, so that they are not likely to get into each other's boxes and fight.

Fresh air and a well-ventilated loft are very necessary in the case of Carriers, as they are subject to spouts and watery eye trouble, which are due to overcrowded and badly ventilated lofts more than anything.

Parrot-beaked Carriers, those with badly jewed wattles, or snipy, puny birds are monstrosities. The real beauty of the breed is in its size, its shape, its carriage, its depth of colour, and its wonderful growth of wattle. Considering the length of time it takes for a Carrier to develop, the man who produces a good one deserves all the success that attends his efforts.

The Dragon.

This variety has a very large following. Books have been written on the Dragon, and the breed has held its own in popularity for many years. Well do I remember the fine specimens that Mr. R. Woods used to pen. I also had the pleasure of visiting the lofts of the late Mr. George Cotton, of Sunningdale, whose success as a breeder of Dragons was very great. At one time there were several types of the variety, the Birmingham type and the London type, but at present we only know the one variety.

Blues were the chief varieties in the early days, but later the Chequers have become great favourites. Yellow Dragons are also very popular.

So keen is the competition in Dragons that a dozen birds, all good enough to win, which it would be difficult for anyone but an expert judge to separate, are often entered in a show, and the judging is severely criticised.

Head, beak, eye, cere, and wattle properties are important. The carriage of the Dragon is different from that of the Carrier; it is shorter and thicker-set in the neck.

Dragons of moderate age are a very hardy variety, but old birds get troublesome sometimes in the eye and cere.

The Dragon was formerly known as the Dragoon, or Horseman, and undoubtedly came of a sporting variety. The "Sheery Dragon" is still known as one of the fastest short-distance birds, and probably less than fifty years ago Dragons were bred in England for racing purposes and sport. There is still marked evidence in some of the best-known racing-pigeon strains to-day of the Dragon cross. George Cotton largely made use of it with his flying Homers, and Heap, of Manchester, bred some of the best long-distance birds from a Dragon-Homer cross, but the Dragons used for the purpose would be the old-fashioned Dragon, for the modern Dragon is purely a show bird.

Good Dragons that can win command a good price, and the popularity of the bird is no doubt due to the fact that the breed requires no artificial rearing or pampering. In fact, a good Dragon depends in no small measure for its beauty on its health and strength, and I think Dragon fanciers will agree with me in saying that a humpty-backed, bad-shaped, weakly Dragon, even though it possesses the much-prized peg-top shaped skull, and eye and cere, is a monstrosity. The Dragon is a hardy race, and physical weaknesses should not be allowed to pass muster in the pen.

The Barb.

Like the Carrier, this is one of the most ancient pigeons to have been cultivated by English fanciers, and still stands high in repute. Although not a very popular variety it is one of the aristocrats, its followers standing high socially. Like the Carrier, the Barb takes

several years to "grow" its main features, such as substance of skull, correct shaped wattle, and eye cere. The Barb has been bred to line for many generations. The old birds are inclined to contract spouts and eye trouble, and champions are hard to breed. The chief points are in connection with the head. The beak-wattle should be fine in young birds and develop steadily with age. The size of the eye and eye-wattle is a matter of importance. Opinions differ very much as to the size of a good Barb. The style of bird most admired is of medium size, neck of medium length, tapering towards head and broadening towards the shoulders. As the chief points are the beak, good beak-wattle, and head, in selecting birds fanciers should be careful to see they possess these qualities, and come of a winning strain. Any pigeon the good qualities of which depend upon bone, is more difficult to produce than mere feather and colour properties. This equally applies to Barbs and other birds of the same class.

The Antwerp.

There are three types of the Antwerp: the long-faced, the short-faced, and the medium-faced bird. During the past few years the Antwerp classes have not filled as well as formerly. There is no doubt the Antwerp originated in Belgium and was a workman, that is to say, was the racer in the Liège and Antwerp districts. English fanciers imported Antwerps, and in return shipped Dragons and Carriers to Belgium, but all homing properties in the present-day Antwerp are lost; the exhibition-pen and breeding entirely for show has settled that question. The favourite colour of the old Antwerp fanciers was the "silver dun," as it was called, but really the mealy. The Antwerp as I first knew it was a strong, bold, well-feathered bird, with thick-set

shoulders, good feathers, and wonderful substance of skull and head.

The long-faced variety is a big powerful pigeon, with great sweep of head and thickness of skull. Very considerable differences of opinion arise as to the varieties; that is to say, what really is a short-faced or long-faced bird or a medium-faced one.

Antwerps are shown in all colours, such as red chequers, mealies, and blue chequers, but I cannot call to mind seeing any blacks penned.

There is no doubt many varieties owe much to the Antwerp. This cross has been used to produce many other breeds, and the show Homer in recent years has got very Antwerpy.

Antwerps kept in good roomy lofts are a fairly hardy variety, but having been much in-bred in recent years a fancier who takes up this variety wants to make certain of starting with sound stock.

CHAPTER EIGHT.

THE POUTER, THE NORWICH CROPPER, AND THE PIGMY POUTER.

The Pouter.

To a lover of a really handsome pigeon the Pouter must appeal.

I know of no finer sight than to see a flock of Pouters on the wing. With their great crops, gobbling in the air, their long stretch of wing and pretty markings, there is no more elegant pigeon than a well-bred Pouter that would add a touch of beauty to a country-house pigeon-cote.

Modern varieties, easier to produce, that keep cleaner in towns, have somewhat taken the place of the Pouter amongst the ranks of the Fancy. But as long as the

Pigeon Fancy flourishes there always will be followers of this very beautiful variety.

It is believed that the Runt and the Pouter have much in common so far as ancestry is concerned. Fulton thinks the Dutch Cropper had most to do with it.

The principal points of the Pouter are the crop, the limbs, and the girth.

The head, eye, and beak of the Pouter are minor properties compared with the limbs.

Good markings and colour add to the beauty of the bird, but I do not think there is any pigeon so taking in appearance as a fine upstanding Pouter with straight, well-feathered, good limbs, correctly feathered.

A slender waist with good crop in front, nicely marked, makes up one of the most attractive birds in the Fancy.

Not only must the Pouter fancier devote much time to breeding this variety, but no bird requires more training to show itself.

The great difficulty in Pouters is to get them large enough, but with all the true Pouter properties.

Once you get them large enough the next difficulty is blending the colours and getting the crop nicely and evenly marked. The favourite colours are yellow, red, blue, black, in peds, and self whites.

When shown, the birds are penned with a block in the pen to stand on, and on approach of the visitor will "blow" and play up in a very pretty manner.

To those living in the country wishing for a beautiful breed of pigeons that always seem in a happy, vivacious mood, the Pouter should appeal.

The Norwich Cropper.

The Norwich Cropper is a smaller pigeon than the Pouter. Moore thinks that a cross of the Horseman

with the Pouter has produced it. The Norwich Cropper is a very wiry bird on the wing—in fact, never still, and I have known birds of the old strains to perform remarkable journeys, showing that the homing instinct in the bird is highly developed. Eaton describes the Norwich Cropper as the “pouting Horseman or English Pirate in miniature.” The Cropper is a hardier bird than the Pouter, not so subject to sour crop, and an easy rearer and fine breeder. Pouters, Croppers, and Pigmies have been used in recent years so much one to blend with the other that there is little in the points of one that is not to be found in the other, the mere distinction being that of colour in the Croppers. In Croppers I have noticed many strains of the Strawberry colour and Duns, which are not so common in Pouters.

The Pigmy Pouter.

Just as there are Bantams in the poultry world, so is the Pigmy the Bantam Pouter. Such a sweet little variety is the Pigmy Pouter that I know of no bird that I would recommend the lady fancier to take up more than this. The Pigmy is the miniature Pouter in very shape and form. I think the Pigmy somewhat more delicate than the Norwich Cropper, but the bird is more gentle. There is nothing prettier, to my thinking, than the pretty little Pigmy, mounted on its block in the show pen, joyfully playing up to passers-by. The same colours predominate as in the Pouters. Clean, straight limbs are very essential, well feathered, and good markings. I once spent a day with Major Hallett and his Pigmies, and a very, very enjoyable day it was. The Pigmy is a kind, elegant little pigeon, and one of the most lovable varieties in the pigeon world.

CHAPTER NINE.

THE FRILL FAMILY.

The Owl.

There is little doubt that the Owl originally came from the East, and although there are two varieties of the Owl classified—that is to say, the Owl proper and the African Owl—in my opinion there is every indication that the families are related in no very remote manner. I can remember, many years ago, when the only classification for the Owl was the Owl proper, but it is in latter days that the other varieties have branched off, and I am now fortunate in being able to include from the pen of Mr. J. L. Burgess a most interesting introduction to the African Owl, which is such a very popular variety at the present time. The beauty of the Owl consists in the shape of the head, the beak, the gullet, and the frill. Of late years there has been a good deal of coarseness in the Owls in the pen, larger birds, not nearly so shapely and stylish in their carriage, having been awarded prizes by judges. The beak of the Owl should be short, thick, and chubby—in fact, a perfect Owl head is really a perfect Turbit head. The beak wattle needs to be smooth and full. The gullet should be a distinctive feature of the Owl, as a good gullet adds very considerably to the charm of the variety. As the frill of the Owl is one of the distinctive features of the bird, it has often been a surprise to me that more attention has not been paid by breeders to this feature instead of to merely the head and beak properties. There is no doubt that the Owl is a most intelligent bird and was used by the Belgians in founding their long-distance strain of racers, for frequently racing pigeons are thrown with a distinct Owl

frill on their breasts and Owl type of head, especially in the Liége strains of birds. Colour stands for a good deal with some judges in the Owls; blue should be a distinct blue, while the powdered blue is not nearly such an attractive bird as either the silver or the yellow. There are classes for any other varieties of Owls besides the ordinary blues and silvers—in fact, I have seen very good Owls in chequers.

As much that applies to the breeding of the African Owl also applies to the English Owl, both in feeding and management, I think that any further reference to this subject can be left to the pen of Mr. Burgess.

The African Owl.—By John L. Burgess.

This is one of the smallest and most charming varieties of pigeons in existence. By some persons, and occasionally in show catalogues, it is termed the Foreign Owl, but this is most misleading, as there are several other varieties of Foreign Owls, including the Oriental Owl and the Chinese Owl.

The African Owl was originally imported from North Africa about 1858, but many years elapsed before they became at all common in England, probably owing to the great difference of climate.

These charming little birds are said to have been largely bred by the Mahomedans, who looked on them as sacred pigeons, and no doubt they brought them from the East to the northern parts of Africa.

Let me at once impress upon my readers that the African Owl is now fully accustomed to our changeable climate, and is by no means delicate. My lofts are situated on the Cotswold Hills about 400 feet above sea-level, and the birds have their liberty in large flights fully exposed to the elements.

Like many of the short-billed varieties of pigeons the African Owl cannot be relied on to feed its own young ones, especially after the soft food is exhausted; the reason, of course, is obvious, as both the parents and the young have such short beaks that it is most difficult for the parent bird to vomit the solid corn into the youngster's short beak.

They will occasionally rear their own young with success, but it is far better to use some other long-billed birds as foster parents, changing the young ones when about three or four days old, or, better still, the eggs as soon as they are laid, but the greatest care must be taken in placing the eggs under birds that have laid within a day or so of the same time, or substituting young ones of the same age.

Personally I find Working Homers, or Magpies, capital foster parents.

The following is a list of the various colours of African Owls: White, Black, Blue, Dun, Lavender, Silver, Red, Yellow, Chequers, and Pies of some of the above various colours.

We now come to the most important matter — the standard of points, and in this subject I have to thank several of the most noted breeders, exhibitors, and judges of African Owls for their kind assistance in helping me to produce the following standard.

Number of Points, 100.

- 20 The head should be round and large, forming a bold and regular arch from front and side view, well filled in between the eyes and the beak.
- 14 The beak, short and stout, the upper mandible showing a downward curve, fitting evenly over the

lower mandible, which should be almost as stout as the upper, and forming a good wide mouth.

In Blacks and Blues the beak should be as black as possible; in Silvers a light horn colour, in Reds, Yellows, and Whites a pale flesh colour.

- 3 Beak wattle fine in texture, small (free from coarseness), and heart-shaped.
- 7 Eye and Eye Cere. Eye large and bolting, well set in the centre of the side of the head. Colour, in Whites, bull or claret. Blues, Reds, and Blacks, a reddish gravel; other colours, a yellowish gravel. Cere, fine and even, nice and pale in colour.
- 7 Gullet, thoroughly well developed, commencing close below the lower mandible and terminating in a frill.
- 3 Neck, cobby and short, nicely tapering from the shoulders to junction with the head.
- 7 Frill, ample, and as well developed as possible.
- 6 Flights and tail, nice and short in flight and tail, with flights carried tightly up over the tail.
- 3 Legs and feet. Legs short, free from feathers under the hocks. Feet small and of a nice red colour.
- 10 Length, as short as possible.
- 6 Shape, compact and robust, broad, prominent chest; rather short.
- 6 Carriage, bold and active.
- 8 Colour. Blues, sound and even throughout, including rump and thighs, with good dark bars on wings. Silvers, soft even shade throughout. Flights and tail, dun bars as dark as possible. Other colours should be as sound and brilliant as possible, except Chequers, which should be evenly chequered on the shoulders and rump, and should the thighs be chequered, all the better.

In conclusion, I would strongly advise any fancier who contemplates taking up African Owls to go in for one colour only at first, and when he has attained a fair standard of excellence in this particular colour he can then try his hand at some other colour if he feels inclined.

If the fancier should happen to live in the country, by all means go in for whites, as the absence of smoke is greatly in favour of their plumage; but if, on the other hand, it falls to his lot to reside in a city where factories predominate, then by all means go in for blacks.

Keep your birds scrupulously clean, give them baths two or three times each week, feed them only on the best small grain, see they have always plenty of grit, and if you start with decent birds you will soon find yourself a prizewinner.

Oriental Frills.

The Oriental Frill is undoubtedly one of the prettiest and most artistic of all pigeons that are penned. I have seen perfect strangers to the pigeon fancy stand in front of the beautiful Orientals and admire them not only for their colour, but for their wonderful markings and lacings, and it has always been a surprise to me that such a beautiful variety as this should be passed over by fanciers for the much more ordinary, plainer, and less attractive pigeons that are frequently so much popularised.

The first introduction to this country of the Oriental Frill was by Mr. H. P. Caridia, a native of Smyrna, about fifty years ago, and it is no doubt from the strains of birds that he introduced that the present-day strains owe their ascendancy. Mr. Caridia contributed some most interesting notes on the subject in Fulton's book of Pigeons, stating that the breed must have been of great antiquity, for he had personally traced it back 120 years,

A GROUP OF ORIENTAL FRILLS.

and the nicety with which the various varieties will breed true to colour and markings proves beyond doubt that Eastern fanciers must have studied the breeding of pigeons with great persistency and patience.

The Oriental Frill variety consists of the Satinette, Brunette, Silverette, Bluette, Sulphurette, Vizor, Turbiteen, Blondinette, and the Domino. The christening of nearly every member of the family was really done by Mr. Ludlow, except in the case of the Domino, which was named by Mr. Yardley.

Bluettes and Silverettes at one time were very plentiful, but in more recent years they have become scarce.

The Bluette in its early days is not to be compared with the latter-day Bluette, which has a white bar edged with black.

The Vizor, which is practically a Satinette with the mask of a Domino, is nearly extinct in this country. It was considered by most fanciers to be merely a sport produced in the making of the Blondinette, crossed with the Satinette.

The Blondinette family is undoubtedly one of the prettiest of the Orientals, the chief beauty of which consists in the evenness of the markings and lacings; likewise the head properties, peak and foot feathering.

The Turbiteen in more recent years has been finer in head than it formerly was, and there is no doubt it has been used a good deal by breeders to improve certain breeds.

The Domino is one of the oldest of the breeds of the Oriental family, and has no doubt been used for crossing to obtain the Turbiteen. As a matter of fact, one seldom sees the Domino shown at the present time, possibly because it has been so frequently used for crossing that it has become almost extinct.

The Oriental Turbiteen has undoubtedly played an important part in improving English Turbits, as the imported birds have been used very extensively in recent years by Turbit breeders.

There is no doubt that Oriental Frills are bred more extensively than is supposed, many keeping them as a hobby on account of their beauty but not exhibiting them, and it is certain that the variety is very, very attractive, and those who take it up will find that the birds breed very true to line, and, moreover, are much hardier than some heavily wattled, big, coarse varieties.

I have to thank Mr. Frank Machin for permission to quote from his excellent address to the members of the Birmingham Columbarian Society for information relative to Orientals.

The Turbit.

Of the short-faced, frill-breasted varieties the Turbit holds a very popular position in the Fancy.

The Turbit has much akin in its nature to the Owl family, and I believe that African Owls have been used extensively for crossing with the Turbit.

The Turbit should be entirely white, with the exception of the wing butts. The wings, including the scapular feathers, should be coloured, but the flight feathers should be white.

One of the difficulties Turbit breeders have to contend with is foul thighs or foul feathers under the vent; then, again, you may breed a particularly good bird, but with uneven flights.

A great fault that is very glaring in the Turbit are bishop wings. Nothing looks so bad, and as one of the principal characteristics of the Turbit is good colour and

markings, a bird that is badly bishoped should be put back accordingly.

The Turbit is found in practically all colours. Reds, blacks, and yellows are the oldest of the strains, but silvers, whites, blues, and other colours have been introduced by more modern breeders.

A really good black Turbit is a most taking pigeon.

In latter years at shows I have seen coarse big Turbits. Personally, I think the type that more nearly approaches the African Owl the most taking, and Lyell expresses that opinion.

The Turbit is recognised as one of the most difficult varieties to breed to the standard, for not only have the skull and head to be got right, but there are the crest and frill, added to which are the difficulties that colour breeding presents to get the correct markings.

The Turbit is a variety in which strain tells above everything. The fancier who starts breeding Turbits should make sure that the ascendancy of the stock he is using is right, for I think it one of the varieties of which it can be said more than any other that blood will tell.

CHAPTER TEN.

SHOW HOMERS, EXHIBITION HOMERS, AND GENUINE FLYING HOMERS.

Under this heading I propose to briefly refer to the Exhibition Homer and to the genuine Flying Homer. Mr. J. Higham has been good enough to contribute some notes on the Show Homer, with an illustration of an ideal bird, which is as near perfection as possible, and as Mr. Higham is one of the most successful and leading

fanciers on the Show Homer I think it very fortunate that I am able to include this article from his pen.

The Exhibition Homer.

This is really a sub-variety of the Show Homer. I remember years ago large classes of the breed at the Crystal Palace, and, speaking to Mr. Crosby, the judge, on the subject, he frankly admitted that the Exhibition Homer was the result of using the Show Homer as a cross with other homing breeds.

As a matter of fact, the Exhibition Homer, in my opinion, is a bird of exactly similar type to the Show Homer of twenty-five years ago.

So far as workmanship is concerned, the Exhibition Flying Homer is a hopeless specimen for flying purposes. The chief points for breeding are hardness of feather, shape, head, eye, and carriage and condition.

The Exhibition Flying Homer has a club standard, and it was contended at one time that it was a thoroughbred worker, but of late this contention has been entirely abandoned. The adoption of this course led to the formation of a new club, "The Genuine Flying Homer Society." I have been to shows where these two varieties were exhibited side by side, and came to the conclusion that it was beating the air to suggest that there was a difference or distinction between the pretensions of the Genuine Flying Homer and the Exhibition Flying Homer. Neither of them has any pretensions to being a genuine racer. So long as the Show Homer is as popular as it is I do not think these offshoots are likely to make much headway.

The Show Homer.—By J. Higham.

This variety is without doubt the most popular of all varieties of pigeons, with its ever-increasing army of

admirers. No doubt on account of its hardy constitution and neat, compact, and handsome appearance when in condition, to maintain which requires little else than good, sound food, clean water and cleanliness inside and out of the aviaries, and with so many enthusiastic admirers, there is always a ready sale for high-class specimens at very remunerative figures, as much as £120 having been paid for a single specimen. This I believe is the highest price ever realised for a single pigeon of any variety, the bird being a black chequer hen bred and sold in 1905 by myself, just after winning first Dairy in that year, and afterwards winning firsts, specials, and challenge cups galore. This is well supplemented by others of the same variety, viz.: the famous "Rufus" also sold by myself for £110, the Cory-Jones champion black chequer cock for 100 guineas, and several others that could be named which have changed hands of late at £100 and over, with quite a list of others very closely approaching these figures, so that your readers will see that beginners, by going in for this variety, are not only going in for a hardy, easy-to-manage variety, but one that can easily be turned into a very lucrative hobby, if tact and judgment are only used in their selection of stock by dealing with experienced fanciers of repute, and not tempted to purchase by the laudable advertisements of catch-penny fanciers, most of whom know little or nothing about the variety and care less about the results afterwards.

The failure of most beginners is in expecting too many for little outlay, no doubt through taking too much notice of the cheap rubbish advertised as fit to win at a few shillings each, which common-sense ought to tell them is impossible, and only ends in disappointment if purchased, and in many cases in leaving the Fancy in disgust through

being gulled, and the consequent waste of time and money, therefore have less in quantity with the same outlay, as quality always tells before quantity on the road to success.

If these hints are adhered to and nothing but reliable stock procured, and care exercised in mating, a beginner can soon expect to be in the fighting line at our many shows, where a good many very valuable specials are offered for this variety.

A few hints as to food, management, etc., may be useful. The aviaries should not be too much enclosed, giving a fair amount of open space, though free from excessive draughts, and well supplied with gravel and grit.

The best food during the breeding season is sound old maple peas, best tares, a little good clean dari, wheat, and small Indian corn. After the breeding season is over give best old tic beans, maples and tares, with an occasional handful of wheat, Indian corn, rice, barley, hemp, and canary seed; a little extra of the two latter during moulting will greatly assist the birds through, not forgetting to allow them a bath every four or five days in summer and every eight or ten days in winter, and give occasionally a little lettuce, watercress, etc.

For strong, healthy youngsters—so essential to success—the breeding stock should not be mated up till the beginning of March, and care should be exercised not to mate together two birds with the same faults or defects, but mate up a pair so that one is extra prominent in the points where the other fails.

The birds should be separated in July to prepare for their moult and the forthcoming winter shows, and the sexes must be kept apart till the following March.

I suppose now a few hints as to the standard points

will be interesting to beginners. The accompanying illustration is the best model of a perfect Show Homer I have seen, and leaves little to be desired for absolute perfection.

The head is first and most important, and should form one unbroken curve from tip of beak to back of skull, the beak to be short and box-shaped, with nice smooth, even wattle, with V-shaped division in centre, the face (i.e., the portion between the beak and the eye) to be broad and full, with nice arched top-skull and good back-skull; the eye to be pretty central between the back-skull and edge of wattle; the colour of the eye must be white or pearl, surrounded by very little cere, which should be black or damson and of fine texture; the throat well cleaned out, neck of medium length, tapering well down on to a broad, thick chest, showing prominent, wide shoulders; body and feather must be short and wedge-shaped, with deep keel and whip tail; colour must be sound throughout, in self colours such as blues, mealies, silvers, etc.; the bars must be well defined and clear, and in chequers the more distinct the chequering the better, which should be well carried out on the rump and underneath; legs of medium length, well set, and carriage pretty upright, feather close-fitting, and condition hard and firm. Then you have a specimen to be proud of and one well worth three figures, as well as a pleasure to look upon.

MR. J. HIGHAM'S BLUE SHOW HOMER.

CHAPTER ELEVEN.

THE TUMBLER FAMILY.

The Short-Faced Tumbler.

My earliest association with pigeons was really as a breeder of performing Tumblers and Tipplers, and the better the birds performed the more delighted those of us who used to breed these varieties felt ; but in recent years the performers which rose in the air and made so many evolutions from a very high altitude as to almost hit the ground in their evolutions are pigeons of bygone days. In fact, Tumblers have been bred out so much for exhibition purposes, as Mr. Williment in his article on the Long-Faced Tumbler points out, that the performing properties have been entirely lost.

Amongst the Short-Faced Tumblers the Almond will always and should of necessity be the chief of the variety. At one time the breeding of Almond Tumblers was really a special art to which many keen fanciers devoted themselves. Fulton in his old edition devotes much space to the variety, the principal features of which are the ground colour of the bird, the shape and fulness of the head and eye, and, as age increases, the quality of the markings as against the undercolour. A really good Almond Tumbler takes four years to show its beauties to perfection, and no doubt it is because the breed requires so much patience on the part of the fancier to wait this length of time that many have given up the breed and taken up other varieties that develop more quickly. Fulton was undoubtedly one of the best authorities on the Short-Faced Tumbler. He was very strong on the subject of

sound yellow ground, for the reason that a bird with a good sound yellow ground in his opinion retained the standard colour in the flights and tail for a much longer time. The hen Almond is hardly so dark in the sheen of the neck, and never as broken and deep in the black splashes as is the cock. Moreover, the ground colour is of a paler tint, the head hardly so strong, and the stop not so pronounced.

In all Short-Faced Tumblers I think one of the chief attractions to the outside fancier who is not an expert of the variety is the carriage of the bird.

There is nothing so ungainly as a Tumbler with bad carriage that stands and sits all of a heap in the pen; no matter how good the stop and head or shape may be, unless it possesses in some degree good carriage properties, it is far from attractive. The eye of a true Tumbler is a white fish eye, and this is characteristic of all Tumbler varieties. One of the chief properties of a good Tumbler is also the legs and feet; in fact, the thighs, legs, and feet of a Tumbler are characteristic of the breed. They are particularly short, small, and well set back, so that the body is thrown forward in a perky manner. This is really one of the chief features of the variety, and adds charm to the breed.

In addition to the Almonds there are Almond Splashes, Red Agates, Yellow Agates, and Kites. These are really sub-varieties, or, I should say, "sports" that have been thrown from time to time by the Almond itself and bred from, but are not nearly so attractive as the true Almond.

More than a century ago a treatise on the Almond Tumbler was published, and Eaton, who published his work later, copied much from this work; in fact, the Almond can be traced back as one of the oldest varieties of the Tumbler known.

Next to the Almond there was a strong fancy for many years for Mottle Tumblers. The colours in these were black, red, yellow, and one occasionally found duns. The great difficulty that breeders of the Mottle have to contend with is the uncertainty of the markings.

I am sorry to say that in my experience in this variety I have seen a good deal of trimming so as to get the desired evenness of rose. Really the only possible way to get true Mottles evenly marked is by breeding to line from birds with a good family history that come of a good stock of evenly-marked birds.

The Mottles, when good specimens are exhibited, are a very taking variety, but difficult to breed true.

The difference between the Short-Faced Tumbler and the Long-Faced is in the shape of the head and skull. The stop is more pronounced in the Short-Faced, and the beak, of course, is more of the goldfinch type. So far as colour and markings are concerned, what applies to one variety applies to the other. It will be seen that Mr. Williment deals with this subject in a very clear manner.

The Long-Faced Tumbler,—By Albert Williment.

One of the most popular varieties and the largest family in Pigeondom is the Long-Faced Tumbler, which originally derived its name from its peculiar acrobatic performances whilst on the wing in mid-air. It is not intended, however, in this article to deal with the class known as Flying Tumblers, but with the present-day exhibition Long-Faced Tumblers, which possess very little or none of the flying propensity of their ancestors, having been bred during the last twenty or thirty years purely for show purposes only.

The variety undoubtedly owes its success and ever-increasing popularity to the fact that it can so easily be

kept and bred. They are free breeders and capital parents; therefore it is needless to be bothered or hampered with a lot of mongrel foster parents, as is necessary with many of our other most beautiful varieties of pigeons, which is a great drawback, particularly to those with limited capital and accommodation. Nothing at all elaborate is required in the way of lofts or houses—just a warm, dry shelter, with a small amount of ordinary care and cleanliness, is all that is wanted in the keeping of the Long-Faced Tumbler; therefore it will readily be seen that the variety is most suited for the beginner to take up with. The breed offers no end of scope, for there are upwards of fifty different distinct colourings and markings in the clean and muffed-legged varieties combined. Great improvements have been made during latter years in the Long-Faced Tumbler, and to-day it ranks amongst the section termed the high-class varieties. Particular advancement has been marked in the clean-legged self colours, both in regard to the perfection to which they are now bred and also the prices which they are commanding. About ten years ago a first-class Self could be purchased for £5, but not so nowadays, for only recently several specimens have changed hands at £20 and £25 each; thus it will be seen that it is well worth a little time and trouble in trying to produce a good specimen. Having now drifted entirely into the clean-legged varieties, I will proceed with this section first, taking for the commencement the self or whole colours, which certainly find more admirers than the rest of the Tumbler family put together. This is undoubtedly accounted for by the fact that they breed so much more true to type and can with far less trouble and experience be sent out for exhibition, thus commending themselves to the novice and the busy business man alike. Nothing

further is really necessary in the exhibiting of a good Self, provided that it has been properly cared for whilst at home in its own loft, than to simply wash its feet and to

CHAMPION 1907 LONG-FACED BLACK SELF TUMBLER COCK
"NONSUCH," BRED BY MR. ALBERT WILLIMENT.

snip off the end of its beak, should the top mandible be overhanging the lower, which is most unsightly. This slight preparation may easily be accomplished by the aid

of a sharp pair of small scissors, or, better still, with a small file. The whole performance will not take more than two or three minutes, and the bird can then be placed into the box or basket and sent off to the show. The standard colours in Selves are black, red, yellow, and white; also blues, silvers, and Chequers, correctly termed the barred variety, may be included under this heading, although of course, strictly speaking, they are not Self colours because of the black bars running across the wings of the former, and the black ticked markings on wings of the Chequers. In all, the first point to consider is "skull," as a Self with a bad head is not worth its salt. The skull should be more oval than round, showing no break or flatness whatsoever, with wide frontage rising sharply from off the beak wattle, extending to a good height on top and directly over the eyes, then more gradually falling away at the back, thus forming what is termed a nice back-skull. The cheeks should be very full, thus giving a chubby fat-faced appearance. Most important is it in the completion of a good head to get the portion of the face between the eyes and opening of beak well filled in, the fuller the better. A bird failing in this point is termed "pinched-in face," and is much to be despised. Many fanciers seem to quite overlook this all-important point; in fact, some do not appear to understand what is meant by "pinched-in face." They seem to think that so long as a large round sweep of skull is shown when looking at a bird from a side view everything is all right; but not so. When judging the skull of a bird always take a look at it from a front elevation as well as a side view, and note that there is no meanness just over the wattles giving a narrow-nosed appearance, nor any hollowness of cheek like an old woman without any teeth. This front view in my mind is the far more

important of the two, for from this aspect you can easily sum up the entire shape of skull. The next item to claim attention is eye, which should be centrally placed in head and as white as crystal. No matter how fine a specimen you have, should it possess a nasty reddish eye it will only be worth a few shillings. Nothing is more attractive to a judge going down a row of pens at a show than a bird with a bold white eye. It is bound to call for attention, particularly when surrounded by a fine threadlike cere, well feathered up all round, and in Blacks and Blues as dark as possible—in fact, absolutely black if it can be produced, which undoubtedly it can be if bred for. Thus we have dealt with head and eye, with which, in conjunction with the next point, beak, we have at least two-thirds of the Tumbler. The beak should be fairly straight set on the skull, not too straight like a match-stick stuck in an apple, close fitting and of fair thickness and not too long, with small neat wattle. Again, great value is deducted from a bird failing in beak. That beautiful, fat, chubby appearance of face as described above is at once lost if finished off with a long thin dove-like beak, which at once gives it a so-called “snipy” look.

Having now, I hope, made it perfectly clear as to what is required in forming the headgear, I will now pass on to the next most essential item in the construction of a typical Tumbler, i.e., body, which should be as short and thick as ever it is possible, prominent, and wide in chest. This, with the addition of a short, closely-folded tail, and nice broad well-tucked up flights about three-eighths of an inch shorter than tail and just resting on tail, simply puts on the finishing touch. A bird with the correct body formation and length of feather should, from the shoulder to end of tail, be just like a wedge, and

almost slip through your hands when handling. The neck should be rather short in length and slightly arched, broad at base, and gradually tapering to the throat. Legs fairly stout to correspond with the rest of the bird, well set and of medium length. Beak and toenails in Blacks and Blues, black; others, flesh-coloured.

A specimen possessing the general shape and make as described cannot be other than sprightly, upright, bold and jaunty in carriage, which is exactly what is required by the standard laid down for the variety. All we now have left to consider is "colour," and I will commence with the Blacks, with which I have been connected for so many years, and which will, I fancy, always find the warmest corner in my favour. These have been rightly termed the aristocrats of the Self colours, and I might now add, I think, of the Long-Faced Tumbler tribe, for they have on more than one occasion secured the premier award for being the best Tumbler in the show, and who could grudge them such an honour, for what is more charming than a deep-coloured Black Self put down in good condition and showing one mass of gorgeous green metallic lustre all over it. Blacks should be dense and solid in colour right through (even the quills and shafts of feathers should be black), and carry a bright green sheen, free from a purple or coppery shading. It is, however, advisable in breeding to occasionally make use of a coppery hackle bird, for they are always the most lustrous and soundest in colour. If you continually match pure green sheen birds together you will find their produce become a greyish black, particularly up the shafts of flight and tail feathers, and unless a cross of some of the coppery hackle stock is resorted to you will soon find yourself breeding bad-coloured Blues and Chequers from your Blacks. Therefore, although the beetle-green sheen

is the correct for the show-pen, don't discard all the copper hackle ones from the breeding lofts. Next I will deal with Reds, which are exceedingly difficult to produce true to colour; in fact, I may say without fear of contradiction that they are the most difficult of all. Reds should be deep and uniform in colour; it is somewhat awkward to explain the exact tint, but the nearest resemblance I can think of is that of a nice ripe chestnut, just burst out from its green shell. Avoid so-called Reds of a liver hue, also those of a light bricky colour, and especially those with plummy-coloured breasts. The colour throughout, including flights and tail, should be of one rich even tone, and possessing a bright golden-coppery sheen, particularly on hackle feathers. Steer clear of green hackle birds, which denote black blood, and mean much trouble in the way of plummy breasts. Some folks advocate crossing Reds with Yellows, which, however, my experience teaches me to be entirely wrong, for such a cross generally produces offspring bricky in colour and washy in tails, also a nasty yellowish tip on ends of flight and secondary feathers, which is considered a very bad fault. My advice is, therefore, to match red to red, always for producing good colour.

In Yellows we find quite a variety of different shades, some too dark and greasy looking, others too pale and powdery. The colour to be aimed for is a rich guinea gold, with hackle feathers showing a delicate pink sheen, perfectly free from any signs of green lustre. Many yellows show a ruddy tinge, which is to be despised. This is the outcome of crossing with reds, and is never to be recommended. Should your yellows be too pale in colour, you will find plenty of material for crossing in the way of dark yellows without resorting at all to reds.

Now we come to Whites, which are not so extensively

kept as the other colours, owing chiefly, I think, to the difficulty of keeping them clean. They are, however, a very pretty variety when properly attended to, and should be a pure white all through, possessing a satin, silvery-like appearance, and the hackle should show a delicate pink lustre. The great failure at present in whites is eye, which either has a tendency to be cloudy and dull or else red and hard. If a nice clear white eye should be got in this colour, it would indeed be a charming pigeon.

Blues and Silvers in the clear-legged varieties are very seldom seen, and a great field is open to anyone taking up these colours. Blues should be bright and clear in colour throughout, including vents, thighs, and rump, tail and wings carrying a broad distinct black bar. The neck hackle should possess a bright green lustre. Silvers must be light and silvery in colour, with clear black bars in tail and wings, showing a pink lustre in hackle; beak and toenails horn colour. This finishes with the Self colours, and I will now pass on to the Mottles and Rosewings, which are to be found in black, red, yellow, and occasionally white with black markings. The general characteristics as described of the Selves are also what are required in Mottles, although very rarely seen. Mottles and Rosewings are usually weak in skull properties and failing in eye cere, which is owing chiefly to breeders paying all their attention to markings. The only exceptions to this which I know of are to be found in a certain strain of yellows and also one of reds, several specimens of which would really make first-class Selves were their markings taken away. This is how it should be, for in my opinion what is first of all required in all denominations of tumblers is the "structural Tumbler." However handsomely a bird may be marked, if it has a bad head-piece or a Magpie's body, it is practically useless. There-

fore my advice to those taking up Mottle breeding is to pay close attention to general points as well as markings. The mottling on the shoulders known as the rose or pinion markings should consist of from twenty to thirty white feathers, evenly distributed and arranged in circular form, covering about half an inch down from the extreme top of shoulder, thus leaving the butts perfectly clear. This is a difficult point to obtain and very rarely seen, the tendency being generally for an excess of white feathers here. The ideal to be aimed at in markings is to produce the rose feathers so small as to only just show their tips, which is termed "pea markings," and each small white feather should be quite separate and distinct from the others; in other words, each white feather should be separated by one or two coloured ones. Mottles ought also to possess an evenly-distributed set of white feathers on the back, commencing at base of neck, and running down the back so as to form the letter "V," usually known as the "handkerchief." Rosewings are entirely without this latter marking, which denotes a Mottle from a Rosewing. The rest of the body should be perfectly free from white, including rump and under the wings. This, however, is very rarely attained in the Black Mottles, but is quite the ordinary run of things in the reds or yellows. Great difficulty is also experienced in blacks by white feathers springing up round the ears and eyes and also just over the nose, which is often the cause for stopping an otherwise good bird from appearing in the show pen. When selecting Black Mottles for stock purposes fight shy of birds possessing much white about head, but don't be so particular about rump and under wings, for if you entirely dispense with all white feathers here you will find that you will lose the rose also. When mating Mottles and Rosewings, select one with plenty of

markings and match up to one deficient in this respect, but possessing good general type. More champions are bred this way than from winning parents. The produce of two winners mated together is usually disappointing. Young blacks in the nest should be grizzled all over wings and back with pure white feathers intermixed where the rose and handkerchief are required. After the first moult all the previously grizzled feathers will come black, and the pure white only will remain white. Don't be in too much of a hurry in forming an opinion on nestlings, as sometimes the pure white feathers will not put in an appearance until the squeaker is four or five weeks old. Often babies at three weeks old will appear to be insufficiently marked, but at six weeks will have a sort of second crop spring up, and finally become good shouldered birds. With reds and yellows the development of the markings is entirely different, the youngsters being quite self-coloured until the first moult, when the white feathers gradually make their appearance, and not until the moult is completed are you sure of what a bird will actually be. Should a red or yellow happen to have any white feathers in the nest or commence showing them before it is three months old, you may safely reckon upon such bird being too gaily marked by the time it has completed its moult; so unless it possesses exceptional good points in some other direction I advise an early test of its qualities under a pie-crust and thus make room for others of more promise. The same remarks apply more or less to Whitesides, which are found in two colours only, i.e., red and yellow. Blacks are practically an unknown quantity, and a fortune awaits anyone who can establish a reliable strain of this colour. As in the case of the red and the yellow Mottles, so also is the White-side a self-coloured bird in the nest, the white feathers

only appearing with the moult, the completion of which should result in a bird with pure solid white wings, including all the secondary flights; but the ten primary flights should be coloured the same as the body. After the moult it will generally be found that at least a few coloured or parti-coloured feathers will remain amongst the white ones, which are subjected to a rather inhumane treatment of plucking. This is usually done whilst the feathers are very young and full of blood in the quill. After two or three extractions of this kind they will usually become white as required. It is to be hoped that this difficulty will soon be overcome by scientific breeding and thus dispense with this cruel operation, which is now undoubtedly the great drawback to the Whitesides.

Next we come to one of the most beautiful and attractive species of the whole Tumbler family, i.e., the Bald-head or Baldpate, more usually termed for brevity's sake "the Bald," the standard colours of which are black, red, yellow, blue, silver, chequer, and the latest introduction, mealy. I consider the Bald comes next to the Self for good all-round Tumbler properties; particularly does this apply to the blacks, in which colour some topping headed and typical bodied birds have been produced. The head of the Bald, as the name denotes, should be perfectly white, the line of demarcation between head and neck being sharply defined and extending from about one-eighth of an inch under the lower mandible, following closely to the eye and gradually and evenly rising to the back of the skull, thus forming a very slight curve. The neck should be coloured, extending also over the breast, where it should terminate in a line cut straight across just in front of legs. The sides of wings are also coloured, including butts and secondary flights. The remainder, including ten primary flights in each

wing, should be white, which is termed as being 10 by 10. Too much importance, however, should not be attached to this point, which is only a minor detail. So long as a bird is not flighted less than 8 by 8 there is no need for any worry. Under is much to be preferred to over flighting. The beak in all Balds should be flesh-coloured and perfectly free from any stains. Some amount of difficulty is experienced in producing a clear white eye, which of course is much desired in any Tumbler. Bull, or clouded, eyes will often occur, and it is advisable to fight shy of stock possessing this failure, as generally the progeny of such birds will also fail in this respect. The coloured portions of a Baldhead ought to be as rich and lustrous as in Selves. Much room is left for improvement, however, in this direction, which is an all-important item, and calls for attention on the part of breeders. Many of the so-called blacks are dull and of a decidedly blue-black tint, covered with a powdery bloom, which is most unsightly. Black feathers should not be at all inclined to any bloom, but should be the deep black of jet and covered with a beautiful bright green sheen appearing one mass of gloss all over.

Reds and yellows are also very weak in colour, many being of a very uneven shade and all failing more or less in soundness of secondary flights and underbreast colour, which is generally found upon examination to be quite grizzly. This, of course, should not be. My advice to improve the colour in Balds is the same as I advocate for Self breeding, viz., keep your colours separate and match the soundest ones you can possibly find together, unless you can get hold of a really good dun, which will prove invaluable for crossing with yellows, and also for improving colour in blacks.

Blues and Chequers on the whole are fairly good re-

garding colour, although sometimes the blues are too dark and beady and the Chequers too heavy and close in chequering. Some excellent skulled birds are to be found in those particular colours, and it is quite a common occurrence to find a blue or Chequer come out on top in a mixed colour class.

THE BEARD.

To a very great extent my remarks upon the Baldhead can also be applied to Beards. The head, eye, colour, and general type should be identical, with the exception that no mealies have yet been seen, so far as I am aware. Therefore it will only be necessary to deal with the

differences between the Beard and the Bald, which consist only of markings and in some colours, beak. The first item to consider is the beard or chuck, from which the bird derives its name. This is composed of a crescent shaped set of white feathers under the beak, which should be small, and not extending beyond the centre of the eyes on either side in semi-circular shape, while the sectional line at the top should run straight from centre of the beak and meeting with the crescent at the point at centre of eyes. The chief difficulty experienced amongst breeders of Beards is in getting the crescent to finish off at a centre of eyes according to standard. The tendency is for it to continue to the back of the eyes, and a good deal of trimming may generally be discerned just at this point.

The primary flights (10 by 10 for preference), tail, and stockings should also be white; the rest of the body should be of sound even colour throughout. Failings in the coloured parts, particularly under breast, are generally to be found just the same as in the Balds, and it is therefore advisable to pay an extra amount of attention to this point when selecting and mating up your stock. With regard to beak, the top mandibles in blacks, blues, silvers, and chequers should be dark and the lower flesh-coloured, whilst in other colours both mandibles should be flesh-coloured and perfectly free from any stains. In breeding Beards never mate two very small, or, as sometimes termed pea-chucked, birds together, or the result will probably be deficiency both of chuck markings and also the white primary flights. On the other hand, two full-chucked birds are unsuitable to be bred together, as here the result would be too much chuck and over-fighting. The best results are usually attained from a small-chucked bird matched to a slightly over-marked bird; the cock for preference should possess the small chuck, although many a

good specimen has been bred from a fully-marked cock and a pea-chucked hen. In all matings don't lose sight of head, eye, shortness of feather, and general body formation, without which, however well a bird may be marked, it will never be a Tumbler.

The last of the clean-legged family to be dealt with is the Almond. It is not my intention, however, to go fully into the details of the many sub-varieties, such as Agates, Kites, Splashes, &c., which play a most important part in the breeding of a standard-coloured Almond. Such particulars may be found under the heading of Short-Faced Tumblers. Sufficient is it to here say that the ground colour should be of a rich yellow, the same tint as found in the inside of the shell of an almond nut, intermixed with a spangling of rich black. The tail and flight feathers should also be of a rich yellow, slashed up with black and white colouring. The beak should be horn-coloured and the remaining points the same as in Sells. Great improvements have been made by breeders of this variety, which chiefly reside in the North of England and in Scotland during latter years, but still some signs are apparent in many of the birds I have seen of the short-faced cross. The majority are also too reddish in eye. Now that there is a specialist club looking entirely after the interests of this beautiful breed, we may expect soon to see the Long-Faced Almond up to the standard of the rest of the clean legs.

We now come to the muffed-legged family, which for some reason or other have nowhere near so many admirers except in and around Birmingham and also parts of America. The chief reason for their lack of popularity is, I think, owing to the fact that they are more difficult to keep in show trim than the clean-legs. The Muffed Tumbler is found in exactly the same colourings and

markings as the clear-legs, with exception of Baldheads. They also have two additional varieties, i.e., saddles and badges. The general characteristics, such as head, eye, beak, body, and all-round cobbiness, should be precisely as laid down for the clean-legged varieties, although such is very rarely the case. The general run of Muffed Tumblers are much too long and thin in face, and many are too big and clumsy in body. The only real difference which should exist is that the legs and feet should be profusely feathered, the hock feather points being just clear of the ground, whilst the foot feathering should be long, thick, and compact, turned well backward, the extremities being pointed slightly upward, and the toes to be free from long, straggling, spiky feathers protruding in front of the bird.

As before said, the muffed species have two additional varieties, which I will proceed to describe. Badges and saddles should have a moderately broad white streak, known as the "blaze," running up the front of the skull, a small white tip or dot over each eye, a white crescent known as the "chuck" running under the beak and extending just beyond each eye; running partly through this from each side of the mouth there should be a patch of pear-shaped coloured feathers, called the whiskers. In badges the rest of the body must be self-coloured except the ten primary flights, and the muffs below the hock joint, which should be white. According to standard, the tail in reds and yellows should also be white, but why the difference in these two particular colours I fail to understand. It may be that the coloured tail is more difficult to produce in the softer colours, but surely this does not justify a hard and fast standard being laid down saying that the tail shall be white. Far better were it to read that either colour was permissible. In saddles

the neck and chest should be coloured to a point just below the breast-bone, the cut running in a horizontal line from shoulder to shoulder. The saddle should be V-shaped and clearly defined, extending from the top of each shoulder to the rump, just the same as the markings of a Magpie. All the rest of the bird should be white, with the exception of tail, for which there is a separate standard laid down, the same as with badges, i.e., the blacks, blues, and chequers to have a coloured tail with a white band running across the rump, and the reds and yellows to carry a whole white tail. A great deal of discussion has recently taken place in Birmingham concerning this, which has arisen over a certain yellow which is being exhibited possessing a sound yellow tail, and has been awarded premier honours by two of the leading judges of Muffed Tumblers, and it is to be hoped that the result may mean an alteration in the reading of the standard.

The Magpie, which has the same markings as the Saddle Tumbler, has to have a coloured tail, be it red, yellow, black, or blue; then why not so with the Tumbler? At any rate a coloured tail, which to my mind is preferable, should certainly be recognised by the standard of excellence.

In making a few observations in conclusion upon the general management of a Long-Faced Tumbler, I would strongly advise anyone about to take up with the variety to construct their buildings so that the birds which are to be accommodated therein may get a plentiful supply of fresh air, for such is absolutely essential if you desire to keep them fit and in show form. With the dark-cered varieties, light is also necessary if the dark, fine, thread-like cere which we all so much admire is to be maintained. In fact, with such varieties as clean-legged Black

Mottles, Black and Blue Beards, Blue-bars, and particular Black Selves, it will be found a great advantage to have an entirely open flight of wire mesh for the birds to be turned into during fine weather. Nothing is better for darkening the cere than the rays of the sun, whilst no serious damage will result to the plumage of these particular colours except during moulting time, when it is not advisable to allow too much sun to play on the new feathers during their growth. Quite the contrary is the case with the softer-coloured birds, i.e., reds, yellows, duns, &c., also all colours of Baldheads, to which direct sunlight is simply suicidal. It will bleach the colour, stain the flesh-coloured beaks, and turn the ceres to a nasty pinky tint, which is considered a very bad fault. Nothing looks worse than, say, a Yellow Self, or a Black Bald, with pink ceres. It would make an otherwise champion look almost a waster. Therefore if it is those varieties you are bent upon keeping, see that your lofts are constructed so as to permit of as much fresh air entering as you can get, but at the same time as little bright light as possible. For all clear-legged varieties I recommend sand for a floor covering, which it will be found keeps the birds by far the most healthy and tight in feather. The birds themselves also prefer it, as they enjoy to pick about amongst it, and, with a little of one of the well-known grits now upon the market occasionally mixed in with it, will keep them busily employed for hours. With the muff-legged varieties sanded floors are almost impossible, unless the loft be exceptionally dry, for should there be the slightest dampness the foot feathers will soon be damaged; therefore for the feather-legged birds I advise a good thick layer of sawdust on the floors, which must be kept scrupulously clean. This can easily be done if a few minutes are devoted regularly

every morning in picking up all the droppings. The handiest little article that I have found for this job is a small hand cinder sieve, which can be purchased from any ironmongery shop at the small cost of 6d. It is in the shape of a shovel, with a wire handle, and mesh of a quarter of an inch, which will permit the sawdust to quickly run through and retain the droppings only. The latter can be thrown into a bucket and at once taken out of the loft. The next item to consider is perches, and after testing all sorts I have come to the conclusion that the bracket pattern is the best for both clean and muffed legs. These are to be bought from most of the pigeon appliance makers, and consist of an iron bracket, which is screwed on the side of the loft and surmounted by a round piece of wood for the bird to stand on. See that you get a good long bracket so as to project about twelve inches from the wall, thus enabling the bird to easily turn round without scraping its flights and tail against the wall. The only drawback to the bracket perch is that they require a lot of wall space, as they cannot be placed one under another for fear of the top bird soiling on the underneath one. If loft accommodation is limited and a lot of birds are being kept, which necessitates having more than one tier of perches, then I recommend those known as the box-perch. These can easily be made at home by simply running a shelf along the back of the loft and dividing it up in equal distances of about twelve inches apart, with wooden partitions, thus forming like a set of small boxes. A second or third shelf can be fixed underneath and divided in the same way. With this arrangement the top birds cannot soil those underneath, whilst a large quantity of birds can be accommodated in a small space, although this is not advisable for any length of time, as nothing is more likely to cause disease amongst the stock than over-

crowding. Having got your perches arranged, the only other additional fitting required in a loft is nesting quarters during the breeding season, which should commence about the end of February and terminate by the end of July or early August at the very latest, thus giving both the young and old stock good time for getting through the moult in readiness for the shows to come, which commence in earnest about October. For clear-legged varieties I prefer the nests to be off the ground, and so do the birds themselves. The simplest and best arrangement is the system of shelves fitted along one side or end of the loft, which should be about twelve inches wide and divided by partitions at about the distance of thirty inches apart. Another good plan which amounts to practically the same thing is to fix up a quantity of Tate sugar boxes side by side and one over the other. You then place an earthenware eight-inch nest pan in one corner, containing a little sawdust or finely-cut chaff, and everything is in readiness for a start at breeding. Nothing further is needed until after the first pair of youngsters have hatched and duly attained the age of about ten days, when it will be necessary to provide a second nest pan for the old birds to go to nest again in. This has caused a great deal of anxiety with many fanciers to know how to arrange this second nest so that the first youngsters are unable to trespass therein. This they are very fond of doing should the opportunity be given to them, and the consequences generally mean "broken eggs." To avoid this I have adopted a plan for several years past which has proved most successful. It is this: surmount the second pan in the opposite corner of the nesting box on top of a small stool or box. I use little stools, which can easily and cheaply be made by anyone a bit handy with tools. The height of stool should be six inches from the

ground, and the dimensions of the table top on which the nest pan has to rest should be eleven inches by nine inches. Thus it will be seen that an eight-inch pan will easily stand secure on same and leave room for the old birds to jump on the stool first before actually entering the pan. With this little contrivance the young birds from the first nest cannot interfere with or worry their parents at all whilst they are sitting on the second batch of eggs. By the time the second pair of youngsters are hatching out the first pair will of course be doing for themselves, and should then be removed into another loft all on their own. When the second pair of squabs are about ten days old and you go in to place the conference rings upon their legs, just remove the stool to the opposite end of the nest box with a clean pan of fresh sawdust upon it ready for the third nest, placing the pan containing the ten days old babies on the floor of the nesting box. If this little change is made at night time very little disturbance need be caused to the old hen sitting upon the youngsters, and very little or no notice will be taken of it. The same routine is then gone through with the third and fourth nests, which should be the limit number for one season.

With the muffed legged varieties the stool system could also be adopted, but the nesting boxes are best arranged upon the floor of the loft. Feed regularly and always upon the best grain that money can buy ; it is the best and cheapest in the long run. During the winter months one meal a day is sufficient, and that given first thing in the morning, consisting of two-parts Maple Peas and one-part tares, with an occasional addition of a little hemp and canary seed just as a tit-bit, which the birds will much appreciate. Whilst breeding season is in progress, two or three meals a day should be given, morning and evening, and if possible at mid-day, and should consist of

above-mentioned grains with addition of a little plump wheat and small maize for the evening meal. The occasional handful of hemp and canary seed will also prove very beneficial during breeding time, and will encourage old birds to pump out their youngsters until their little crops look as though they would burst. This is just what is wanted. A young Tumbler whilst in the nest should always have a full crop, otherwise it will be stunted in growth and never mature into a good, bold-bodied specimen. During the summer months be sure to give a plentiful supply of grit, and also some green-meat about twice a week in the form of lettuce or cabbage leaves.

Long-faced Tumblers are, as a rule, subject to very little illness, and if the above advice is carried out I think such troubles will be practically nil.

CHAPTER TWELVE.

VARIETIES ALPHABETICALLY ARRANGED.

The Archangel.

The introduction of this very beautiful pigeon into England dates back to the year 1839. Mr. Tegetmeier fixes it at this year and attributes the importation to Mr. Frank Redmond on behalf of Sir John Sebright, and it was upon the death of Sir John that the best part of the strain was acquired by the Earl of Derby, the founder of the Knowsley breed. Mr. O. E. Cresswell's very beautiful specimens of the variety are reported to have descended from this particular blood.

The Archangel is really one of the most beautiful pigeons, but its beauty cannot be understood in a true

TOP ROW : THE SCANDAROON. THE TRUMPETER.
BOTTOM ROW : ARCHANGEL. MODENA. SWALLOW.

sense without a close acquaintance with it. The head is somewhat typical of the blue rock, except that the beak is straighter and not so curved. The peak at the back of the head is typical of the variety. The neck of the Archangel should not be long, but set firmly on the shoulders. The body should be slender and not stunted or rounded after the Tumbler variety, although there is no doubt that the Tumbler has been used at times to endeavour to improve the depth of colour in the Archangel, but the use of any variety with this object must have tended to diminish the beautiful bronzing of the neck and breast which is characteristic of the variety. A short thick neck is just as bad a quality in the Archangel as a long, tapering swanlike one.

The thighs and legs of the Archangel should be clean and neat, not squatty nor thick-set; the wings neither too long nor too short, but just resting nicely over the tail without crossing. The back of the Archangel, in a typical specimen, is nicely hollowed out, firm, and not as some describe the defect, "bible-backed," that is to say, humpy across the back, which in nearly all varieties shows weakness.

It is difficult in a work of this description to do more than comment on the varieties in a brief manner.

It is in the lustre and sheen of the neck, which is of a beautiful bronze and has such a lovely effect when the birds are flying in the sunshine, that the Archangel has qualities all its own.

The Archangel is not a delicate variety, and it has many keen enthusiasts.

It is a variety that would give pleasure to those who take it up and have the patience to study it, for although so apparently a simple variety it is undoubtedly one of the most difficult to breed in anything like perfection and

to get that beautiful lustre and bronzing to which so much of its beauty is attributable.

Cumulets.

During the past few years a breed that has been taken up with considerable keenness by exhibitors is the Cumulet. There is no doubt that the homing pigeon owes some part of its intelligence and high flying properties to the old Volant or Cumulet. Both Fulton and Belgian authorities give the Cumulet credit for having been used in producing the Homer.

The Cumulet is really a pigeon that stands alone. It is a very high-flying bird, and, like the Tippler, performs well, and will work well on the wing if bred for flying; but in recent years, owing to the classes at exhibitions, they have been bred really for exhibition purposes and type. Cumulets are white and chuck, with a nice-shaped head and good carriage in the pen. There is a Cumulet Club, which has a standard, and good classifications are provided for them at most shows, although I do not think the Cumulet will ever have as many votaries as such breeds as the Magpie, Show Homers, or others that are easy to produce; still, the Cumulet is a hardy, healthy pigeon, and there is no reason why fanciers living in the country, where they can keep their birds perfectly clean, should not derive much pleasure from breeding the variety.

The Copper Wing Blaze Face.

This pigeon somewhat resembles in type the White Spot, with the exception that the Blaze Face has only the white patch on the front of the head, and white tail. The Copper Wing is not found with white wing bars. The head, neck, and breast are very lustrous in

appearance, and the back of the wing coverts or shoulders are of a burnished copper colour, from which the bird takes its name.

Fantails.

At one time the Fantail was known as the Broad-tailed Shaker, and its history can be traced back for many years. The Fantail is a very popular variety, but it requires a considerable amount of time to attend to its breeding and preparation for the show pen. I am well aware that most Fantail breeders contend that the tails of their birds are not made, but when occasionally I have paid a surprise visit to fanciers' lofts I have found the tails of the birds nicely attached to cardboard "shapes," so as to keep them erect and obtain carriage. During the breeding season it is necessary to cut off the tails of the birds so that they can breed more freely. The Fantail is not a good rearer of its young, and it is best to place the eggs under foster parents. Many Fantails that I have seen penned in recent years have been coarse in the head, and have not possessed that elegant carriage and motion which is so characteristic of the breed.

At one time white was the predominant colour, but in latter years blacks, reds, and other colours have been introduced with very considerable success.

I am aware that it is contended that Fantails are a very healthy, hardy breed of pigeons, but the very nature of their plumage and the fact that they have been inbred to a marked extent, and that there are few other breeds that can be used to obtain a strengthening cross, have had their effect.

The tail is, of course, one of the chief characteristics of the breed, and a considerable number of points are given to it in the Standard, likewise to the shape of the

body, carriage, and motion, which are true Fantail properties.

A very popular variety of the Fantail at one time was the Saddle Back, but these have not been so common in recent years, since the breeding of self colours, such as blacks and reds, has been taken up more zealously.

As a fancy for ladies the Fantail is a breed that must and should afford a considerable amount of pleasure, as the motion of the birds and the carriage of their tails are very attractive.

The Jacobin.

This variety is undoubtedly one of the most taking of the Fancy varieties, and although the other varieties of pigeons may be very attractive, still a well-proportioned Jacobin, with a good hood, mane and chain, head nicely poised, and the feather and size of the bird well-proportioned to the points referred to, is most attractive in the show pen.

The Jacobin is not a large bird, but at the same time, during recent years, there has been a slight increase in the length of the feather. Still, I like to look back on the old Jacobin type, when the small, neat Jacobin could win in the pen, of course with sufficient length of feather to develop the hood, mane, and chain features. One of the most difficult points to breed in a Jacobin is really a good covered hood, coming nicely over the back of the head. The chain is also another feature; in fact, it is in this respect that the Jacobin stands alone, for I do not know of any other variety with the same peculiar hood, mane, and chain. From the centre of the feathers that form the hood, mane, and chain one finds something akin to a rose, from which the feathers seem spread, and this, being of an even character, adds much to the beauty of

the bird. The head of the Jacobin is quite a feature of its own. The eye in the standard variety is usually pearl or white. The carriage of the bird should be upright and showy, with the head slightly thrown back. The hood is one of the chief features of the variety, and should be long, reaching forward to the front of the skull, thick, even at the edges, fitting almost close to the head, and well built up behind. Twenty points are given in the Standard for this feature, and fifteen for the chain, which should be long and full, covering well over the beak and eyes, lying flat to the cheeks, meeting perfectly and regularly from the beak as far down as possible, even on both sides. The mane must be of an arch shape, springing back in an even line and forming a junction with the hood. The Jacobin is a fairly hardy variety. In colours the most attractive are the red, black, and white, but yellows are also popular. As to markings, so much consideration has not been paid to these as one would like to see, because I think that the markings of the Jacobin, if correct, add so much to the beauty—the light rose against the dark mane and chain and the white head well set between the darker colours give the bird a most attractive appearance. The tail, rump, and flights should be white against the dark colour in blacks and reds, but of course in whites the colour is pure throughout. In the other coloured birds, the colour should match the shoulders under the breast, thighs, and hocks, whilst the flights, tail, and rump should be white. Many of the reds and yellows are somewhat pale in colour owing to being crossed together, but the blacks are a very favourite colour and most taking, as the black shows so clearly against the white underneath the back and flights. The strawberry is not very popular, because, like other “splashes,” it is no doubt a “sport,”

when the breeder has been trying to obtain either reds or yellows. The best judges place colour at its true value, and if other points are equal always give preference to the birds that are a good sound colour and have regular markings. In view of the fact that a good deal of the Jacobin consists of white it is not a bird that can be kept in the best of condition in a town loft where the surroundings are of a smoky nature. The Jacobin is a bird that must not be sent and trotted round to too many shows, because the abundance of feather, mane, and chain will not stand the wear and tear in the baskets and in the pen like some of the plainer varieties. The Jacobin is a popular variety, and is well provided with classes at shows as a rule, and has a fair number of votaries. It is in view of the many distinctive characteristics of the Jacobin that it is not an easy bird to breed, but at the same time it is a very attractive variety.

The Latz Pigeon.

This is a most taking bird in appearance. The head is covered from the rear with quite a mass of feathers, all of a somewhat frizzled appearance, like one finds in the Ice pigeon, but the head, neck, and breast are of a dark colour against the white of the background. The thighs should match the back and upper colour. The birds are feather-legged, like the Oriental varieties. I have never seen a black variety of this pigeon, but they appear to be scarcer at shows than heretofore, and judges hardly ever put them in the money or in any other variety classes, and possibly this is the reason for their gradually dying out.

The Magpie.—By F. Warner.

The twenty-three years which I have devoted to Magpies in my spare hours by no means establish a

record of faithfulness to the breed. To the young fancier about to take up fancy pigeons for the first time a sufficient number of anxious questions as to housing, food, and management generally present themselves, making it inadvisable that he should add to them by taking up a breed with a natural tendency to disease and a hundred other complications sufficient to break the heart of an old and experienced fancier. Here the Magpie steps in like a bright little fairy, healthy and hardy by nature, sprightly and cheerful, free from those appendages and growths which render some breeds very liable to disease.

The Magpie is essentially a bird of type, type of head and body as well—type before everything. I will take the head first. It must be thin and fine, narrow between the eyes, the face must be long (but not weak) between the eyes and the beak, but well filled up; nothing is uglier than a weak, pinched-in face in front of the eye. There should be no sharp rise of the head from the beak, but a graceful, continuous curve from the tip of the beak right over the head; nothing abrupt, sharp, or angular anywhere. Looked at sideways, a Magpie should have what is called a straight face—that is to say, the line of division between the mandibles should be straight and in a line with the centre of the eye. What is known as a down-faced Magpie is one that has a slight curvature of the face and beak downwards; “Scandaroony” I would term it. Another fault, only of quite a different character, is the “Roman nose” type of head; it gives a bird rather a “Homer” appearance. I do not like it in the show pen, but I have found such a bird of great use for breeding purposes. It is invaluable to counteract the tendency of the modern long-faced Magpie to become “weedy” or “snipy” faced. The term “fine in beak” sounds pretty on paper, but a Magpie can easily

be too fine in beak and yet altogether out of proportion to the head. "A lucifer match stuck in a potato" I once heard a *very fine* beaked bird called, and a very apt description of its head it was. Like the "Scandaroon" type, both are very ugly, useless to breed from, and the sooner the piecrust closes over them the better. The beak should be straight and fairly even in substance throughout; not wedge-shaped, i.e., very broad at the base and fine at the point, like a sparrow's. It should not have a hard, dry, horny appearance, but should be delicate in texture and of a clear flesh or delicate salmon tone. The beak should be clean in all colours, even in blacks and blues, although in these two colours the Standard permits of a slight stain on upper mandible—a wise proviso, which proves with what care and judgment the Standard was compiled. The clean salmon beak is, of course, the prettier, but I have found that birds very sound and rich in colour are mostly stained on beak, and I have also found that clean-beaked blacks, if persistently bred together, lose in a generation or two the jet-black colour, and become brown in tone, bronzy on neck, and throw among their youngsters birds of a pinky, dunnish tone, which are, of course, useless. The eye of a Magpie should be white, with a black pupil; the cere should be fine and of a bright coral colour; the feathering round the eyes should be close up to the cere, leaving no gaps or bare spaces.

I now come to type of body, which includes size, shape, and carriage—most important points which do not receive from all fanciers the attention they deserve. Often I hear a bird described as "perfect," only to find on inspection that it is "duck-bodied"—that is to say, devoid of all those fine, racy body qualities which are so characteristic of a typical Magpie. The neck should be long, finest

at junction with head, not broadening out immediately into bell-shape, but retaining its fineness in appearance, joining the shoulders with graceful curves. The body should be fine, narrow, rather rounded at chest, and carried well up on a pair of fine legs; "gamy" about the thighs rather than "Cochiny," but not unproportionately stilty. The whole appearance of a Magpie should be one of grace, elegance, and true proportion; nothing exaggerated, nothing coarse, but absolutely "ladylike." A Magpie should be tight in feather, the tail closely folded, and carried clear of the ground, but not cocked up, flights resting neatly on the tail, about half-an-inch from the end. Some Magpies are very long in flights and tail—a fault most noticeable in the show-pen, as a bird afflicted in this way seems always in trouble, and can never move round without getting mixed up with the sides of the pen.

Next to type, the Magpie is noted for its wonderful colour—black, red, yellow, blue, silver, cream, and dun, all lovely, but black the favourite, partly because of the charming contrast of the black with the white plumage, and partly, perhaps chiefly, because the blacks are nearer in type to the ideal Magpie than any of the other colours. Blacks must be black, not brown-black or grey-black, but jet-black, with iridescent sheen on every feather from head to tail. Reds should be a deep rich blood-red, not dunnish, nor purple, nor flat in tone, nor yet coppery on the neck. The colour should be of one rich even colour throughout, as sound on rump as on the top of the head. This applies to all colours. Yellows vary very much in colour. Some are very deep and buff in colour; some dark, with a flat or dirty tone; others of a clear pale tone. Sometimes one sees the rich, clear, guinea-gold yellow, which makes all the other birds in the class look anything

MR. F. WARNER'S IDEAL BLUE MAGPIE.

but yellow, and that is the shade of yellow, I contend, is the right one. It may be difficult to get, but it is *yellow*. In the same way the blues should be blue; the bluer the better—not pale and silvery, nor yet dark and slaty, but as blue as blue can be. Blues should have black tail bars, and silvers as well. The latter colour should be as clear as a bell, free from a rusty or creamy tone, with plenty of blue neck lustre. Duns must not be bad blacks, or slate or fawn in colour, but a good rich warm tone, like a good-coloured dun Carrier.

Into the question of markings I shall not enter. Those who know about them do not want to be told, and to those who are beginners and wish to know, I cannot do better than advise them to study carefully the charming picture accompanying these notes, or to write to the hon. secretary of the Magpie Club (Mr. William C. Lamb, Cedar House, Hampton Wick) for an official copy of the Magpie standard, and they will start with advantages such as no previous generation of Magpie fanciers ever possessed.

In conclusion, let me advise Magpie fanciers not to go mad on any one point, but to give to every point its proportionate value, according to the Standard. One-point crazes ruin breeds, whether Magpies or any other.

The Modena.

Although in this country the Modena or Triganica is merely looked upon as a show variety, still it should almost be under the sporting varieties, because I think it is much more than merely a show bird. I believe that the Triganica is really the true homing pigeon of Modena. In the history of this bird one finds descriptive accounts given of the owners keeping the birds on the roofs of the houses, and guiding their flight by the use of flags,

which the birds seemed to follow in the air. Lyall speaks of this; but in my opinion this method of flagging was not merely adopted in order to make the birds work in particular circuits in the air, but to force the birds to take exercise and condition them for racing. In all English books on pigeons the Modena is spoken of as a show bird. I obtained several of these birds on purpose to try their flying properties at home, and found that they were very good workers on the wing, but I did not have an opportunity of either trying their racing properties or as a cross.

The Modena is a peculiarly marked bird, with a coloured head and dark shoulders, and flights to match a white body. The Modenese used their birds, no doubt, for stray-catching to a very considerable extent, and Lyall describes the different terms used. There are numerous colours, but black is the most popular variety, although there are grizzles, blue and white grizzles, and birds with odd-coloured wings have been found to exist.

The true Modena is the shape of a flyer, and if ever it should become popular, alertness and sprightliness should be amongst its characteristics.

The Nun.—By James Y. Baldwin.

The Nun is one of the prettiest of all the varieties of pigeons, the beautiful contrast in the markings partly accounting for this. Unlike some of the other pretty varieties, they require very little attention, being very hardy, and rearing their young without any assistance. It is one of the oldest varieties known. Moore mentions it in his book, one hundred years ago, when the markings were the same as they are to-day. They are found in the following colours: black, red, yellow, dun, and blue. The blacks are very good, some of the duns also being

BLACK NUN. PROPERTY OF MR. J. T. BALDWIN.

near to Standard. Next come the reds and yellows, but they are a long way behind, there being very few good ones about, and none to come near the blacks and duns. Of blues not much can be said at present, as these are still entirely a novelty. There are probably not more than a dozen clear-coloured blues in the country. However, two or three of the leading fanciers are going for this colour, so they may come to the front. About 1905 the Nun had got to a very low ebb, but with the advent of the British Nun Club in 1907 things have become quite different, and at the present time the variety is probably in a sounder state than it has ever been before. As will be seen from the Standard points, the shell (which is the crescent of white feathers at the back of the head), the bib (which is the globular marking descending on to the crop), and the markings, are the chief points to breed for.

The Priest.

There are several varieties of the Priest. In colour there are blues, yellows, reds, and blacks, but blue is the colour most conspicuously seen at shows, although the Priest is a rare variety. The Priest is a bird that is somewhat plump in appearance and full-breasted. It has a shell crest, the feathers rising at the back of the neck. The crest and upper mandible are white, like the Orientals, from which no doubt it is descended. It is feather-legged and feather-footed. In some the feathers on the legs are white, as against the dark colour of the body feathers. Lyall describes the Priest as the Pfaffentaube of Germany, whilst Fulton states that there are four recognised kinds of the Priest.

The Runt.

No work on pigeons would be complete without a reference to the Runt. The chief feature of the Runt is its

extraordinary size, as it is an enormous giant Blue Rock both in shape, style, and head, with an immense length of feather. In fact, I have seen Runts almost as large as fowls. The birds are very strong and pugnacious, and therefore must be kept separate from other pigeons if a fancier keeps more than one variety. The chief point in connection with the bird in the show pen is the size, and in order to obtain this with anything like perfection single young ones should be reared. Many varieties have been credited with Runt crosses, but I am not so sure that the Runt has been used as frequently as stated. I remember seeing some years ago some very powerful Antwerps almost as big as Runts, and it was surprising the enormous size to which Wegge, a Belgian fancier, bred his racing pigeons in Belgium—a little larger and they would have been almost typical Runts—but there was certainly no Runt cross used, and I have never heard of the Runt being used for crossing with the racer.

The Swallow.

In Belgium and France this pigeon is known as the *Hirondelle*.

It is a very pretty variety, the chief features of which are colour and markings. The ground-colour, back and breast, must be white, while the crown of the head, wings, and flights are coloured. The birds breed fairly true to colour, but, like all muff-footed varieties, want to live in the country, where the foot-feathering can be kept clean naturally, for there is nothing so unsightly as matted or dirty feathers round the feet and legs. The thighs must be clean and white, whilst the lower parts must match the wing-colour. The beak is of the spindle shape of the common pigeon. The eye is hazel. There are plain-

BLACK NUN HEN. WINNER OF FIRST AND SPOON
AT CLUB SHOW AT YORK. 1908.
PROPERTY OF MR. J. T. BALDWIN.

headed Swallows as well as those with hoods, but the shell or hood adds a charm to the bird.

The Scandaroon.

The Scandaroon, I think, must be described as a very ugly pigeon, but at the same time there is something peculiarly attractive about its ugliness. The head of a Scandaroon is long, arched, and downfaced. It is a large-sized pigeon, somewhat after the carriage and size of a Carrier, and I must confess many Scandaroons that I have seen have reminded me, except for the abundance of wattle, somewhat of the strains of gay pied racing Homers met with. Birds showing quite the markings and colour of a Scandaroon are often to be seen in the homing pigeon fancy. The Scandaroon has the credit of having been used in making the heads of show Homers, Antwerps, and other varieties; but I am doubtful whether there is as much truth in this as is contended, for the reason that the colour of the cere and peculiar markings of the Scandaroon would be difficult to breed out. The head is the chief peculiarity of the breed, and should measure two inches at least from the centre of the eye to the tip of the beak. This variety has never been taken up with any zest by fanciers, no doubt due to its ugliness. The Reds, Yellows, Blacks, Blues, and Silvers, or parti-coloured birds are the greatest favourites.

The Scandaroon is believed to be of Persian origin. They are strong, hardy birds, and will breed well in confinement or if allowed plenty of freedom, and owing to their parti-colour markings a kit on the wing looks well.

The Swiss Pigeon.

The Swiss pigeon is one of peculiar markings and type. The head carries the characteristics of the ordinary

common pigeon, but the breast, instead of being light, with a light patch like the Suabian, is somewhat dark against a lighter colour. I have only seen the Swiss pigeon in the peculiar colour of its own, which is a silver tint, with black bars and feather legs. The ground-colour in all the varieties should be of a satiny white tint shaded off a mealy or dun. The wing-bars are to be found in red, similar to the breast markings, and the breast crescent should show plenty of lustre and be of a distinct moon shape, which adds to the beauty of the bird. It will be seen from the illustration that the Swiss pigeon is heavily feathered in the leg and feet.

The Suabian.

The Suabian pigeon is very much after the Starling family in appearance, except that it is lighter in colour and the markings are perhaps more distinctive. The head of the Suabian is of a somewhat similar appearance to the head of the Archangel, with the tuft; but the Suabian has a distinctive mark on the breast. It is small like the Starling, but a perfectly marked specimen is certainly a very attractive pigeon. Messrs. Boitard and Corbie call it *Le Pigeon Coquille de Souabe*. It is not such a hardy breeder as the ordinary Starling, and, as a rule, the birds exhibited are plain-legged, but occasionally one finds them with feathered legs.

The Spot.

The Spot is one of the feather-legged or muffed varieties, and is a most peculiarly marked pigeon. Both *Perre de Roo*, Boitard and Corbie, refer to the variety as having a white tail and a spot on the head, in addition to the white marking and the bars. As a rule, the white spot pigeon is referred to in England as the "Blaze

TOP ROW : THE LATZ, THE PRIEST.

BOTTOM ROW : THE SPOT, SUABIAN, SWISS AND
BLAZÉ FACE.

Face." The commonest colour is in blacks, but they are found in whites, reds, and yellows, with a considerable amount of bloom and sheen round the neck.

Show Tipplers.

I have to thank Mr. J. Colgrove, a most enthusiastic breeder and successful fancier of this variety, for the following article on the subject :

The Show Tippler has been made by careful selection and crossing from the old Flying Tippler, and the well-balanced standard of shape first laid down has kept out any of the exaggeration of shape seen in several varieties. It is a well-balanced bird in every respect, a free breeder, a good feeder, and very hardy ; in fact, it will live and keep in show condition in surroundings that would kill many varieties.

There are four sub-varieties, the Light Mottle, the Dark Mottle, the Self, and the Chuck or Light. They all have several points similar in all four varieties, viz., shape, which is very similar to the Long-faced Tumbler, but they should be smaller, shorter in feather, broader in chest, and not quite so large in head, black beak, white eye, finished off with a fine dark cere. The colour now sought after is a bright chestnut-brown, especially on rump and tail. The ten primary flights must be a sound brown tipped with black. The tail also must carry a black bar. Good colour is one of the most difficult points to obtain and also to retain.

Light Mottles are the most numerous in the show pen. They should be evenly mottled with brown feather on a white ground, say two white feathers to one brown. The body, head, and wings should be mottled with the exception of rump and tail, which should be brown. The flights and secondaries should be sound brown, so that

when closed they form what is termed by fanciers one sound bar. This sound bar on a bird carrying a mottled head and underneath mottling is very hard to breed.

LIGHT MOTTL TITPLER ("WORRY"), CHALLENGE CUP
PALACE, SPECIALS HANLEY, MANCHESTER, AND
LOUGHBOROUGH, 1907, FIRST BIRKENHEAD
AND MANCHESTER, 1908. BRED AND
EXHIBITED BY JOSEPH COLGROVE.

The Dark Mottle is a bird with mottled wings on a sound body. The head, breast, underneath, and thighs should be one nice uniform brown. The wings should be

evenly mottled on a dark brown ground from butts to what is termed the second bar, which is the next row of feathers to flights and secondaries. These should be a good, sound chestnut-brown. To get this bar sound, with plenty of markings on wings and a sound under-body colour and no white over nose, will give plenty of scope for the breeders' art.

The Self bids fair to become the most popular variety. At present they are too large. It should be one even chestnut-brown from head to bar on tail, sound underneath, and carry the whitest of eyes with a very black beak and fine black cere, not having the markings of the other varieties. A gravel-coloured eye, a light beak, or bad wide cere should not be tolerated in a Self.

The Chuck or Light is a white-bodied bird with the exception of a crescent-shaped chuck or beard, and the ten primary flights and tail, which should be a good brown, with the Tippler's cardinal points of black tips to flights, bar on tail, black beak, cere and toenails. The Chuck is just the contrary to the Beard Tumbler; where the Beard is dark the Chuck is white, and vice versa. Good Chucks are still very scarce.

All fanciers of this variety should obtain one of the new Standards issued by the United Tippler Club.

The Trumpeter.

The Trumpeter is hardly as popular as it used to be, which is probably due to the fact that the strains in existence have been dying out, and there is hardly a known variety of pigeon that would make a useful cross with the breed. The bird is really regarded as more of a curiosity in Pigeondom than a variety. The favourite colour is the Black, which is mottled on the scapular feathers and wing with a rose, somewhat similar to the Mottled Tumbler.

A good deal of beauty in the Trumpeter consists in the foot-feathering, but many of the varieties shown at the present time are devoid of carriage, and crouch very considerably in the pen; but a shell crest adds beauty to the bird, which almost appears blinded by the mass of feather covering the head. I have seen Red Trumpeters and also Duns, but the best specimens at shows are generally Blacks or Black Mottles. The Trumpeter makes a peculiar sound in cooing, quite different to the ordinary pigeon, and hence it derives its name. This peculiarity of the voice, however, is not taken into account in judging the bird, and the main properties upon which it is judged are the feather qualities, markings in the mottles, and crest, legs, and foot feathering.

CHAPTER THIRTEEN.

SPORTING PIGEONS.

Foremost amongst the pigeons for sport must rank the racer. It is over ten years since the bird was given this name. Let us hope that it will not be ousted from it, like it has been in the past. The Carrier pigeon was originally so named, as it was the message-carrier in its day; the Dragon came next, the Homer next. In fact, variety after variety of pigeons has been taken up for utility, only to be spoiled by the craze for showing.

It is impossible to say what breeds have and have not been used to "make" the racing pigeon. The Cumulet, the Antwerp, the Carrier, the Dragon, and the Horseman have all been used and crossed. Evidence of the Dragon cross often shows itself even in present-day strains.

The present long-distance racing pigeon owes its

existence to Belgian fanciers. True, they imported from England some of our best and strongest Carriers and Dragons when they were used for work ; but for generation after generation the Belgians have bred and trained racing pigeons on the principle of the survival of the fittest, and their intelligence has been so highly developed that it is impossible to say what distances they will not be eventually able to cover, and with what rapidity.

One of the finest long-distance performances in England was accomplished in the National Race from Mirande, in 1908, when Mr. J. Wones' winner flew the distance of 634 miles at a velocity of 940 yards per minute. This is only an example of what can be done by a well-conditioned, good racing pigeon.

I shall be probably underestimating the number of fanciers, when I say that there are from 50,000 to 60,000 keen enthusiasts racing each week.

Success in long-distance racing depends upon the physique of the birds and the ascendancy must be good ; that is to say, the birds descended from a winning strain of racers.

Once a fancier possesses the strain, then success depends upon the care, study, and attention bestowed on them by him.

Comfort, happiness, and a good home are amongst the chief inducements for a bird to return quickly.

Beans, tares, and maple peas are the best grains for racers.

It takes at least three years for a racer to develop.

Their training can safely be commenced at three months old, or when they have moulted three flight-feathers. The young bird should be trained at the following stages : one mile, two miles, five miles, ten miles, twenty, thirty, forty-five, sixty, seventy-five and one hundred miles.

Older birds can be given less tosses, according to their aptitude, but I firmly believe that education and training is the only way to get the best out of them.

To the fancier who has time I advise plenty of tosses singly for the first twenty miles each year. This method teaches a bird self-reliance and independence.

To gain success it is best to train only one bird of a breeding pair, so that the nest is always being kept warm by the mate at home. Let the bird have as few disappointments as possible. The nest-box should be its home; keep the same birds to the same nest-boxes. Sacrifice everything to get the birds to race. For this reason, if a bird is fond of a particular mate, keep it to this mate as long as you can.

Feeding after the young attain six or seven days old distresses the parents. You cannot race old birds successfully and breed at the same time.

Hens must never be sent to races when about to lay eggs or too soon after laying; cocks when driving to nest.

Birds that home from a toss looking much distressed want a long rest before being sent again.

The early riser, who has his birds out early in the morning, is the man likely to gain the most success. To win prizes pigeon racing, in view of the thousands of birds bred and flown, will be found no easy task, and undoubtedly the sport is a man's game, as its study is ever presenting new and pleasurable phases.

The Training of Short-Distance Racers.—By George Wall.

Not having had a long experience in racing short distances, I asked Mr. George Wall, one of the best at the game for many years, to write the following article:—

My first idea is that a good big one will always beat a good little pigeon, especially in short-distance flying,

because you can punish a big pigeon more than you can a small one in the way of having them a bit hungry on the day of the race. If the wind is blowing hard against them, you will find that the big pigeon is the best, but if the wind is behind them, I would just as soon fly a small pigeon, as there is not much difference with the wind behind them.

To get the pigeons fit and well before putting them to work, you must give them plenty of exercise flying at home, and a little linseed about a week before commencing to train them, and the day I start training them I have my birds a bit sharp, taking care not to give them too much food the day before I start training, so that my bird will down well when he gets to his loft. This is a very important item, and another very important one is to get your bird to go straight away from the race point, so it is best not to give it too big a toss at the first training stage, that is to say, about half a mile, and not to shift from that point until your bird goes straight away. On no account shift your bird from his last training-point should there be a change in the wind. That is to say, if he has the wind behind him, do not shift him with wind against him. Having had the wind behind him, it is likely to cause it to turn round, and if the pigeon gets in this habit, he will not win you many races, as a pigeon that loses time at start, or at getting down, has not much chance in two, three, or five mile races. Your pigeon must get away well, and get down well at home, and if he has flying ability, he will win races for you.

After I have had my pigeons at the race point, I always make it a practice to have two trials with them, one about seven or eight days before the race, and the other about three or four days. My reason for having the two trials is because I like to find out which is my best

pigeon with the wind in its favour, and the second trial with the wind against them. Then I know which pigeon to send on the day of the race, according to how the wind is. As a rule, I used to put on about six pigeons, and toss them five minutes apart, so as not to let them get together, but after they were full in work I used to have them up three minutes apart. That gave me time when clocking in to get each bird in as it came, and to book its time before looking for the next one, and when my birds had had a little work I could make a bet that I got each one into the aviary in less than thirty seconds after it was down; but that time of day we used to call time when the pigeon alighted on the house, and examined the race-mark afterwards.

The day before the race I gave my two pigeons that I selected out of the six that I had on the job the baker's dozen tick-beans (thirteen), and on the morning of the race I used to show them the bean-can and rattle it at them, and they would go to rush at it; but I had some hemp seed in the other hand, and just gave them a little bit of that, as it reminded them that there was some food for them when they got home. They all made for the aviary as soon as they pitched, in fact I have had pigeons double themselves up in the air, and skim right into the aviary. One old blue cock that I used to fly in short distance races never pitched on the floor, but came right on to the bean-can as soon as I rattled it as he was coming in, and after I called time I would let him have some beans and then pick him up with the other hand to see what race-mark they had put on him. He won several races, and he was a pigeon you could send anywhere, north, south, east, or west, thirty or forty miles off the house, and you would always find him there in the day or first thing in the morning, no matter what weather, and

I put this down to his being worked all over London in short races.

Now another very good plan to obtain success with short-distance pigeons is to get your pigeon sitting about ten days, and if you are going to fly a cock keep him off his eggs until about fifteen minutes before you are going to put him in the basket, then let him go on the eggs fifteen minutes, pick him up and let him see his eggs, but do not let him see his hen—put her where he cannot see her before he goes to the race. You will find him making haste home to get on the eggs, but, of course, you will let the hen get on them as soon as you have sent him for the race. If you are going to race the hen, do not let her go on the eggs at night, but let the cock go on them, and if he does not go on them fasten him in where he has got the eggs, taking care not to let him see the hen, and he will then sit at night, even if he has been sitting during the day. About fifteen minutes before you want to send the hen for the race, take the cock away, and let her go on the eggs for fifteen minutes before putting her in the basket for the race, and you will find that she will be making haste to get home to her eggs.

I have always found these methods answer well.

The species of birds that we used to fly with thirty years ago were similar to those that we fly long distances with now, only with a bit more Skinum in them; but forty-five or fifty years ago we flew Skinum and large coarse-faced Beards; but old Mr. Barber, of Club Row, a great fancier and dealer in pigeons, had some blue chequers sent over from Antwerp, which were nice cobby little pigeons, so we used to buy some of these from him and cross them in with the Skinum, and in this way we got some of the face off the Skinum breed, and were able to produce a more cobby sort of pigeon than the

Skinnum, and I may tell you that when I lived in Bethnal Green, some fifty years ago, there was hardly a back-yard that did not contain a pigeon loft built upon four poles, and with these crosses—the Skinnum and the Antwerp—we got some very nice pigeons.

Our first race used to be from about Bow Church into Bethnal Green; we then went on to Stratford; but our most favourite place for flying from afterwards was a place called Irish Row, on the Ilford road—a little row of houses that stood there then. I cannot tell you the actual distance, but I think it was something like a five-mile fly from Irish Row, and we used to do it in 6min. 20sec., or 6min. 25sec. or 6min. 30sec. when we had the cross of the Antwerp and the Skinnum.

Flying Tipplers.

I have included the Flying Tippler under sporting pigeons, because I think really that flying these birds in matches and competitions amounts to sport. In my early days nothing delighted me more than to keep a kit of Tipplers, which were, I think, almost as good as any flown in London, and fanciers from Bethnal Green and Club Row frequently came to watch my birds fly, as they would keep going practically all days on those days when I put them on the wing, which was generally on a Sunday, for I did not think there was any desecration of the Sabbath in merely opening a pigeon loft and letting the birds fly round their homes. Flying Tipplers, real good performers, are birds of pedigree. That is to say, if you wish to get workers that will keep going for any length of time you must have descendants of known good performing strains. Sheffield is the hot-bed of the sport, and I believe I am right in saying that fourteen hours has been flown with young birds, and over seventeen hours

ten minutes with old birds, by a kit owned by J. Hull, of Stockport. The time of the actual flight counts from the moment that a fancier puts his dropper on the loft to endeavour to drop his birds. Success with these birds depends firstly, as I have before stated, on strain; secondly, on having a suitable loft to house them; and, thirdly, on their breeding, training, and management.

The method that I always adopted with my birds was to work backwards; that is to say, start flying an hour before sunset, and drop them at dusk every night, but it is very necessary to teach the birds to know the top of their loft, and to drop and come into the loft when practically dark, for the reason that if they were not taught to pitch in the dusk the shadows underneath that they see when trying to pitch act on their nervous system and they are likely to take fright and fly all night. Therefore, one of the first things Tipplers must be taught is to know the roof of their own loft when it is quite dusk, and pitch on it as soon as the droppers are put out.

In order to teach them this they must be kept hungry and fed with a little corn on the roof of the loft. After this they must be got into the loft by having one or two hungry birds feeding inside by the light of a lamp. When once they have been thoroughly taught the lesson of getting about and dropping regularly, practically in the dusk, then a fancier can start work training them, but it is a big mistake to get them flying strong on the wing before they have been thoroughly taught to drop freely at their owner's call when he puts his decoys out. Many a good kit has been lost through a fly away scare or a storm.

The best staple diet for Tipplers in training is old English malting barley. I used to buy my barley and

store it for quite a year, so as to have it old, dry, and sound. I have tried all the artificial cakes that are made in the shape of batter, such as egg, oatmeal, and seeds mixed, stirred up and baked, but have found that I could do just as well with my birds feeding them on barley and a mixed diet of small seeds, similar to Velo, as I could with any of the artificial cakes referred to. Still, I know many Tippler fliers use tonics and various ingredients to get their birds extra fit.

To get Tipplers to perform well, they must be taught to fast both as to drink and food. That is to say, there should be at least twelve hours between each meal, and after they have been fed, I found it was a good practice to let them have one drink, and then take away the drinking fountain. If particularly anxious to get the very best out of birds, for the last two or three days before a big fly is taking place, milk with the white of an egg can be used for a drink instead of ordinary drinking-water, as there is great sustenance in this, and I have known fanciers to add a teaspoonful of brandy to their birds' water.

When it is remembered that these birds can be trained to fly continuously in the air within sight of their own lofts for over sixteen or seventeen hours out of twenty-four in the day, it will give some idea of the physical fitness that must be developed in order to get them to perform in this manner. In fact, they become automatic flying machines, and the efforts of flying is purely mechanical, as their buoyancy is so great that they practically keep in the air with only the slightest motion of the wings, and no fatigue whatever. There is nothing prettier, I think, than a nice kit of Tipplers flying well and freely. Those fanciers who take up their breeding should put themselves in communication with a good

breeder. Birds of a good performing strain are not expensive.

There are many, many wrinkles to learn to successfully fly a kit of Tipplers.

CHAPTER FOURTEEN.

SQUAB REARING.

A book on pigeons would hardly be complete without a word on the subject of breeding squabs for the table. In America this is a very large business, and there are pigeon farms with thousands of breeding pairs entirely devoted to raising squabs for the poultry market. Pigeons breed very freely; in fact, some varieties are quite prolific breeders, and will rear in the course of the year seven or eight pairs of young. The market value of the young being generally—according to the season—from 1s. 6d. to 2s. per couple, whilst the average cost of keeping common pigeons averages 1d. per pair per week, it will be seen that the business of rearing squabs for the market can be made a profitable one.

The birds that I recommend are cross-bred Dragons crossed with racing pigeons, cross-bred show Homers crossed with racing pigeons, or any of the common varieties, but the crosses that I have mentioned will give good big young, with plenty of flesh, and are prolific breeders.

The best time to mate pigeons in order to rear squabs for table purposes is in January, and they can be kept mated practically the whole of the year.

The corn that I recommend for feeding purposes is

good flat maize, maple peas, dari, and wheat. This is fattening, and the birds will thrive on it.

The young should be removed from their parents at twenty-eight days old, when they are fit to kill. If taken away and allowed to fend for themselves before being killed they lose weight very considerably during the first ten days, and, therefore, it is best to kill them immediately they are old enough to wean.

There are various methods of cooking, either in a pigeon pie with steak, roasted or stewed, and a nice young pigeon well cooked is a luxury. Many recipes for their preparation for the table will be found in the ordinary cookery books.

One of the benefits of being a pigeon fancier is that the surplus stock of any variety can be turned to account for the table.

THE END.