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PRACTICAL
PHEASANT REARING

AND

GROUSE DRIVING.

R. J. LLOYD-PRICE.

PRACTICAL PHEASANT REARING:

WITH
AN APPENDIX
ON
GROUSE DRIVING,

BY
RICHARD JOHN LLOYD PRICE,

AUTHOR OF
"RABBITS FOR PROFIT AND RABBITS FOR POWDER,"
ETC., ETC.

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To business that we love, we rise betime
And go to it with delight.

Antony and Cleopatra, Act iv., scene 4.

Παντα κινησαι πετρον.

EURIPIDES (*Heraclid*, 1002).

DEDICATION.

TO

THE EARL DE GREY,

WHO ACCOMPLISHES WITH SUCH UNFAILING ACCURACY
THE ANNIHILATION OF THE ARTICLE TO THE PRODUCTION OF
WHICH THE PERUSAL OF THE FOLLOWING FEW PAGES MAY
IN SOME MEASURE ASSIST, AND IN THE HOPE THAT
WE MAY BOTH LIVE TO ENJOY MANY MORE BIG
SHOOTS IN EACH OTHERS' COMPANY, THIS
LITTLE VOLUME IS INSCRIBED BY
HIS SINCERE FRIEND

THE AUTHOR.

P R E F A C E .

THE kindness with which my first little manual for the assistance of brother sportsmen, "Rabbits for Profit and Rabbits for Powder," was received, and appreciated by them, has emboldened me to attempt another appeal to their suffrages.

To game preservers and masters generally I would say: Go occasionally yourself and see, throughout the breeding season, that the hints comprised in the following pages are being carried out with accuracy by your servants; more especially do I urge you in the course of each rearing season to "quit your downies" twice or thrice very early, after the young birds are hatched and placed in their coops in the fields, and see for yourselves that they are turned out on fine days at 5 A.M. or thereabouts—an over sleepy or idle keeper being frequently the cause of incalculable mischief at this epoch.

And to the keepers I would add: Follow the instructions you will find in this little book, and you

will not, when the shooting season arrives, find yourselves in the position of "Mr. Leggins," so inimitably depicted by *Mr. Punch*, who—accompanied by his myrmidons, and closely followed by a minute beater, clasping to his bosom one partially fledged young cock pheasant—has to meet his noble employer at the head of a large batch of expectant guests from the Hall, all correctly got up and radiant with hopes of an enormous slaughter, only to humiliate himself with the remark, "The season has been that bad, my Lord, this is the only bird as we have reared. Will I put him up for your Lordship?"

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The Dunciad, Book I., line 279.

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Practical Pheasant Rearing.

CHAPTER I.

TREATING OF THE PHEASANT AND ITS EGG.

When proud pied April, dress'd in all his trim,
Hath put a spirit of youth in every thing.

The Passionate Pilgrim, sonnet xcvi.

IN the spring time of the year the thoughts of both the game preserver and his keeper are probably more occupied with the "young pheasants" than with any other topic; and, as some apology may be necessary for reverting to a well-worn topic, it will be found in the fact that, although much valuable information on the breeding and rearing of pheasants, partridges, and other game by hand and by means of incubators has been published from time to time in the pages of our national works on sport, yet it must be remembered that these books, though instructive, are expensive, and, indeed, far beyond the reach of the ordinary gamekeeper, who is the individual most interested in the preliminary operations which culminate in the modest "shoot" or the "lordly

battue." I venture, therefore, to think, and "Stonehenge" is kind enough to agree, that there is room at the present moment for a small and inexpensive treatise upon the subject, setting forth in the plainest of language the many little dodges and wrinkles which come by experience to those much interested in the production and increase of that most noble of our acclimatised game birds, "the Phasianus colchicus," or, as we call him in plain English, "the pheasant."

And here, as before long the accusation is sure to be hurled at my devoted head, I had best confess that, in giving to my readers the benefit of a somewhat extended experience in all that appertains unto the pheasant, I am acting partially from motives of self-interest, and for this reason: As the proprietor of a large game farm, from which during the past few years many thousands of pen-laid eggs have been despatched to all parts of the British Islands, the Continent, and even America, it has been impossible to avoid observing the lamentable ignorance that too often exists amongst the purchasers as to how to properly treat the eggs they have invested in. The silly letters we constantly receive, the foolish questions that are continually committed to paper, conclusively prove that, although, of course, there are scores of clever gamekeepers to whom the following advice will be as A B C, there are more to whom it will be beneficial; and the adoption of a sound and well-

tested method of treatment for the eggs, when bought, will not only benefit the purchaser, but save the unfortunate vendor from unmerited obloquy in multitudinous instances. Often and often do complaints reach the manager of my game farm of the badness or infertility of a certain batch of eggs, which we knew to have been fresh laid, to have been sent away most carefully packed with all the skill that constant practice gives, and also that eggs of the same batch from the same pens have hatched out a splendid average at home. The fault must be in their treatment at the other end; for a railway journey, although it certainly does not improve the fertility of the eggs, does not in reality do nearly as much harm as is generally supposed; and if game preservers would more often take the advice so constantly impressed upon them, and go to the little extra expense of sending their keepers to personally carry home, side by side with themselves in a second or third class railway carriage, the eggs that have perhaps some hundreds of miles to travel, there would, I feel, certain, be still fewer complaints upon this score. Indeed, to protect ourselves from unmerited animadversions, we have now for some time made it an invariable rule to "set" and hatch out, and note the average of fertility of, a certain number of eggs from every batch, be it small or large, that leaves Rhiwlas Game Farm.

Trusting that my readers will good-naturedly pardon

this somewhat personal digression—which is, however, necessary as my excuse for so boldly entering the lists to tell again an oft-told tale—I will attempt no longer to ramble, but to hark back to where I should long ago have arrived at, and that is, the “beginning.”

At what period the pheasant was first introduced into England has never, so far as I am aware, been accurately determined. If the legend in Daniel’s “Rural Sports” is, however, to be taken as gospel, B.C. 1250 witnessed his first introduction into Europe. No matter, he is, and has ever been, a welcome guest, and the traveller who lured him first from his native thickets in Thibet, Bootan, Thesa, and the mountains which separate those countries from Hindustan, deserved well of his country. Now that sport has in this country been somewhat curtailed in its character, thanks to the mischievous efforts of Sir William Harcourt, culminating in the Ground Game Act—a piece of legislation which all classes now appear to equally abhor, and which has failed, thanks to sound English common sense, even to accomplish its insidious intention of setting landlord and tenant by the ears—winged game and the successful rearing thereof becomes of more than ordinary importance, being pretty nearly all that we have to depend upon for sport. Fortunately the tame bred, hand-reared, keeper-coddled Poult, at which *Mr Punch* so often slings his merry jeer, turns, when November comes

round—provided always that he be started from a befitting height—into as skyscraping a rocketer as the bedraggled wild-bred (save the mark!) youngster who, the last of the Mohicans, the one remaining miserable of a perhaps once imposing nide, follows his selfish forgetful mother, as, utterly oblivious of her progeny, she rustles hastily through the thick damp standing corn. Hen pheasants are curiously bad mothers. In a rough country they will barely rear on an average more than three in a brood; and, had I been a pheasants' egg, with the necessary power, most impiously should I have prayed for my mother's nest to be rifled, and poor me comfortably hatched and tenderly nurtured under the anxious wing of the homely but necessary barndoor. Yea, they soon turn wild, do the poor weakly-looking little products of our artificial skill; it is the place where they have constantly fed in security rather than the person who feeds them which gives them confidence; and the same birds that come to a keeper's feet and decline to leave him in September, recognise not his presence in November, when, assisted by a band of white-smocked and much-begaitered myrmidons, he turns them out scientifically one by one, possibly over high trees from one side of a broad dingle, to seek safety midst branches higher still on the opposite side, oblivious of the fact that, ere safe haven can be theirs, the gauntlet must be run of such men, perhaps, as Lord de Grey, Lord Berkeley Paget, or the Con-

servative member that Merionethshire a few years back unseated—an unadvertised man, and unmentioned in the Badminton or any other library, this, but one who can hold his own with the best when it comes to shooting—and what prettier “item” can be culled from the programme of sport than to stand behind a workman like this who, apparently unconscious of the fact that he is doing anything out of the common, crumples up one after another of these highfaluting pheasants, at a height up in the air at which ordinary mortals would cry a go—say that the Johnny Longtail of the air had the race in hand, and decline any further to compete. Neat work this, my masters—neat work; and we poor wretches who can at best account for only about half our birds, and only half kill half of them, had far better invest in a stick and join the beaters, or a grouse-driving seat, and take a lesson from these past masters of the art of shooting “flying,” not so very long ago believed by our forefathers to be an utter impossibility. Would that our respected pregenitors could stand for but half an hour behind such a man as the Maharajah Dhuleep Singh, for instance, who gets off his second barrel with such extraordinary rapidity, that it is not at all uncommon to see him with two birds “dead in the air” at the same instant.

In a natural state the pheasant rarely lays more than nine eggs, and then commences to sit upon them. It is, I daresay, needless, but, for all that, I intend to impress upon my friend the keeper the most elemen-

tary and trivial points connected with his business ere the word "finis" is added to these pages, so I proceed to point out to him what a very much better position he is in should he be 'cute enough to discover her nest before she has contributed her full quantum, as by sneaking away an egg every day he can thus befool the poor innocent into laying a considerable number more than she originally intended. A spoon at the end of a walking-stick is useful for this purpose, as the scent of the human hand has a tendency to make all wild birds forsake their nests; and some bran at the bottom of a basket or box in which the eggs can be packed, small-end downwards, is a neater and more business-like method of conveyance home for the fragile spoil than the time-honoured vehicle of the keeper's inside hare pocket. And here it will perhaps be as well to explain why pheasants', and, for that matter, all other eggs also, if required at a future period for incubation, should invariably, whether in a basket for carrying or in a drawer for keeping, be packed with the small or pointed end downwards, and the larger uppermost. The condition of things being so, the larger or round end uppermost, the embryo is in contact with the air space, and is prevented from coming in contact with the shell and getting glued to it by the drying up of albumen between it and the shell. The same remarks will apply to the "turning" of the eggs during the process of incubation, of which more anon. Let us hark back to

our nesting excursion, in so far as to remark that, should a full nest be discovered handy to a road or public pathway (and it is extraordinary what a predilection both the pheasant and partridge have for depositing their eggs in these open and most unsafe localities, exposed to the practical eye of the egg-stealer and the mischievous fingers of the school-boy), it had best be taken home at once, "Safe bind safe find" being the proverb for the occasion; and the chances are that the improvident old lady, the mother, when she has got over her first loss, may choose a more remote and safer hiding place for her next essay.

It is a somewhat curious fact that the pheasant which, during the autumn and winter months, makes a point of never roosting upon the ground, but chooses for his or her nocturnal abode any tree having a nice comfortable straight bough to offer as an inducement to "put up for the night," should, when the nesting season is coming on, all of a sudden change habits and seek a roost on the ground, forsaking that favorite larch tree, upon which the noble breast is so much more visible to the poacher, owing to the lack of foliage, or scarcity of plumage, as I suppose the bird would put it were he consulted, than upon almost any other "ornament to the forest." What a pity it is that the spruce tree, which offers almost absolute immunity from the wiles of the night prowler should hold but a second place in the estimation of this

silliest of all game birds, who never seems to know when or where he is well off, but will wander for miles in search of other fields and pastures new, which, when attained, do not in most instances offer the same attractions in the shape of carefully varied menu, and due punctuality at meal times, as he would find an he would remain where he was reared.

A great blow would be struck at night poaching were the spruce fir universally adopted for game preserves. Holly, ivy, and any other evergreens, many of the new sorts of coniferæ lately introduced into this country being most suitable for this purpose, would also in every instance prove an invaluable addition. The oak, ash, beech, and other deciduous trees and shrubs, should, supposing that a covert is being planted for no other object than with a view to keeping therein a large head of pheasants, be, on the other hand, as much avoided as possible, although one must admit that the presence of a few oak trees, in a good acorn season, does act as a wonderful inducement for the birds to stay at home.

The breeding operations of the pheasant are conducted solely on the ground, the tree being deserted from early spring until autumn again arrives, when the shelter of the branches at night time is sought by the male bird, accompanied, although unrecognized, by his late wife, and it is to be hoped, also numerous offspring.

The nest of the wild pheasant is a most uncom-

plicated arrangement, its primeval simplicity being perhaps only equalled by that of the peewit, any suitable circular depression being made use of, either in the open ground, in a hedge, long grass, or clover, anywhere, in fact; but preferably, if possible, the old hen pheasant selects a hedge or bank as near as possible to the turnpike road, or any convenient footpath, where *acquisitive* men, and *inquisitive* boys, will have as little difficulty as possible in discovering her whereabouts, hence the necessity for searching an estate well for wild eggs, more especially all the likely places in the vicinity of the foot-paths. A few leaves or dry wisps of grass form the only lining with which the hen pheasant considers it necessary to decorate her nest, or "nide," as the technical term runs, and in this commonplace receptacle she will sometimes deposit as many as eighteen or twenty eggs, it being also a common habit for two or more hen pheasants to form a limited company, without liability as regards any intention of taking any thought in the future for the welfare of their progeny, and make use of the same nest, and very often indeed that of the partridge is pressed into the service as secretary, to save trouble, I suppose.

Unfortunately, also, pheasants are very fond of nesting in long clover and uncut hay, the march of science, in the shape of mowing machines, being very frequently nowadays a source of great danger to the game preserver. These diabolical inventions cut

in a circle, and continually emit a rattle and noisy shake which frightens the game, frequently causing it to squat, and so lose its now witless head. Whilst the iron mower is in possession of the ground, cutting either hay or corn, let the head keeper remember to be in constant attendance with one or two of his myrmidons, and let them with sticks continually brush out the continually diminishing circle of uncut stuff and so save from decapitation his pheasants, partridges, and leverets.

The hatching season of the wild pheasant extends from the beginning of May until July. As soon as the chicks are from twelve to twenty-four hours old the old mother leads them forth, and carries out what she considers to be the rearing process, which very frequently consists of leaving half her brood behind her to drown in an open ditch. If not much disturbed, the hen pheasant contents herself for some time with peregrinations in the neighbourhood of the hatching place, but if there is any wet corn to be found handy, into that will she plunge, quite forgetful of the tender larynxes of her callow brood, yet if often disturbed the family will betake itself to the nearest wood or covert, emerging from thence only at feeding time, until September, when the youngsters are generally full grown. They moult their fledgling suits, and appear in full dress to take their part in the orgies of October.

CHAPTER II.

THE BARN DOOR HENS.

For time will teach thee soon the truth,
There are no birds in last year's nest.

LONGFELLOW (*It is not always May*).

AS with that of your legal adviser, so should the selection of the old barndoor fowls, in whom you are about to repose such confidence, and in whose charge you are about to deposit so much valuable property, be set about with the greatest circumspection. At first sight there may not appear to be much likeness between these bipeds, both useful in their way; but, on second thoughts, they have a good deal in common. In full confidence of their trustworthiness do you intrust to each and either a vast amount of private business, which you would find it impossible to enact personally; one is a solicitor, and the other is, or ought to be, solicitous as regards the welfare of the delicate affairs intrusted to her charge, which, if once broken up, mismanaged, or neglected, cannot for some considerable time be reorganised or replaced. Both do much of their work in the dark, one hatching plots and the other eggs. Quills form an important

adjunct to the pair of them, and it is by their "deeds" in the end that you value the twain; but there, I think, the analogy ends. Your hen requires no payment beyond the run of her beak, and some *aqua pura* or *Chateau Grenouilles*, as it has been called by a witty Frenchman; six and eightpences she wots not of; while, as to the other, well, we all know pretty well that when it comes to the "plucking" it is hardly usual to find the victim in the legal adviser; and, if you invite your lawyer to dinner, he expects the best of everything, and usually evinces a very pretty penchant for old port. But a truce to this levity, we must no longer frivol.

And, since I never dare to write
As funny as I can.

HOLMES (*The Music Grinders*).

Let us now suppose that, beside what outside eggs he may be able to pick up, the keeper has been promised, say, a thousand purchased eggs, to help him along; for these he will require about seventy hens, all well settled in their boxes, and warranted tame and quiet, to commence their maternal duties immediately upon the arrival of the hampers containing the eggs for incubation. If these hens have to be procured from the farmers and cottagers in the neighbourhood, the keeper should commence his higgling operations as soon as ever he finds the first wild egg. This outside purchasing of mothers is at best (though often, of course, unavoidable) an unsatis-

factory proceeding; hens which would sit tight enough at home, in many instances utterly decline to do so when transported, even though the new quarters may appear to the human understanding far preferable to those which the obstinate creatures have just quitted. Others, which are quiet and peaceable in a wisp of straw in a corner chosen by themselves, disdain the superior, and one would imagine more comfortable, accommodation provided in the shape of a cosy box with a waterproof covering to protect the inmate from the storms of heaven; while others again, most pernicious of all, sit apparently tightly for a few days, and then, when the keeper has just commenced to feel confidence in their fidelity, and ceases to watch them with unremitting vigilance, they calmly stand right *up*, instead of sitting *down* in their boxes, and allow the eggs with which they have been intrusted to get thoroughly cold, and of course in consequence irremediably spoiled. Let the keeper beware, also, when he is buying broody hens, that he gets the real article—*i.e.*, those just commencing in earnest to sit; for many and varied are the wiles of the farmer's wife in this England of ours. "Very sorry, Mr. Velveteens," she will say, and her smile it is childlike and bland; "I have not got any cluck hens for you to-day; but, if you will call again in a week, there will be six or seven at your disposal." The victim retires, and again appears at the appointed time, to receive what he imagines to be a nice batch

of broody mothers, which certainly sit quiet enough for a day or two, and then suddenly, apparently without rhyme or reason, chuck the whole thing up, and shortly after, to the unfortunate keeper's unmitigated horror, commence quietly to lay eggs again. For why? Because madame, astutest of agriculturists, has taken away their young ones just hatched, put the chicks under other hens which have just hatched out also, kept the bereaved mothers sitting on in their old nests on an addled egg or two, which they will continue to do without repining for a day or more, and in this state hands them over triumphantly to her victim, at a cost perhaps of 3s. or 4s. apiece; the price to which broody hens run in a neighbourhood depending very much on the amount of game preserving within the district, and not seldom upon the gullibility of the *nouveau riche*, who is going in for beating Lord So-and-So's "big day" last year. The *dénouement*, and the language of the deluded keeper, who has fallen a victim to this rustic confidence trick, may very well be left to the imagination. But if you do buy hens from farm houses, be careful to find out what particular kind of food has been supplied to them, and stick to it, if you want to keep your purchases in a good humour. Hens that have been accustomed to scraps, the pickings of a farmyard, or some particular kind of diet, whatever it may be, often decline to eat maize, and suffer in condition accordingly.

But it is far better, if possible, to keep your own stock of hens; a lot of valuable time at the most important season of the year is wasted by scouring the country in a cart. They can be kept in batches at the under-keepers' houses, and brought down to the hatching place as they become broody. For a thousand eggs you will require to be provided with at least one hundred and twenty hens—for calculations as to the period at which hens will condescend to sit are almost as unreliable as systems for winning at roulette—though much may be done by careful feeding, as will presently be explained. Remember that unhealthy hens mean gapes in the young pheasants; so never use any but what are in good condition, and, if infested with vermin, dust in a lot of Keating's insect powder by rubbing the feathers the wrong way with one hand and sprinkling the powder in with the other; and a little of the powder sprinkled over the eggs occasionally also does good.

Several Correspondents have, since this piece of advice appeared in the columns of the *Field*, written to cavil at the same, saying that they feared the powder, which, as most people know, is principally composed of *Pyrethrum roseum*, might prove pernicious to young poults. But I can assure my readers that this is not so, and, even if it were, it is difficult to see how young chickens are likely to come into contact with the sitting fowls.

The best sort of hens for your purpose are a cross

between black-red game and the small yellow Cochin China; the next best are the same game with small dark Brahma Pootra; in default of either of these, the common barndoor will generally do very well. Breed your hens for sitting upon pheasants' eggs after June 15; when bred late they come shorter in the leg and smaller in the bone than the early pullets. Late birds never also attain such a large size as the early ones, which is a distinct advantage. As with jockeys keep the sort as small as you can.

One great advantage that the cross between game and Cochin hens possesses, when employed for sitting on pheasants' eggs, is that they have only four toes on each foot. This renders the trampling of the young birds to death in the nest or the breakage of eggs much less likely to occur than with the breeds boasting of more toes than nature has any necessity for—The Dorking, for instance, which has ten toes, and is therefore to be most particularly avoided. The cross with game produces heat, and is therefore strongly to be recommended; but the pure-bred game are too shifty, too long in the leg and quarrelsome to be trusted. Therefore, always provide yourself with a cross, and avoid the "silky" tribe, so much cracked up in some quarters, for hatching out pheasants' eggs. They have no bodies to produce warmth, and, after a fortnight's work, the heat all goes out of them, as mothers they are no longer of any use, and you will have to provide a new

incumbent for their nests if you wish for a satisfactory result. Add to this that their skins are black, and consequently, if sent to table, the gourmet will turn away in disgust, and I have finished abusing the once-fashionable "silkie."

It is quite futile to attempt to operate with the natural mother, pheasants, except in a wild state, being perfectly useless for purposes of incubation, although I have known very good work to be done with an old hen turkey that has made herself a natural nest in a hedge. Bantams are very frequently recommended, but, except for partridges, they are more trouble than they are worth, being so very small, and a medium-sized cross-bred fowl will be found best in the long run, of a light but thickly-feathered sort, and of a quiet unexcitable nature and equable temper.

It will be useful for a keeper to know when to expect his hens to commence the desire to incubate. The first symptoms of this desirable crisis are displayed in the combs, which get perceptibly paler in colour; the hen changes her note, the voice gets softer, and she shows a decided inclination to remain longer each day on her nest. The old ladies also stick up their feathers, and, like many retired officers, look very fierce without in the least intending to be so. Therefore, when your old hen looks for all the world as if she would eat you on your morning visit, clap her on to a nest full of china eggs, and leave her

to fondle these for a week till she gets quite quiet and steady, and you can handle her in any way you please. Practise taking her up to accustom her to the process. Put one hand under each wing (she generally sits with her head turned towards you for air), and lift her gently without touching the eggs. When sitting upon real eggs, which are small, you will often find that she has one stuck under a wing, which, if she be lifted by a careless or inexperienced hand, will drop back, and very likely crack some of the rest of the sitting in falling. Therefore, before lifting the hen, remember always to pass your hands round, under and about both wings, to guard against this catastrophe. Be sure, also, to have the requisite number of hens quiet and settled down to their sham eggs before you send for the real ones; and remember that, unless a hen is really quiet, she invariably stands up in her nest before settling down, and this chills the eggs, but if really tame they sit down at once. Quiet hens are the real secret of success in hatching, but too many keepers ignore this important fact, and, if a hen does not absolutely kick up a fuss, and attempt to bolt out of her box, too many men are inclined to let her take her chance, and trust to Providence.

Do not feed your hens too high until they actually commence sitting; then be as generous as you please in the matter of diet. If you want hens to lay and not sit, feed them high, and give them hot meal and

pepper. This is a useful hint for the housewife, but the keeper must adopt quite opposite tactics, and, as the hens come on brooding, keep changing them up towards one end, always on the china eggs, so as to get your quietest hens together; this will save much trouble in the long run. The china eggs do not make the nest in a mess, however rough the old mother is—and hens are most of them, especially pullets sitting for the first time, excessively turbulent at the commencement of the incubatory process. When the eggs always feel hot, at whatever time you go and feel them, then the hen can be trusted, and not before. Feed your hens on Indian corn and barley, cold meal and water for a change; meat and hundred-headed cabbage or other green food boiled up is also good for them if you can afford it. They should always have a run on turf of a morning, and also on a road if possible. If this is inconvenient, let them be supplied with plenty of "grit" instead.

CHAPTER III.

THE EGGS AND HATCHING APPLIANCES.

Think nought a trifle, though it small appear,
Small sands the mountain, moments make the year.

Dr. YOUNG (Satire VI., line 205).

HATCHING BOXES.

THE boxes for sitting the hens upon pheasants' eggs are best placed out in the open, and should be bottomless. The proximity of the hen to Mother Earth assimilates her condition more closely to Nature, the great mistress whom we should attempt in all ways to imitate as closely as possible. Boxes should be made of rough unplanned deal, in rows of eight, and arranged in lines one behind the other, four feet apart, to allow the attendants to easily pass along, lift the lids, and examine the inmates. The boxes should slope from back to front, 16in. in height at the back to 12in. in front; the lid should be watertight, either grooved and tenoned, or slips of wood nailed over the cracks to keep out rain if more roughly carpentered. They should have two stout iron hinges, and a cross piece of wood nailed across the lid behind the hinges, to catch the back panel when thrown open hastily, and

thus prevent the lid being shattered, or the hinges torn off by a sudden jerk. A few holes should be bored in the front to admit air to the inmate, and the lid should project well over the forepart to shoot off the wet. If done some little time before required for use, a rough outside coat of coal tar varnish, or one of the many waterproof paints so much in vogue, will add to their durability, and the inside should be well whitened over with boiling lime wash, penetrating into every nook and cranny, to destroy and harry the vermin which will collect. The inside cleansing should be repeated each time that a hen hatches off, before her successor is appointed.

If you do not mark your eggs as recommended, it is a very good plan to nail on each hatching box a card which can afterwards be removed and nailed to the coop. This card can state the number of eggs set, date of setting, name of game farm supplying the eggs, date due to hatch, &c.

Some people set their pheasants eggs in little brass shells, perforated with holes, "the mother" keeps the apparatus warm of course, and if it ever hatches out it cannot be crushed. I have not tried this plan myself, but if expense be no object it sounds feasible, and might save the money for incubators in some cases.

Buy early eggs, and set them fresh. I believe it is those pheasants that obtain their full plumage the first autumn that breed at a year old, and those that do

not obtain plumage until second autumn do not breed till the following spring.

SETTING THE EGGS.

Having your hens all comfortable and quiet in their temporary homes, the bottom layer of which should be a turf pressed into cup shape, then some soft hay—or, better still, what is called “sage” grass—a nice, fine, silky material, easily found in some one of your damper coverts; and remembering that a hen will shift sand or soil by her scratching, but can make no impression upon a good firm green sod, which therefore forms the best foundation for your living incubator, you may now turn your attention to receiving and unpacking the eggs, of the dispatch of which, should you not have sent a man to travel in their company, you will most probably be apprised by a telegram. Be sure to meet the baskets of eggs as they arrive at the station; help them out tenderly from the guard’s van with your own hands, and leave them not at all to the tender mercies of the somewhat violent, though, on the whole well-meaning, “British porter of the platform.” Having got the eggs home in a spring cart, carefully unroll each egg from its mossy envelope, examine every one carefully to see if there be any cracked—these should be returned immediately to the game farm whence the eggs emanated, and fresh and sound ones demanded in

substitution ; put the eggs as you unpack them into a basket lined with flannel, and then place them under the hens, fifteen eggs to a hen up till May, when you may venture to entrust her with seventeen. In the early cold spring a hen cannot do as much justice to as many eggs as she can later on. Clap down the lids, and keep her tight to her work for the first four or five days. During this period, while the yolk is running, "ten minutes for refreshment," the same measure that is generally meted out to the exhausted railway traveller, is all that should be doled out *per diem* to your trusty agent. Any little chill tells very severely upon the eggs at this period of the incubation, and is another frequent cause of the return of an undeserved verdict of unfertility against the vendor of the ovarian specimens. After this first important period of "extra duty," a "furlough" of from twenty to thirty minutes may profitably be accorded every morning to your faithful hens ; a rest now does them good, and after the eggs have once "set," as it is termed, it is very hard to spoil them, for they will stand almost anything ; but remember at first to keep the old hens well to their work. Shortly after being replaced in their boxes, their keeper should go round and examine each hen to see that no egg is lying outside her wings. Careless hens, that contract this objectionable habit, will have one or even more of their eggs out in the cold, and consequently, unless discovered in time, in a fair way to be spoilt. The

keeper, by passing the backs of his hands over the eggs every morning, can easily tell if the hens are doing their duty. If they feel like getting at all cold, that hen is shirking her work; that particular box should be marked, so that it be examined several times during the day. If the old shirker keeps on "doing this shunt"—to use a little racing parlance—change her at once before she has ruined your sitting of eggs.

And now a few words on a most important matter, before coming to the airing and feeding of the hens. Remember that it is most necessary to success that the same hen should go back to the same lot of eggs from which she was taken off. If this is not most carefully seen to, you stand a very good chance of getting a large proportion of your whole batch of eggs irretrievably ruined; and now I will tell you why.

That keeper is very lucky indeed who, amongst rows of boxes containing two or three hundred hens all sitting at the same time, is not cursed with one or two shifty brutes, who sit for a bit after they are replaced upon their eggs—just long enough in many instances to deceive their attendant, and then calmly stand up, and continue to stand. Of course, all their eggs go wrong, and it may be some time before the delinquent is at last found out. Imagine the consequences if this malignant beast gets treated to a new batch of eggs every morning to spoil before night, as is extremely likely to happen if each hen be

not systematically replaced upon her own eggs ; whereas if she be sent back to her original fifteen she spoils them, no doubt, but she spoils no more. Therefore the proper way to proceed is this : Number your boxes (chalk will do), and have the same number of pegs stuck in the ground a couple of feet apart, to tether the hens to, by a piece of cord and a leathern fastening to go round a leg ; these pegs, a couple of feet apart, may either be fixed into the ground opposite the boxes, or numbered also at the top, which is the safest way ; or you can simply count the numbers, from right to left, as you tether your hen or release her. Anyway will do, so long as you make sure that your hen returns to the identical box, and the self-same sitting of eggs whence you removed her. If by any chance there should be some doubt about the matter, or a careless underkeeper has got the hens mixed up, a glance at the colour of the feathers at the top of the nest inside the box will generally tell you if the right hen is going into that particular sitting box. A black hen will have left some black feathers ; so, if you see a man attempting to cram a white or red hen into the box with the black feathers, you may be certain that there is something wrong.

The eggs will hatch out in from twenty-three to twenty-five days ; so when half that period has passed away it is advisable to sprinkle the eggs occasionally with a little tepid water ; but do not resort too much to the watering process, or do it too often. You may

by chance get hold of a hen that is a "very warm member," and she may hatch out in twenty-two days ; but this is a rarity, and need hardly be calculated for.

The day the chickens are expected, if you do not use an incubator, the hen should be well fed with hard food so as to preclude the possibility of her becoming restless in consequence of hunger, while the eggs are hatching. They should after hatching have a quiet period with their mother, as alluded to later on ; during this time they are perfectly independent of meat, as they are full of the yolk which immediately before hatching passes through the navel into their bodies.

Eggs that have not been kept very long after being laid before being set under the hens, will hatch sooner than those that have remained a longer time without the application of warmth. It is therefore highly desirable to have your hens all steady and quiet to take the eggs immediately upon arrival ; and they are pretty sure to be fresh, the larger game farms keeping so many hen pheasants penned up that they are able without difficulty to send out their eggs almost newly laid. Be sure when feeding your hens to see that there is an earthen saucer of nice fresh water easily within the reach of every one of your feathered assistants ; and feed whilst sitting on maize, barley, and meal made into paste, with a little green food. Take particular notice as to which of your hens turn their own eggs ; if any do not, you

must do it for them. This is easily ascertained by marking the eggs in pencil with the date they are put down upon, leaving this at first uppermost, so as to see the next morning if it is still visible or not. If the date has not shifted its position, the hen is not up to her work, and you will have to assist her by turning the eggs. You need not be so very particular as to how much or how little turning you do. Half or a quarter turn will be quite sufficient ; and, if you can spare the time, it will be well to mark on the first occasion the bare space of shell that lies uppermost with the figure 1 ; on the second mark them all 2, then 3, and so on, and you will soon be able to tell how the hen is performing her duties. In about a fortnight the eggs will be covered with pencil marks, and, should one egg fail to be properly turned, it will probably in the end be found to be addled.

The object of turning the eggs is not, as so many people suppose, to warm them all over, but for the purpose of changing the relative position of the embryo in the shell, during the early stages of incubation. The embryo, which is attached to and becomes a part of the upper surface of the yolk sac, is pressed with some force against the upper surface of the inside of the shell, and if the *point d'appui* be not altered after a certain number of hours, the albumen in which the important contents of the egg are floating gets gradually forced aside, and by the process of absorption the embryo comes into contact

with the shell membrane, causing adhesion sooner or later, according as the air around the egg is moist or dry. The result is that the embryo soon dies, and in two or three days a dark spot adhering to the shell and plainly visible in the egg tester—so many of these are in the market that I must decline to particularise or recommend any defininite article—shows to the careful observer that that egg is addled.

You will know by the pencilled date upon each egg the day it ought to hatch. Set your eggs in big batches, commencing about April 18, and keep them moving up together from one end of the line of boxes to the other, so as to get well together the eggs that ought to hatch out on the same day. It is less trouble to a keeper to look after five hundred young poults, all of the same age and size than to attend to one or a couple of hundred of all sorts, sizes, and conditions ; but how few keepers will recognise and attend to this obvious fact ! If a hen should throw up her work, as will happen even amongst the best regulated “fowleries,” it is very easy to change her eggs in amongst another lot bearing the same date of sitting, and they will still all come out together ; and if a fresh hen has to be hastily impressed into your service, she can be accommodated with a batch of eggs all equally incubated, and bound to come out within a very few hours of each other.

Test the eggs at eight days, and eliminate all the addled ones ; keep moving the good ones on, so as to

keep up the requisite number in each nest, and bring in new comers to fill up the boxes left vacant by the change ; remembering each time that you empty a box to change the nest, and well wash the inside and every crevice with the hot lime wash before mentioned.

A wild duck's egg, being very thin and clear, may be tested by an experienced hand in three days ; but a pheasant's egg, being thicker in shell and more opaque in colouring, can seldom be diagnosed with accuracy before the eighth or ninth day. An egg-tester can always be procured from whatever firm you may patronise for your incubator. It may be necessary for the keeper to hatch his pheasants' eggs in a building ; if so, the floor should be kept well watered from the very commencement of incubation, a damp atmosphere in a house materially assisting towards a satisfactory result as regards hatching out. The egg boxes indoors are placed in rows along the walls, one above the other. I have seen as many as five different lines of boxes, placed in tiers, each a little above the other, necessitating the use by the keeper of a step ladder to reach to the higher ones. The whole system is very objectionable. The eggs do not hatch as well, nor are the "chicks" as strong, as those produced on "mother earth." The eggs do not receive natural treatment under these conditions ; many chicks die in the shell, and many more are born weakly and remain so ; add to this the man to attend

to and lift off his hens has to raise his arms above his head, and plunge them into a box in the dark, very possibly dragging out every day on the wings of the fowls two or three eggs, which get broken and spoilt—let alone frightening the old hen, who as often as not gives a kick out as he lifts her, and smashes a few more. Still, in some instances, master's orders are imperative. A beautiful hatching house has been erected at great expense, and must be used. So the keeper is bound to do the best he can. Let him, however, guard particularly against the little accidents just mentioned above; take off his hens himself, and hand them, as he does so, to a subordinate to affix to their numbered pegs. Hens very soon get accustomed to being handled by one particular individual, and resent the attentions of strangers.

The proper and cheapest method of making the simple apparatus necessary for tethering the hens to their feeding pegs is as follows: Take 3ft. of string and fasten one end to a strip of leather about six inches long; at the opposite end of the leather, cut a slit about an inch long, put the small strap round the leg of the hen, pass the string and part of the leather through the incision, and pull tight; fasten the string to the peg, and the hen will be held securely, without any chance of cutting or injury to her leg. If anxious to be extra safe, or likely to be away during the time that the hens are taking their morning meal, a swivel may with advantage be inserted

between the string and the soft leather, obviating any chance of entanglement; and if the peg be cut with a knob at the top, and a brass curtain ring run up it to attach the cord to, all possibility of the hen winding herself up to her peg is removed, the ring running freely round the peg when the hen moves about whilst feeding or dusting herself. A little bit of rock salt within reach of every hen occasionally is, I really believe, beneficial to their health, as it is to that of most animals.

A few hints as to the treatment of hens during the winter, supposing that my reader keeps his own stock throughout the year and has the house for their accommodation, may very well be added to this chapter.

Hens should be kept in a warm place and not let out in the day time during the bad months in wet weather, for one good sound wetting will keep them back for a fortnight. The dry cold, even in the severest frost, if dry, is less injurious than even a little wet in winter time; if the feathers get wet in our climate in winter or in short days, they do not get dry for a long time, and this it is that spoils and kills many of our fowls. In fact the protecting of the hens in winter from the rain, has a material influence on the filling of the egg basket, and what is more important to our purpose on their health and strength when required for the incubation of the young pheasants.

A movable house on wheels about two to three feet

in diameter with flaps of wood on hinges at the back and on each side, which can be easily lowered, is strongly to be recommended. A permanent house should be provided with nests and roosts to be reached from the ground by a ladder formed of a plank with bars of wood nailed across at distances varying from six to ten inches, and it should be placed on slightly raised ground, having a declivity immediately in front, which will help to keep the ground from becoming a puddle in wet weather.

Open the windows in the morning immediately the fowls go out, sweep and scrape the floor, and scatter thereon dry earth and lime once a fortnight, and lime wash the whole building twice a year with carbolic acid mixed up in the wash, not forgetting to treat likewise the roosts and nests.

A china egg should always remain in the nests. Keep the feeding vessels also scrupulously clean, and keep a dust bath composed of fine dry ashes or sand and lime rubbish, always in one corner; this can be placed in a shallow box and the addition thereto of some black sulphur is very desirable.

CHAPTER IV.

HATCHING OUT AND INCUBATORS.

How green are you and fresh in this old world.

King John, Act III., Scene 4.

Th' appointed time

With pious toil fulfill'd, the callow young,

Warmed and expanded into perfect life,

Their little bondage break, and come to light;

A helpless family, demanding food

With constant clamour.

THOMSON (*Spring*, line 666).

HATCHING OUT.

HIS most important epoch will occur about the twenty-fourth day, and ere this, all the paraphernalia for the reception of the youthful pheasants — coops, appliances, foods, &c., which will all be described in due course — should be ready prepared, and the field in which old hens are to complete the latter and most important portion of their duties should have been long ago selected, duly cleared of vermin, and eaten down by sheep. But of all this more anon. At present we have to deal with our tender charges as they chip, one by one, the sturdy eggshell that has protected them so long, and enter upon that brief career, which, from the first moment when the incubator may have been overheated until the supreme hour has arrived,

the dinner gong has gone, and the cook has put too much onion into the bread sauce, entails little else but worry, danger, annoyance, and expense upon their nurses, guardians, owners, and destroyers. And yet we love the pheasant. The sportsman, although it is somewhat the fashion to decry the battue, seldom refuses an invitation to join in one; and as for the epicure, did not a French monk, a celebrated preacher, urge, some centuries ago, that pheasants should be eaten by the clergy alone, "that, incorporated with their glorious bodies, they might be raised to Heaven, and not go with impious unbelievers to the infernal regions?"

There's a character for you, gentlemen! and yet is the pheasant often the cause of much maliciousness upon this earth—envy, hatred, jealousy, theft, and malice are not uncommonly to be found in his train, and some men will use as much artifice and deception to acquire an invitation to some "noted shoot," as would not disgrace an experienced London chaperon when intriguing to get self and daughter invited to a ball in a bit better "set" than they are generally accustomed to move about in.

But meanwhile our pheasants are chirping to be let out, so back again to business. The incubator at this stage plays a most important part, and the wise man who wishes to get as much sport as possible for his money will do well to invest in one for hatching purposes. A saving of at least 10 per cent. in

mortality is, I feel quite certain, most decidedly effected by the use of an incubator for the last two or three days of the early history of the pheasant poult. The heat is uniform ; there are no old hens' legs to get in the way and crush the fragile brood. There is no maternal impatience should the weakly chick be somewhat slow in bursting its bonds ; and, moreover, when an old hen has her nest half full of eggs and half of hatched young ones, she cannot be expected to do her duty to both, and one or other have to go to the wall.

No ; have your incubator by all means. We use Hearson's at Rhiwlas, and have always four of the largest size in strong work ; but let everybody select the one he most approves of, and place it in some quiet, unfrequented room or outhouse, where there is plenty of fresh air, but not in a conservatory, where of all places variations of temperature are most apparent ; nor in a position where the wind can blow in at one side and out at the other. Let the machine be heated, should the weather be cold, so that the egg drawers may stand at a degree or two above 104° , and, should the weather be hot (an unlikely occurrence in April), a degree or two below 104° , which is the best temperature for the drawer when the air in the room or hatching house in which the incubator is placed stands between 50° and 70° . Instructions as to the working of incubators it would be, to my mind, waste of space to give. The directions issued by the

various makers are sent necessarily with the machine, and are always of the most comprehensive and practicle nature. Hearson's incubators are certainly very easy to work, require very little attention, can easily be understood from carefully reading the instructions ; and if Mr Hearson would turn his attention to adding to his machine a door or opening on the left-hand side, facing the lamp, so that the interior can be got at more readily for cleansing purposes, I must say that, although I have as yet not had occasion to try his new " Mechanical Baby Farm," my own family being by now pretty well reared (it is worth while to send for Mr Hearson's little book if only to see the picture of the comfortable little kid in its artificially heated cradle), I think that, in the matter of incubators for young birds, his new Thermostatic leaves little to be desired, and artificial machines for the rearing of chickens and young game are bound to hold their own in this country, the uncertainty of, and frequent changes in our climate, being so abnormal as to render the adoption of the Chinese and Egyptian plans of rearing chickens underground a perfect impossibility.

Well, then, all things being in order, as your pheasants' eggs crack from the twenty-second to the twenty-fourth day from the commencement of incubation, take them away from under the hen, and place them in the drawer of the hatcher, the movable bottom of which is curved, so that by this arrange-

ment the eggs are equally heated, and do not require moving from place to place ; indeed, the lamp, when once the incubator is fairly started, is the only part of the machinery that should require attention—namely, refilling every twenty-four hours. It being an ordinary paraffin lamp, no special care is required in manipulating it, the burner adopted being much the same as those used in ordinary table lamps. The water in the tray also requires replenishing once in every week or ten days.

Keep moving up the unhatched eggs towards one end of the line of hen boxes, but leave two or three eggs—addled ones will do—under every hen until the brood that is to be her future care is restored to her. This keeps her light breasted and in good practice to receive her young ones again.

Leave the young birds in the drawer of the incubator until they dry. Hatching eggs and hatched out chickens do not interfere in the least with one another. When thoroughly dry, put the young birds into a covered basket lined with flannel, and transport them to the field where they are to be reared, and where the hens must be taken and put into coops at the same time to receive them. Put twelve or thirteen birds to each hen, not more, for as they grow, in the course of a fortnight, the hen will be unable to keep warm and do justice to a larger number. We ourselves generally, unless the weather be very fine, keep the hen and young ones on some

dry gravel for a few hours before moving them to the field.

The old-fashioned sort of coop is the best in the long run, and certainly the cheapest, although almost every keeper and authority on the subject has his own particular fancy; and as for the manufacturers who advertise the newest and most attractive novelties in this line, their number is positively appalling. Still, the old-fashioned sort do their work very well, and, as I am writing for people who are supposed to be attempting to rear a considerable number of young birds, expense becomes a serious consideration, and the coop and run which I propose to describe ought to be easily procurable at from five to six shillings apiece. This item will, of course, be much reduced in the case of keepers who have their masters' own sawmills and estate carpenters to appeal to.

The coop should be made with five bars in front, the centre one movable, to run up and down upon a cross piece, so that it can at any time be fixed to its side bars at any desired height, supposing that the coop should be used, as it is pretty certain to be later on, for the purpose of catching up birds.

The dimensions of the coop may advantageously be as follows: height in front, 20in., sloping down to 10½in. at the back; 21½in. wide at the bottom, the same in length; in fact, 21½in. square will well describe the whole interior economy. Let the roof be well match-boarded to keep out the rain, and a

couple of coats of paint, grey for choice, will add vastly to the durability of the article.

The coops used for the early birds should have runs attached in which the young birds can be confined for half a day, when just put out into the field, in order that they may get to know thoroughly well their own particular coop, and the cry of their mother. These runs, or little wooden yards, can be made of any rough unplanned stuff, and need not add much to the cost of rearing, already quite enough; they should be 11 in. deep, and 3 ft. long, to project from the front of the coops, so that the young birds can run in and out between the bars, take the air in front, or hastily rush to maternal protection should a hawk, boy, or other unwelcome visitor put in an appearance. If these runs are made of three loose pieces of wood, connected at each of the front corners by a couple of brass hooks and eyes, and at each side of the coop by a similar fastening, they will be much more portable, folding up into three plain pieces of deal; and a large number of them can be conveyed in a cart to the field, and then easily carried about, and set up to the coops.

Next to pheasant foods, there are probably more vagaries in coops than in almost any of the tempting baits which are spread before the eyes of the sporting victim. As I write, there are lying around me pictures and advertisements of these temporary hen-roosts in every conceivable variety and price, some

actually attaining the price of forty-five shillings. Fancy investing in sufficient coops to rear five thousand birds at forty-five shillings each; would there be any reduction upon taking a quantity, I wonder?

The firm of Rothschild are not, I believe, very large rearers of game—otherwise they, one would imagine, would be the only possible customers for these fancy articles, a representation of one of which, sent here the other day by some would-be vendor, particularly tickled my fancy. It was of course very elaborate and expensive all over, with openings and extra conveniences here, there, and everywhere; a handsome enamelled iron run, beautifully covered over with curled wire, like a mattress, &c.; but the *pièce de résistance* was the lovely shutter which fitted in front, and was beautified with two large eyelet holes, duly ventilated, and closable by a mechanical arrangement placed high up, right at the top of the movable door, very nice for the old lady inside to have to execute a high jump every time she wanted a peep at the scenery, and so salutary for her poor little chickens as she comes back thump into the thick of them. But it's an ill wind, &c., and fortunately the sight of the portrait of this gorgeous chicken palace has reminded me to warn my readers that, when air holes are made for a hen to use, they should be drilled exactly at the height of her head when standing in the coop or sitting in the boxes, so as not to tempt her to shift

her ordinary position for their use. A certain number of your coops should have wooden shutters to fit in over the bars in front, with these air holes bored as described, for the purpose of inclosing and moving the hen and her brood; and these "transporting" coops should also have wooden bottoms fitted to them, which can be put underneath the coop during the afternoon of the day on which you intend the "family" to emigrate. Then in the evening, when the little ones are safely cuddled up on the board under the maternal wing, the front shutter, which should slide down between two grooves on each side, can be quietly slid in, the whole tenement with its occupants put into a cart, and transported whithersoever you will, mother and family waking up the next morning in other fields and pastures new without being one whit incommoded by the process. It is not of course, necessary to have more than a certain number of these extra-boarded coops, as, once the hen is fixed where she has to remain, a common coop can be slipped over her head, and the carrying coops used again the next night if wanted.

The following remarks are from the pen of Mr Horne, of Hereford, a great breeder of fancy pheasants, and, though he rears his pheasants only in a garden, and of course not in very large quantities, still many of his hints are useful, and I should recommend breeders to send for his little book—printed and published by Jakeman and Carver, Hereford—as

it contains illustrations of Mr Horne's coops and runs and various other useful particulars :

“ Keep the little ones entirely confined to the coop and run for the first three or four days, because they do not understand the hen's call, and were they to be let out would stray away. Whilst confined to the coop, put a fresh turf of clover into it, this they enjoy pecking at, and a little of their food may be dropped on it, so teaching them to search for it. At the end of a day or two withdraw the run about two inches from the front of the coop ; the little fellows soon slip out and begin to search for insects and then scuttle back under the hen. After a time they make longer voyages, hunting every leaf for insects, &c. If the weather is very wet and stormy, as is frequently the case in April and May, and the birds are of a very valuable variety, I use runs made like miniature cucumber lights, save that the glass is hung on a hinge at the top of the frame instead of sliding ; by this plan the birds get the benefit of any gleam of sunshine, and are protected from storms. At night for the first three days drop a board in front of the coop between it and the run, to shut them in, or they are liable to stray into the run in the early morning and get cold and cramp.

“ All this extra care is only needed for a day or two ; after that, let out all the birds at daylight, and feed them, and continue to do so all the summer ; each night putting the second or reserve bottom board

to rest on the front of the coop, and its lower edge on the run ; this shelters them from driving rain and keeps the run dry. It is advisable to keep an old sack always on the coop, turned back about two feet by day, and thrown over the front at night. In very hot weather I water it to keep the coop cool for the hen, as I have no shelter in my garden. Never forget to shut the coop up at night. It is only necessary to push the run close to it, the projections at its sides will clip the coop and keep all safe, and no birds can get out or vermin get in. Put in a little food at the same time ; the hens will call the chicks and you can count them, and you should also count them when let out in the morning. Valuable birds disappear in strange ways. The food for the hen should be put in a back corner of the coop, and a little of the young birds' food on the board in front, within her reach, so that she may break it and show them how to feed.

“Should any bird be disposed to diarrhœa, wash the vent and clip the feathers round it, the dirt being apt to clog and form a hard mass there : you will save many a life by this. Soon they will know their feeder, and go towards him if he tap the side of the basin of food with the spoon, and, rushing round him, will, long ere he can raise the wire frame to put in the food, have jumped on the basin and begun to eat. Nothing can be prettier than the bright-eyed little fellows. Nothing can escape them, they will soon clear your kitchen garden of slugs, &c., and

follow your gardener as he digs. This makes them grow up tame, and instead of having birds dashing themselves to pieces in the aviaries, they will feed from your hand. Remember, tame hens will make tame chicks, and the tame chicks will grow up into tame pheasants. I do not like placing the coops too near each other, lest a bird before it know its own coop enter a strange one, when it is apt to be pecked by the hen and injured before it can escape.

“Cutting Wings.”—After a short time the long or flight feathers of the wings grow, and you must watch, for the birds if suddenly alarmed, are apt to fly over the enclosure or wall. To cut them in the easiest and safest way you require some experience. I learnt this by having the hens jump about and break the legs and backs of the little ones when I went to catch them, for it is no easy matter to catch a little pheasant in a coop. When necessary to cut their wings, proceed in the following manner:—Before letting them out in the morning, put some food in the run and entice them all there, then drop the board between the coop and run. Remove the hen and shut her in a spare coop or basket. Remove the board, drive the little birds into the coop, replace the board and they are all safe, then proceed to catch them one at a time through the hole in the roof of the coop. Throw a sack over the hole between each operation, or the young birds may give you the slip. Hold the bird in the hollow of the left hand,

breast downwards, with its legs under the little finger, then any long feathers of the right wing can be cut close. Having done so, turn the bird loose and catch the next. When all are finished, return the hen, and open the run, putting food before the hen. She will soon call her birds, and they will return and forget their first infantine trouble—vaccination if you like to call it so. Next time cut their wings the opposite side.”

Keep a sharp eye upon any suspicious hen, or you may loose a coop of birds, and as some hens will pick the young ones to death as they hatch—which malpractice can only be detected by the ear, as the boxes must not be disturbed at that critical time, but cannot occur in any incubator, where the process of hatching may with impunity be watched through glass—the moral of this tale is obvious. Kill these vampire hens straight off; don't sell them to your neighbours. It is not impossible that you might have them palmed off upon you again during the following season.

Not long ago, a hen killed the whole of her fifteen young ones, all of which had hatched. Fourteen were dead, and the fifteenth was in her throat with its little legs sticking out.

But, having got back to the topic of hatching out, let me, ere I forget it, call attention to the facility which the incubator affords to assist any weakly or misplaced chicken in its efforts to escape. A skilled hand will hardly ever fail in this operation, any more

than he will in testing the fertility of his eggs; a little sharp ivory instrument, something like a toothpick, is the best assistant in this operation, but I have often seen it successfully performed with a common sharp lead pencil.

You will easily see the little hole where the beak is appearing, and if the efforts to escape are too prolonged, or you think the strength of the chick is failing, pick away little bits of the shell from around the orifice, taking the greatest care not to prick or tear the transparent skin underneath, and so cause blood to flow, which will kill the bird.

CHAPTER V.

THE REARING FIELD.

Together let us roam this ample field,
Try what the open, what the covert yield.

POPE (*Essay on Man*, Epi. I., line 9).

THE choice of a suitable field in which to complete the adolescence of your poults is most important, and should be approached with the gravest consideration. Sometimes, as in the case of a shooting tenant, or the demand for a very high rent from the tenant farmer, who is expected to give up his hayfield at a most critical time of year, your choice may be much restricted, or indeed may become that with which one Hobson, of great renown but doubtful pedigree, is usually associated, and you will have to do the best you can with what you can get; but I will assume, for argument's sake, that you are fortunate enough to possess a tolerably wide selection, if so, take my advice and secure the run of *two* fields—not of the same laying down, nor with exactly the same aspect; having thus “two strings to your bow,” should the first field experimented upon turn out to be a failure, you have the other to fall back upon, and this,

especially should that dire enemy "the gapes" put in later on an appearance, will be found no mean advantage.

Any field which sheep are fond of and do well upon will almost invariably be found good for young pheasants, more especially the parts selected by the flock for their resting place at nights. A gentle slope facing the south is the best. Plenty of sun will irradiate such, and sun is, as everybody knows, life, meat, and drink to young chickens. But here let me interpolate a word of warning, to be observed during the first few days that the very young chicks are exposed to the full blaze of Phœbus's bright rays. The old hen, having been so long confined in a box, will, the first time or two that she feels the warmth of the sun, be anxious to do a bit of scratching and dusting inside the coop on her own account, for her own personal benefit; and she kicks up such a dust, and stamps about so freely during this operation, that the poor little ones, if they stay inside the coop, get trampled upon, and consequently get driven out into the little wooden yard affixed to the coop. They are too young and tender to stand at first the piercing beams of a bright sun, and in consequence some will get shrivelled up and burnt irretrievably before the maternal ecstasies are at an end, and they can regain a safe and welcome shelter. To avoid this catastrophe, keep your coops turned away from the sun for the first day or two, during the hours when he shineth strongest, or else

cover over a portion of each yard with green boughs, under which the little ones can creep and find a natural arbour and protection.

As to the actual field, select, if you can, an old meadow having a south aspect with a gentle slope. The short, Dutch clover is desirable; the heavy rank sort decidedly to be avoided. Have the field well eaten down by sheep, and put out the birds when there is very little cover. There will soon be plenty when the field gets quietude; all that fashionable system of mowing into lanes and squares, and allowing a lot of thick damp grass for the chicks to draggle into and drown themselves, is a great mistake, more particularly on heavy land in the south. Young pheasants occasionally do well on a second crop of rye grass—thin rye, as it is called; but a luxurious crop, though satisfactory to the farmer, will not suit the gamekeeper. Little birds on these artificially mown-out runs are much more visible to the eye of the hawk and other enemies—and on a wet day the young ones are sure to seek the open—than they are when crouching under a natural tuft of grass, or in hiding amongst the boughs which should always be at hand near their coops.

Choose deep soil, not rocky or flinty if it can be avoided. Water comes rushing over the latter, and floods the coops; into deep soil it more easily sinks.

Have your field a good way from the coverts, give the latter all the rest you can, and, contrary to the

usual method, avoid belts of trees around it; they keep off the sun, which is life to pheasant poults. Also, if possible, choose a field with a wire fence only around it, and no hedges, which harbour vermin. If the field is far from the keeper's house, a temporary residence should be provided for him close by—say, a wooden hut or an old railway carriage; a portable boiler on wheels will also be found useful. The chicks require constant and assiduous attention, and should never be left absolutely alone. Accidents from vermin—two or four legged marauders—never, one notices, happens when anyone is in the field; but always the excuse crops us, "Oh, I had just gone home for a short time." Therefore, if it is only a boy—and boys are, at best, very poor substitutes for men—let the boy be always there when the keeper is not. A sharp boy, armed with a rattle, and no cold in his head to stop his shouting, is quite as effectual a guard against anything but humans as the stoutest six-foot keeper in the land; and if he has well before his eyes the fear of—ahem! let us say stick, which, to the infantile understanding, is usually the messenger of Providence here below, that boy will be worth the few shillings a week that his perpetual presence among the coops must add to the game account. At any rate, let me again sum up most emphatically, and repeat, never leave a quantity of young birds alone by day or night, if it can possibly be avoided.

Trap round your field well for a fortnight before

you bring your birds out. Put a trap in every possible place, and remember that rabbits' paunches and herrings are a cheap and effective bait. Do not forget also to erect a few pole traps on the more exposed positions. When the chicks arrive, move your spring traps further out, to prevent accidents, and take in the hedges of the next few fields about, and keep the traps there all the while you are rearing; not forgetting that the village feline, though a graceful creature, is better employed at mousing or rearing kittens than in investigating the success of your experiments; and, though of course I do not pretend to offer any distinct advice upon such a delicate subject, yet I have seen a few box traps baited with valerian, and "trailed up to" with a red herring, scattered about a rearing field, and wondered very much what they were left there for; as also have I marvelled at the discovery of a sack and a tub of water in the corner of the same piece of pasture. But enough! Do not choose your field near a wood. If you live in a wood yourself all day, you will require a top coat more than if you spent that same day in the open. Ditto with the birds who have not the advantage of your well-filled wardrobe. Trees produce draughts, also hawks, both of which are detrimental to young pheasants. If there are any magpies' or other nests about, old or new, put round or rabbit traps into them; indeed, if there are one or two solitary trees about, you might amuse yourself more

unprofitably during the dreary hours that must be spent in watching the youngsters, who have well eaten and drunken, and to whom, thanks to your presence, no visible enemy appeareth, than by manufacturing and locating in the said trees some sham nests, duly fitted with the iron jaw.

If the grass should get too long, you must follow the usual method, and cut it into lanes and squares, keeping the coops in the lanes; but, as I never yet saw a lot of birds started well in long grass, I trust to my readers' ingenuity to avoid any rank herbage—at all events, at the commencement of the campaign. The difference to the poor little tender chicks between having to take their exercise in long rank rye grass or thick clover, or a nice well-eaten-down, gently growing, sweet, luscious meadow, is as if you were set to run a hundred yards through tall wheat against another man on a turnpike road.

Verb. sap.

Also avoid a field on which there is any appearance of white stone, quartz, or lead refuse. In this country we have to be most particular in avoiding such; but probably the danger is not so great elsewhere. Snails, too, are very deceptive; there are two sorts exactly alike, and the one may be found on one side of a hedge and the other on the reverse, and yet one sort is beneficial to the birds and the other fatal. Previous experience can alone assist you here, and if it is a "new" keeper who peruses these lines let me give

him the useful hint to be untiring in his questioning of those who have been longer about the place than he has, as to which field birds have done well on aforetime, and on which they have done badly. There is certain to be some sporting labourer, or energetic beater, who can conjure up sufficient memory, especially if encouraged by the "price of a pint," to furnish these little details; and rearing birds pretty frequently upon the same field is not so detrimental as it is usually supposed to be.

Birds get cramp on light soil, and where there are many rocks and stones or banks in a field; therefore I recommend a deep soil for choice.

In the southern counties, where it is the custom to cut down the coverts, or springs as they are called, year by year, in order to sell the poles, it is an excellent plan to keep your birds on the field, if they do well and it seems to suit them, for five weeks, and then move the coops into the part of the covert that was last cut down. Birds do well among the springs, and there is an immense amount of insect life emanating from amongst the grass that surrounds them, which, when the birds are pretty strong, is most beneficial.

Very few men should attempt to have more than the hatch from 500 eggs due to come out at one period; the produce of thirty-five hens at a time is quite as much as any ordinary being can manage, and that is about the number required to set 500 eggs,

allowing seven hens to each hundred. Hens jump about, are uneasy, and require a great deal of attention at hatching time. So, more especially if the eggs are to be finished under hens, and no incubator brought into play, confine your hatching operations to batches of 500 or less, to follow each other about every three days. I always feel a sneaking mistrust for the keeper who insists upon having his thousand eggs all packed up and sent away on the same day, and long to ask him if he is quite certain that he has at the moment at least seventy absolutely quiet hens, ready waiting to receive them, and how he proposes to tackle the 700 or 800 young birds, which, if he is lucky, and has managed his hens well during the period of incubation, he may reasonably expect to hatch out. We tested our early set eggs on April 28, 1887, and found the average of fertility to be a shade over 88 per cent. No; the wise man will have his eggs in three or four batches at a few days' interval, and will profit accordingly.

Leaving this digression, I will give a few more practical hints for rendering the hatching field as safe and suitable as may be. I will presume that you have selected a meadow which boasteth not of a public pathway running through or across it. Boys at some future period may become useful members of society, but they are decidedly out of place in a hatching field, as are old women, students, loafers, *et hoc genus omne*, out for a walk. If the day be fine, your coops offer

a nice little distraction, and, after having been thoroughly and probably manually overhauled, a pleasant subject for discussion during the walk home, and afterwards friends and neighbours will be sent out to see the "dear little birds," whose habit it is unfortunately to crouch timidly in a tussock and submit whilst very young to be uncomplainingly trampled out of existence. Lovers are the only outside parties that, if I were a keeper, or a keeper's cub in charge, I should without hesitation invite to make use of a right of way as often as they pleased. They have their own business to attend to, and it is of such importance that they stick to the pathway to discuss it, and look neither to the right nor left.

Clear the sparrows off in the neighbourhood of your field; a train of chaff and corn mixed, and a few dust shot cartridges, will soon accomplish their immolation. Sparrows are, as elsewhere, out of place among the coops, and the young birds suffer from eating their droppings. For the same reason, also, be very careful to keep the bottom bar of your coops constantly brushed over and clean; for any opportunity of getting at any sort of dropping should be as much as possible denied to your young charges.

If you have any tame foxes about, there is but one thing to be done, and that is to wire out your field with wire netting six feet high, and of a good stout gauge, or they will gnaw through it when you are asleep. Larch poles, sawn in half, will do for the

posts, and once you have the netting it will last year after year. This is an expensive recommendation, I know, but it is absolutely the only safeguard. Fires, white rags on string, old newspapers, paraffin, tar, &c., have all been tried, and are all equally useless. A few chains or pieces of old rusty iron will keep a fox away from a rabbit burrow, or any small spot that you wish to preserve for a time from his attentions, reynard is a bit "too" sharp, thinks that the old metal is some new and improved form of spring trap, and acts accordingly. But this remedy is of no avail over a large space of ground, so wire netting you must have, and there's an end to it; and watch your wires well for traces of assault, remembering the advice of Henry VI., as passed down to us by the immortal William, himself a poacher we are told:

When the fox hath once got in his nose,
He'll soon find means to make the body follow.

Henry VI., Part III., Act ii., scene 2.

Tie up a few dogs to box kennels in your field inside the wire; they will be safer, and you will soon know if you may expect any strangers. King Lear (act iv., sc. 6) probably reared pheasants, for he remarks, "A dog's obeyed in office." Also never be without a gun in the field, and let it not be too far from you. Rooks will sometimes swoop down in battalions, and institute an organised attack upon the young pheasants, and, if you happen to be away, and the boy also, will carry off scores in an hour; but a

shot or two effectually scares these "blackmailers," and they remember the occurrence, and, if one is to believe all one hears, tell their friends also to avoid that particular locality. If any gunmaker has got a good reliable pistol to carry shot a short distance with accuracy, I could imagine it would be a very useful thing in the keeper's pockets at this period of the year. His hands are occupied, and he cannot always have his gun in them, whilst a rat or a weazel may be visible at any moment. Now, here is a hint to some enterprising firm to bring out the "keeper's pistol."

Hedgehogs are very destructive to young pheasants, and should be particularly guarded against. I have known them intrude at night and kill off the whole brood, actually squeezing themselves between the bars of the coop. These "gentlemen of the order of the prickles" should be tackled with what they love best, a stale bait. Indeed, it is an excellent plan to institute a hedgehog corner in your field. Keep a trap or two always going there, and as you catch your hedgehog, keep throwing him down behind until you collect together a most unsavoury heap. You will soon rid yourself of the remainder of the tribe. Certain kinds of vermin which are attractive to the others appear to infest hedgehogs, and for a sumptuous repast off your dead specimens will their late friends and relatives come trooping in.

Then as to weazels—most destructive little beasts—I cannot hope to teach my readers how to catch

them asleep, but I can point out the likeliest place in the field to discover them in, and that where they are most generally overlooked ; this being in an old mole run made in the long grass, more especially where your field has been laid out, as it is commonly in the south, in ridge and furrow. A mole makes a comfortable sort of pipe in the grass ; the weazel takes possession of it, running up and down, and just poking out his head to seize any unwary chick that unwittingly comes close to his haunt, dragging the body immediately into concealment. He may exist in this way for days before the unsuspecting keepers can track him to his lair.

That my keeper may, like Hamlet, be able to say, "I know a hawk from a handsaw," it may be here as well to remark that, if you are losing young birds from vermin, and are not quite sure what sort, observe whether the tendency of the chicks, when at large, is to squat ; if they do, the enemy has wings. If, on the contrary, you observe a youngster give a jump in the air, four legs are at the bottom of the mischief.

Be careful to avoid grass that has been treated with guano, or the chicks will be covered with vermin. Should such a misfortune become apparent, smear the breast feathers of the mother of the affected brood with some mercurial ointment, which is familiarly known as "blue butter." This will remove in a very short time any cause of complaint upon this score.

Wet and stormy weather is best combatted by putting an empty coop in front of the one containing the interesting brood ; this forms an effectual shelter. You wait "till the clouds roll by," and then remove the assistant coop. Mem.: It is necessary to have a lot of extra ones for this purpose, and to have your coops all made the same size. This plan appears to be preferable to the old custom of clapping a board down in front of the bars of the coop in wet weather, and confining hen and young ones within such very narrow precincts. The extra coop gives extra run, and enables the young brood to escape the eternal dangers of their guardian's well meaning but occasionally incautious feet.

Arrange to keep birds of the same age in the same part of the field ; the old proverb of the "little fleas" comes in here, and if the lesser bipeds are kept a little apart from the elders, they will not get so much robbed of their food, and of their fair chance of whatever *bonnes bouches*, in the shape of insects, &c., may be knocking about.

Should you elect to feed upon ants' eggs—the reasons for and against which will be discussed by and by—it may not be out of place to observe that they should be collected in a zinc bucket with a close-fitting lid, or other similar receptacle ; and this should be filled with water for some time before the contents are offered to the young birds, or the ants will sting them so about the eyes and legs that the callow

brood will have to fight shy of what they in reality love best; for remember, if you begin to feed upon ants' eggs, there is but one way to change the "menu;" but of this more anon. I am writing for people who, like myself, are not blessed with a superabundance of ants' eggs.

Peg down a good bunch of birch boughs near each coop for shelter for the young birds when the wooden run is removed; under these twigs they get shelter from both hawks and too glaring a sun. I say "birchen boughs" advisedly, as being more supple and pliant—any schoolboy will back up this assertion—and consequently easier for the tender fledgelings to move under and push about in; add to which, that the leaves and bark stay longer upon birch than upon any other kind of bough, and the advantage of their use becomes at once apparent.

Have little earthen pans put about handy for the chicks to drink out of; these should not contain pure water, but that element strongly impregnated with camphor, to keep off the gapes—regular "camphor julep" in fact. It is best prepared by keeping the camphor tied up in muslin in buckets in different parts of the field, and filling the saucers from these as required. The liquid, to be efficacious, must taste almost unpleasantly strong of the juice of the Indian laurel tree, and the birds will not like it at first—sneezes, throwing up of little heads, and opening wide of bills being plain enough symptoms of their

marked disgust ; but no matter, camphoric must their beverage be. It is a real preventive of gapes, of which, as in most other matters, prevention is easier, far easier, than cure. As to the old hens, if the mornings be dewy they will do very well, particularly if the coops are shifted a bit now and then ; but in very hot dry weather a little pure water may be put into their coops and left there for a short time, the youngsters being meanwhile sent out to play. Should the young birds develop symptoms of cold—*i.e.*, a slight discharge from the nostrils, which may develop into roup—the camphor water for those affected should be changed for some strengthening medicine, in addition to the improvement of and change in the consistency of the food provided for them, which will be alluded to in a succeeding chapter. This “tonic” should take the form of sulphate of iron, given in the water in the proportion of one drachm to a pint of water ; indeed, without the appearance of any disease, this forms an excellent change during the prevalence of any extra bad unfavourable weather. Again, let me repeat that for site nothing will be found to equal a field which has been well fed down early and close. Let the grass grow with the birds ; it will afford them, as they need it, protection and shelter. On a level field, with a smooth sward, the poults will always be exposed to an equable temperature, which is a preventive of the cramp—another fatal disorder, very

prevalent, as are, indeed, most of the disorders to which young pheasants are liable, upon sandy soils, or upon hilly uneven ground, where the heat of the soil and the cold winds soon develop its progress; as does long dank grass, and low hollows where the damp is long retained, and where the birds expose themselves one minute to the hot sun, and the next to a chilly damp wind. So, at the risk of being considered tiresome, I shall again reiterate, choose a nice level meadow, if possible with a good deep soil, and but few rocks or banks in it. The mortality amongst your young birds will otherwise be fearful, and on poor wet lands not 25 per cent. are likely to attain maturity, tend ye them never so carefully. Gapes, roup, cramp, and blindness, those fatal scourges, commit dreadful ravages, whilst damp and cold retard the growth of the birds, and render them, even should they live, a much greater expense, on account of longer keep, before they are ready for the market.

CHAPTER VI.

MOVING THE COOPS AND FURTHER TREATMENT OF THE YOUNG BIRDS.

Let every eye negotiate for itself,
And trust no agent.

Much Ado about Nothing, Act ii., scene i.

HAVING now dealt pretty exhaustively with the field for the young pheasants, and described how it should best be chosen and prepared for their reception, I may proceed to touch upon the best methods of conveying our little subjects thither, and providing for them on their first arrival. The old hens must first be attended to, and each placed in the coop she is to occupy in the field before the arrival of her charges. Feed the hens well, and let them empty themselves before transportation from the hatching place to the meadow. A sack is the best and easiest method of portorage for the anxious mothers. A lot can be carried together upon a man's back; the continuity keeps them warm, they have no chance of hurting themselves or each other, and there can be no fighting, as is possible in a crate.

The hens being each duly located into her coop,

with the wooden run placed in front, the young birds should follow at about 9 or 10 a.m., when the dew is well off the grass. If they have been brought out in the incubator, they will be well mixed up; but the old hens don't mind that—not an atom; any chick is good enough for them. If the young birds have been hatched under hens, take them out as soon as dry. Carry the young birds, as before advised, either in a basket lined with flannel, or, better still perhaps, in a wooden box, with sage grass covering the bottom. This prevents any draughts attacking the young birds *en route*, and, as the soft grass can be changed after every journey, that object of all my advice, "cleanliness," is not lost sight of. A hundred to a hundred and fifty can in this manner be easily and safely taken to the field; and then, commencing at a coop which he can easily remember, let the keeper proceed to dole out the required number of foster children to each parent; but, even in such a simple matter as this, there is a right and a wrong method.

The wrong one is to take up a handful of birds, shove them through into the coop, and try to force them under the hen. She is not going to be coerced, not she; so try the right plan, and that is, pop the little birds into the wooden yard outside the coop, and let them run in of their own accord to the hen, who will generally commence clucking assiduously as you move away to repeat the same operation at the next coop, and will fondly imagine that her maternal

summons has been instrumental in inducing the tender brood to nestle up to her. Confidence is at once established amongst the interesting family, and you will have no further trouble.

When you have gone down the whole line, return again to the coop where you started, and make certain that all the hens have taken kindly to their broods. Should any be obdurate, tickle the old hen under the breast with your fingers, and then just insert the heads of the youngsters under her breast feathers; with patience she may yet become a good mother. Sometimes, however, a hen absolutely refuses to have anything to do with the chickens provided for her, and will pick out their brains if not carefully watched. This generally occurs with pure-bred game hens. A few alarm guns, with plenty of wire attached, are a great safeguard at night to your rearing field. They can now be purchased so cheaply, that I consider it the duty of every man who is rearing a lot of birds to invest in a few. Mr. Burgess, of Great Malvern, sells a very cheap and effectual machine, which takes the ordinary No. 12 central-fire cartridge, plenty of which are generally handy at or near a keeper's residence. The keeper should be careful, after his birds have been out a few weeks—say five or six—to watch the old hens, with a view of detecting any incipient desire on their part to quit the duties of maternity and return to the egg-laying business. If this intention on the part of the hen be not soon found out, she will be

pretty sure to peck her young birds to death in order to get rid of them; at all events, she will begin to object to their entering the coop at nights. Directly you see any symptoms of this shirking of work, be very suspicious of any hen whose comb is beginning to reassume a brilliant red colour; drop that hen's diet, and put her on short commons at once.

The coops in the rearing field should be arranged in long parallel lines, with plenty of space between them. As they will have to remain in this field until they are old enough to be transported into the coverts, it will be just as well to arrange the coops in proper form at first starting; and here I must dissent from the plan recommended by all books that I have seen published on the subject of pheasant rearing, which state that the grass should be mown into lanes and squares, with the coops placed in groups of four at the apex of each lane. And now to explain why I have to differ with former authorities.

It is very desirable, in wet weather especially, and also with very young birds, for the keeper to be able to approach with his feeding tin without too many of the old hens being aware of his presence for some time before he reaches their particular coop. A hen, upon becoming excited by any stranger or unusual occurrence, jumps up from her usual motherly squat, and, as she rises, she closes all her feathers tight; her chicks are most probably nestling under her wings and among her breast feathers, with their little

heads comfortably poked into the maternal bosom; the hen in her fright omits to warn or disengage herself from the brood, and consequently a chick or two often get inextricably hung up in the tightening feathers of the mother, and are hung or strangled to death in consequence.

The same result often follows an ebullition of pleasurable excitement caused by the hen becoming aware of the near approach of the keeper with the welcome tin under his arm. Up jump the hens, and the strangulation bogie again becomes imminent. To avoid this danger, the keeper should commence to feed at one end of the line of coops, keeping the backs of the line below towards himself, and gently whistling as he goes along his accustomed call, so that only a few hens at a time become aware of his presence. On arriving at the end of the top line of hens—or the bottom, as the case may be, for the coops will of course be turned according to the wind—he retraces his steps, and feeds along the second line, the backs of the third line of coops being towards him, and so on until he has finished the field.

This plan would be impossible where the coops are spread about at all angles, and with different aspects; it would then be impossible for the man to conceal his presence from the great majority of hens, who will immediately become excited, and act as has been described. For the same reason, it will be at once apparent how necessary is perfect quiet in the rearing

field, and the absence of dogs, cats, vermin, or visitors.

When the field is done with, if it is likely to be again soon used for pheasants, dress it over in the winter with a mixture of earth and dung, and lime or lime ashes. Be careful, as before mentioned, to avoid guano in any form, which is hurtful in the extreme.

Care must be taken whilst the birds are very young not to let them out of the coops till the dew is off the grass, and to get them in before it rises; but too much attention is paid to this by some keepers, who will not feed until 10 a.m. or so, whereas, except for the very young birds, I advocate the first feed for 6 a.m., then at 10, 2, and 5.30, saying 5 for the very early birds.

Here again let me impress upon my readers, as already I have done in the preface, to make sure that the keepers do turn out their birds early in the morning; let every head-keeper make a point of going round the fields upon which his under men are rearing birds once or twice during the season, without any warning, at 5 a.m., and see for himself that these orders are likely to be attended to.

The pheasant poults will run about the field all day, picking up countless little seeds and insects which would be debarred them if too long confined, and as they have to become active and learn to seek for at least a portion of their own living, it is just as well that they should begin to do so as soon as possible;

and never forget that, both by day and night, the most constant and assiduous watching of the young birds is a *sine qua non* to success, remembering that by day the enemies most to be expected are crows, hawks, magpies, and weasels ; while at night polecats, foomarts, stoats, and the various mustelidæ, foxes, dogs, cats, and humans, may be expected to look in, if not properly guarded against. No doubt the presence of a wooden or iron house in the field, or the proximity of any sort of dwelling house, does act as a deterrent to some out of this formidable list ; and one head of vermin of any sort caught in a gin near a coop and left there, has a most beneficial effect.

Mr. Horne kindly sends me some hints with regard to catching up young birds, and also the rough sketch of a new catching pen or yard, which he has just evolved, but which, I take it, has not yet been put to any practical test. However, the idea of using a yard for catching purposes instead of a coop may prove distinctly valuable, as birds, though perhaps unwilling to actually enter the coop at night, will always be anxious to be near to it, and if they can be induced to enter through the wire fenced apertures described by Mr. Horne, and remain in the yard, they can, of course, be easily secured. But I imagine that Mr. Horne will have to keep a lot of yards, with different sized apertures fitted into their sides, according to the size of the birds that he wishes to secure.

Mr. Horne's special coops appear to have been

illustrated in the *Bazaar* of March 30, and, as other persons beside myself may like to experiment with his new run, I think we cannot do better than publish his letter and rough sketch.

"In your paper on catching young pheasants you are in the same trouble as I have too often been, for when my birds (nearly all foreign varieties) ought to come in and roost they want a latchkey, and to stay out of a night; and if they are not tempted, the cats, &c., may be, so their views and mine differ, hence my trouble. If you refer to the *Bazaar* of March 30, you will see my coops in the sketch, and I merely withdraw them so as to allow the birds to pass between the run and the coop, and by pushing the run close to the coop of a night they are safe; or when my trouble begins I push the coop forward from behind with a pole, if all are in. All this is a trouble, and so, after reading your paper, the following idea has struck me. Let a run be made, say 4ft. to 6ft. long, and say 18in. high; leave a space for the birds to run into the coop, and feed in this run. Now when catching day comes, shut the coop by pushing the run up close. And now comes the dodge. You will on the two sides and end have made an entrance like the one to a decoy, thus:

BIRD'S-EYE VIEW.

“Now pheasants are stupid birds, and invariably run to the outside, so when once in they will not attempt to pass out by these wire doors, which are merely side entrances, like wings in a theatre; once in, they are safe, and by an armhole can easily be managed. I think this will save much trouble, for, if once they can be taught to pass in at these ‘wings,’ they can easily be taken on catching day, and these runs will require to be used only just for a day or two at catching-up time.”

And now I think it will be as well to treat of a most necessary item in successful pheasant-rearing, and one which comes synonymous with, and is almost as important as, the method of mixing and distributing the food to the young birds. I allude to the shifting of the positions of the coops containing the hen and young birds, so as to give them fresh ground daily.

In this, as in other branches of the subject, there is, as I have had occasion to remark before, a right way and a wrong way, and the right way, as usual, gives a little more trouble to the operator than the easier but more unreliable plan. Both the right way and the wrong it will be advisable to discuss.

The coops containing the young birds, as soon as the latter are old enough to permit of the removal of the little yards or pens by which their liberty is at first curtailed, must be moved about the field to fresh ground twice every day. Thus, if you feed, as recom-

mended, at 6, 10, 2, and 5 to 5.30 p.m., you should go through the shifting process at 8 a.m. and 4 p.m., as the two operations should *not* be combined, as is very commonly done, for reasons that shall presently be explained. Let us presume that your coops are placed from twenty to forty yards apart ; the former distance is about the average, especially where fields are valuable and birds are many, the fortunate keeper who has been lucky with his hatching having sometimes to put up with fifteen yards, or even less space, between one hen and the next. Turn your chicks out and feed at 6 a.m. ; then at 8, when the grass is getting dry, shift the coop, with the hen inside it, from one to two yards in the case of very young birds, increasing up to five or six as they grow larger and stronger. The proper way to perform this apparently simple operation is, first to drive your young birds out of the coop into the birchen bough which has been pegged down handy for their occupation, then from behind gently lift the coop a couple of inches from the ground, and walk the old hen, inside, in a sidling manner to the spot which you have in your own mind fixed upon as her next location. You should in the case of very young birds for the first two or three shifts carry with you an extra bough, which, as soon as the hen has been moved, should be pegged down as before in front of the coop, to form a new harbour of refuge. Throw down a bit of food for the hen, just a morsel in front of her coop ; this food need not be of extra "Franca-

telli," or "Mrs. Marshall's School of Cookery" quality, but just sufficient to attract the old lady's attention, and cause her to cluck, and sound the domestic dinner gong. This will draw the young chicks from the shelter of the old bough, and they will seek the attractions of the new one, when, if you happen to be parsimonious in the matter of boughs, you can pick up the one first used, and with it repeat the operation at your next coop. Attempting to drag or push the coop and hen along the ground, neglecting this little precaution, is very apt to end in the loss or destruction of one or two of your tiny charges, which, on the good old Scotch principle of "Mony a mickle makes a muckle," should always be avoided and guarded against as far as possible.

After a few days, as the birds get stronger, you can pull the coop six or seven yards, and count your young birds as they run into the grass and around the coop, this being also an especially favourable moment for detecting symptoms of diarrhoea, or any other malady which may be likely to affect them. So much for the right method of shifting birds, now a few words as to the wrong one.

This consists in pulling the coop its own length from the place where it was, thus just shifting the ground for the old hen, but not for the more important portion of your charges, to whom as large an area of fresh playground as is possible is a matter of vital necessity. It is also a very grave, albeit very

common, error to shift as you feed. Many, I had almost written most, keepers will do so; they won't own it if questioned by their masters, but still they do it; it saves a lot of trouble, and is much the easiest method of getting through the daily work, and I may as well now expound my theory as to why the practice is so pernicious, and why you should only feed the hen at shifting time, and go round again to distribute their pabulum to your crowd of yellow, fluffy charges.

As I have, I believe, already remarked, one of the most important matters to be attended to in pheasant rearing—but a good thing cannot be said too often, and besides, it is most probable that my articles when they appeared in the *Field* were not read continuously by those interested in the subject—is, that the food for the young birds should only be given in sufficient quantities to insure its being always fresh, and any chance of the youngsters picking up stale grub should be, as far as possible, eliminated. It will not do to throw down food for the young birds at the same time as you shift the coop for this very simple reason. The moment the young birds find themselves upon fresh ground, their first idea is to enjoy to the utmost the delightful prospects opened out to them by these “other fields and pastures new,” albeit that their new territory is really extremely circumscribed in its area, and off they go for a prowl after insects and what not, quite regardless of the dainty morsels that you have so obligingly just placed within their reach. After a

time they get cold, and return for warmth and comfort under their parental guardian; it is pretty sure, especially in damp weather, to be some time before they again emerge to tackle your contribution, and all this time the food is getting stale, and every moment less nourishing and more harmful to the birds.

As I am anxious to treat of each operation in pheasant rearing as it comes in turn, I will defer my remarks upon food for another chapter, merely quoting Mr. Carnegie, who, in his valuable work on Game Preserving, says, at page 35, "Of the many prepared pheasant foods, the less said the better; they are for the most part expensive, and inferior to good honest grain," &c.; in fact, they are excellent specimens of what Hosea Biglow calls "*Scarabæus Bombilator*, vulgo dictus Humbug." Spratts is the best, but even that we do not find so nutritious or economical as what we manufacture for ourselves.

Meanwhile, buy a sausage machine. As to the use of that implement of modern science, it is extremely valuable to people who can afford to use up a certain quantity of boiled rabbits for their birds, or who do not care to go to the expense of using "*Spratt's Crissel*," which it is my duty most strongly to recommend. The flesh of the rabbits is passed through the machine, and forms a most valuable adjunct to the other ingredients of which the meal should be composed, the strippings of, say, a leg and a shoulder being about sufficient to mix up with a quart of food,

which, in a rough sort of fashion, may be taken as nearly approaching the right quantity for a single feed for 500 young birds.

The ingredients and preparation of the food for very young pheasants are, of course, important matters, and deserve—my readers will, I hope, agree with me—a chapter to themselves.

CHAPTER VII.

THE PREPARATION AND ADMINISTRATION OF FOOD TO THE YOUNG PHEASANTS.

'Tis not enough to help the feeble up,
But to support him after.

SHAKESPEARE (*Timon of Athens*, Act i., scene 1).

HAVING now, successfully let us hope, conducted the young pheasant poults from the hatching ground to the rearing field, and placed them scientifically in their coops, each lot under their attendant dry nurse, it is high time to consider and expatiate upon the proper food by which to hold together, and, if possible, pull through until October, the tender threads of existence which are all that a young pheasant can lay claim to—there being no doubt of the fact that, next to turkeys and partridges, they are about the most difficult patients in existence to pull through. In this portion of my task I fear that I shall greatly disappoint many readers who are expecting to be apprised of some grand new plan for the instant salvation of all pheasant poults, such as our statesmen are so constantly springing upon us for the amelioration of the state of the sister isle. Not at all. I have

nothing but an uncommonly bald and old-fashioned method of feeding to point out to those who bear me company; but, as Oliver Goldsmith very wisely remarks in the "Traveller:"

Just experience tells in every soil
That those that think must govern those that toil.

(Line 372.)

So I trust that an accurate description, entered upon with the addition of as much detail as the writer is capable of, may be of use to the hundreds of working gamekeepers—fellow members, I hope, of the Keepers' Benefit Society, 4, Carlton-street, Regent-street, London—who are throughout the spring of the year engaged in alternately cursing the weather and doing the best they can for the embryo "food for powder" which engages their undivided attention.

The mode of feeding now to be described, although simplicity itself, has been found very successful at Rhiwlas for a sufficient number of years to establish its character; and I see no reason why, if carefully carried out, it should not prove equally efficacious elsewhere—if, indeed, it has not been tried already; for, as before mentioned, there is nothing startling or particularly novel in our method of procedure, the grand principles of feeding young pheasants successfully being, in my opinion—

First, the procuring of every ingredient of the very best possible quality; and,

Secondly, the entrusting of the mixing and adminis-

tration of the same to only the most capable and thoroughly reliable hands ;

Thirdly, the use of the proper ingredients taught us by experience to be the best.

To begin with,

Old fashions please me best. I am not so nice
To change true rules for odd inventions.

Taming of the Shrew, Act iii.

And there is nothing yet invented to beat the time-honoured chopped hard-boiled egg for the first day or two of the young pheasant's existence, and then I am a believer in the advantages of a food of which custard forms the basis, as against curd, so frequently administered. Custard, which is a simple admixture of pure milk and eggs, has the advantage of retaining the whey, which, containing, as it does, sugar of milk, saline particles, and other ingredients favourable to bone production, must of necessity prove advantageous in its administration to the tender poults.

I do not for one moment object to the occasional addition of a small piece of alum to the custard, if the manufacturer is in a hurry, and the custard does not come quick enough ; indeed, now and then the change is undoubtedly, to my idea, beneficial ; but to keep a lot of young birds continually upon a food made of warmed milk, turned or curdled with alum, and then twisted into a hard mass in a coarse cloth, will be found, in the long run, very detrimental. Alum is not to be found in the natural food of the

pheasant, although formic acid is found in the ant's egg, which, could the article be procured in sufficient quantity, is undoubtedly the best, the handiest, and most natural food for the young pheasant, and more especially for the young partridge; the rearing of which latter, without the aid of the ant, is, to my mind, more or less of an impossibility.

Some favoured localities there are, in Norfolk and Suffolk principally, where ant heaps are to be found in such abundance that the keeper has literally nothing whatever to do but to pull his coops about from one to the other; although even then he will be wise to adopt the hint before given, to render it impossible for the young birds to be driven to desperation by the stings of the parent ants.

But, in the absence of formic, the administration of uric acid has been often found, when birds are doing badly for apparently no perceptible reason, to produce very satisfactory results. This is best applied by means of wheaten bread, toasted and soaked for twenty-four hours in "chamber lye," dried again, and crumbled up amongst the regular food; eliminate the crust.

As to the merits of custard as a food for young pheasants, I am happy to find myself in thorough accord with such an authority as Mr. Tegetmeier, whose words on the subject, to be found at p. 72 of his invaluable work on the pheasant, I cannot pos-

sibly do better than quote for the edification of my readers :

“The best substitute for ants’ eggs is custard.” (Here he goes on to describe the manufacture of the custard in small portions ; for which, when required in large quantities, as the readers of this book are supposed to do, I think that I have it in my power to describe a better and less troublesome “wholesale” plan.) “The clear eggs that have been sat upon for a week answer perfectly well. No animal food can surpass this mixture. The egg supplies albumen, oil, phosphorus, sulphur, &c. ; while the milk affords caseine, sugar of milk, and the requisite phosphate of lime and other mineral ingredients. Moreover, these are all prepared and mixed in nature’s laboratory, for the express purpose of supporting the life and growth of young animals, and, combined as custard, form a most soft, sapid, attractive food, that is eagerly devoured by the poults. From my own long experience in rearing many kinds of gallinaceous birds, I am confident that a very much larger proportion can be reared if custard forms a considerable proportion of their food for the first few weeks, than on any other dietary whatever.”

So much says Mr. Tegetmeier ; and now I wish to bring forward the claims of another very simple and common article of diet, which forms a most useful basis for the compounding of the youthful pheasant’s daily meal. I allude to “table rice ;” not chicken

rice, or any other abominable cheap substitute, but good, wholesome rice, which can be procured at no very great expense wholesale from many excellent firms in Liverpool and elsewhere. We ourselves are indebted to Messrs Golding or Ireland of the above-mentioned town—or city it should be now, I suppose, as has there not been a new cathedral lately erected? At all events, Liverpool can boast of a bishop. The rice should be without husk; indeed, I believe all “husks”—or “sharps,” as they are often technically called—to be most detrimental as an admixture amongst pheasants’ food.

The rice should not be boiled as if for curry—every grain separate; nothing can be worse. A pan of food consisting of grains of rice nicely wrapped round with meal and other ingredients looks very pretty and attractive food; but try and keep your young birds on it for a few days. Although the separate granules are just the right size for picking, and most fascinating to the eye, you will soon see them weaken perceptibly, and go off in condition under your very eyes.

Things sweet to taste, prove in digestion sour.

SHAKESPEARE (*King Richard II.*, Act i., scene 3).

No, the rice should be cooked into a solid mass—just such a mass as you would discharge your cook for attempting to send to table—of such a consistency that, when smeared together by your fingers on the cooking table, the grains will adhere together and

become a homogeneous whole. And now recipe the first :

TO COOK RICE FOR PHEASANTS.

Put as much table rice, without husks, as you are likely to require for the day, into cold water, in a perforated tin or strainer, which fits inside an iron pot, having a handle at each end, bending inwards, to lift the strainer out by. This is what we use, and it can generally be procured from the nearest tinman. If unattainable, a common zinc bucket, also perforated, which can be stood upright in a boiler in sufficient water to surround well the rice, but not enough to allow the pail to float, will be found equally efficacious. Let it simmer, and let the rice cook until it will cut off like a pudding, and until the water will just leave the rice before becoming thick. Then lift out the inside tin, strainer, bucket, or whatever article you select to use, and stand it on the edge of the copper, or fire outside ; it requires no further attention, and, hot or cold, will be ready and waiting for you when you wish to use it. Remembering always that such is the curious nature of rice, and the way it affects the utensils used for the cooking thereof, that, should you by accident once allow a batch of rice to burn in any pot, nothing will stop the next or any subsequent cookings of rice that you attempt to carry out through the medium of the same galleon from sharing the fate of its predecessor, and coming out useless.

RECIPE NO. 2.—THE PREPARATION OF CUSTARD
FOR PHEASANT POULTS.

The proportions are fourteen eggs (hens' eggs) to a quart of new milk. New milk turns best, but milk that has stood overnight will do. Break the eggs into a pail and beat them up well ; a stick or a strong wire whisk will do the work as well as the most expensive egg beater. Then put the milk, nearly boiling, into a saucepan, then the eggs, and keep the whole well stirred. A bit of alum put in now and then does no harm ; if you have to cook for a lot of birds, and have to go away whilst the custard is cooking, it is a very good plan to mix it up in a common zinc pail, and stand the same in a copper of boiling water, with just enough water surrounding the pail to allow the latter to stand upright easily and steadily in the copper. When fit, turn it out into a strainer, and let the moisture exude ; do not, as some people do, put it into a cloth and press it. Cook sufficient custard and sufficient rice to last you for the day in the morning, and mix your food four times a day. If any is left from the previous day, use it for your hens ; do not, under any circumstances, give it to the young birds.

A man must use his own judgment as to how much food to mix at each operation for his young birds. Their appetites will vary according to the weather ;

on a dry windy day they will eat less food, as there will be more insects about ; also, if ants be in the field, less artificial nutriment will be necessary ; on a very dry hot day they will require most food ; and on wet days feed your very young birds inside the coop, as the food gets stale and pasty by lying outside.

Many keepers use boards to feed their young birds upon. This is a mistake, as the boards require constant scouring ; and also it is best to teach them to run about and forage for themselves as soon as possible. As the boards soon get stale and sour, and a man with a lot of birds on hand cannot afford the time to be always scouring and cleaning them, their use is to be deprecated.

For the purpose of preparing the food for the young pheasants, you will require, fixed in some convenient outhouse or shed, on a level floor, a strong deal table, similar to a kitchen table, but with a good high back running round three sides of it, to prevent any waste of the food while mixing—the turning and tossing necessary to thoroughly amalgamate every particle rendering a spill on to the floor by no means an impossible contingency. This table should have a smooth planed surface, and stand firmly on four stout hard legs ; it should frequently be scoured, and always kept scrupulously clean.

A three-bladed chopper, with a wooden handle and three horizontal sharp steel blades, something like a flat iron cut out into partitions and sharpened up, or

an inverted boot-scraper, will be found a useful adjunct, as will the sausage-grinding machine before alluded to. This should be of the largest size ; Kent's make are very good ones.

A boiler, fuel, and a large-sized tin or bucket, to float in the boiling water in the copper, should also be in or near the same building, boiling up the ingredients in a vessel floating in boiling water being a better way to prepare custard for the chicks rather than the direct application of heat. Of course, a wooden or iron hut upon the rearing field itself, fitted with a boiler and bed for the keeper, is a convenience, but not always attainable.

The portable boilers on wheels, which can be moved from field to field as required, would be desirable ; but in all that I have seen the water is too far away from the fire, and consequently too much time is wasted before getting up a "boil." Possibly, however, there may be newer and better sorts of these portable boilers which I have not seen, but which may answer admirably the purpose for which they are required ; in fact, a pictorial representation of one that appeared in the advertisement columns of *The Field*, May 28, 1887, would be, judging from its appearance in black and white, just the very thing.

Some years ago we used to use a very old-fashioned affair, an iron boiler swung from a tripod, and heated by a fire of sticks underneath. This primitive gipsy plan was all very well in fine weather, but a shower of rain

or a storm of wind soon upset the equilibrium, and we now "make other arrangements."

Each feeder should be provided with a double set of circular tin feeders, like a moderate-sized milk pan, one set to be in use, the other in scour, as the slightest bit of stale food, either left in the feeding tin or upon the bars of the coop, will do more mischief than anyone is aware of.

The food for the first four or five days after the egg administration of the first day should consist of custard, rice, and meal. The mixing of these together will presently be described. At the expiration of this period, Spratts' crissel, or the flesh of rabbits boiled and passed through the sausage machine, should be added to the feed. Very little of this meat diet—I use the word meat advisedly, as the crissel is undoubtedly composed of animal particles, and a very clean and satisfactory method of supplying a flesh diet it certainly is for young pheasants—should be given to the very young birds; but as they grow older and stronger the quantity should be increased. Rabbits' flesh is also very valuable if it can be got. Birds do not purge upon either this or the crissel, as they will upon greaves (which I abominate), or upon any other kind of flesh, except when given in almost infinitesimal quantities.

And now to describe the mixing of the food, which should be done with the hand (a clean one, please), upon the solid wooden table already alluded to;

although I confess that I despair of making this portion of my subject satisfactorily clear to my readers.

RECIPE NO. 3.—TO MIX THE FOOD FOR YOUNG PHEASANTS.

Take your rice first, and press it down with your fingers and the flat of the hand into a smooth mass upon the table ; then chop up your custard with the three-bladed chopper, and add it to the rice, from which all lumps have been previously expressed. Now add the crissel, if you are using it. This should have been soaked all the previous night in cold water, only just allowing sufficient water for the crissel to absorb comfortably, and none to strain out. Then add what, for want of a better word, I will call your “ best ” or “ prepared ” meal, topping up with wheaten meal, barley meal, and Indian meal, and there’s your feed. Of course, you must judge for yourself as to the quantity required for each meal, but, as a very rough calculation, the suggestion of a quart potful to feed five hundred birds for one round may not be so absolutely amiss.

This should all be pressed and mixed together with the hand until it becomes of exactly such a consistency as that, when you hold a squeezed-together ball of it in one hand, if touched by the other, the ball will promptly fall to pieces. You will find that you will have to work it with your hands

until just becoming "stodgy," which is the only word I can think of, and but a poor one at best to express my meaning.

This mass, when brushed into the feeding tins—having been previously spread out and worked lightly over by both hands, spread out flat with the palms extended, on the feeding table—will, if properly prepared, be found to resolve itself into pellets about the size of No. 3 shot, or small peas, which are the proper article to offer to the very young birds. As they grow older the food may, of course, be prepared with less care, and the lumps of food presented to their notice can be larger and coarser. A little crushed canary seed occasionally may be mixed up with advantage; but avoid hemp seed as you would poison, and be very wary of linseed meal, so often recommended, although in very bad weather I have known an infinitesimal portion to be of service.

Of course, if you have only a very few birds to deal with, you can air your fancy as to chopped lettuce, dari, rape seed, onions, chopped artichoke, and various other delicacies; but, take my word for it, none of these are the least necessary; and the good, old-fashioned, plain, homely food is all that is requisite to bring up your birds from start to finish. By the use of the latter word I allude, of course, to the time when your poults will be strong enough to eat crushed, and then whole, Indian corn or maize, to which happy epoch we are now attempting to lead them by easy stages.

Poults will keep on growing and progressing well enough upon this stuff, as long as the weather is favourable, and the ground they are on suitable (the mixture as above described contains no less than seven different varieties of food, all of which are most suitable to the appetites, and beneficial to the growth of our tender charges), but when they once begin to show symptoms of having given over progressing, then look out for gapes, chills, and all sorts of misfortunes.

When using the term "best" or "prepared" food, I allude, of course, to a spiced or carminated meal containing stimulative properties. There are plenty advertised, but I consider it my duty to warn the public against a too great faith in such, as does Mr Carnegie on page 35 of his "Practical Game Preserving." These foods may be founded upon the best materials, but again they may not, and when a firm has attained a high reputation for the sale of such, it is apt to get careless and go in for a little extra profit; and, as I have before had occasion to remark, there is nothing tells so quickly upon young birds, or causes them to lose condition so rapidly, as the application of inferior food in any shape. The best, and nothing but the best, is the motto to bear in mind in pheasant rearing; it comes cheapest in the end, as it does in most other walks in life.

The preparation of this stimulative meal is troublesome, and I will not bother my readers with it, merely remarking that my manager (William Guest) has done

very well with this manufacture for some years, that it has a nice colour and scent, and is attractive to the eye, as well as successful with the birds; and that if any other rearers have a fancy to use the same food that we do, he (my manager) has my free permission to turn a few shillings by the supply of it.

When mixed together as described, the food is placed in an open flat tin, and the feeder starts off on his rounds, working with one hand the food in his tin as he passes between the coops. This becomes a matter of habit, and the food, if properly mixed, may easily, as he passes along, be worked up into the proper size of pellets, although to mix up a tin of food properly is really no easy matter. I cannot do it myself, and, on cross-examination of my keeper, he admitted to me the other day that he has only once had under him a man who never failed in mixing his food, and that one got drunk and had to be discharged.

All food should be scattered *in front* of the coop, gradually leading up to the bough, in which, after a time, the young birds should be continually fed, the exercise of searching for and picking out the food from among the birchen leaves and twigs proving a most wholesome exercise for the youngsters.

If the weather be damp, mix your food drier, *i.e.*, add more meal, and pursue the reverse plan in very fine weather; all this comes by practice. After the poults are five or six days old they will delight in searching for their dinner under the boughs; but just at

first give the old hen a chance to assist her brood ; she will decorticate and break up pieces of food in the most maternal and self-sacrificing manner, until they become suitable to the palates and understanding of her charges. Above all, avoid the use of any husks in the food. I am surprised to find the maker of a well-advertised gape cure advocating the use of "sharpes"—*i.e.*, bran—in a recipe for food for young pheasants.

Remember always that the wet caused by a shower of rain does not so very much matter, the little birds can always skip into their coop and avoid the evil effects of that, but that the early and late dews must be guarded against, if not entirely, yet to a certain extent.

By way of suiting all parties, and to provide for the more exigent tastes of those who may consider my prescriptions too simple, I think it but right to append the extended menu laid down for the beatification of young pheasant poults in "Practical Game Preserving," although, as the course includes several "husky" materials as well as "bruised hemp," I must not be quoted as its godfather.

This particular diet, says Mr Carnegie, is not to be of necessity followed exactly. Circumstances may not permit of it, but, as an example of a course of feeding, it is a good one.

And upon the whole I agree with him ; but here at Rhiwlas, as was before remarked, we rear too many pheasants to be able to pander too much to their appe-

TABLE OF FOODS FOR YOUNG PHEASANTS.

AGE OF PHEASANTS.	MORNING FEED.	MID-DAY FEED.	EVENING FEED.	REMARKS.
Up to three days.	Custard.	Custard.	Custard.	A slight sprinkling of oatmeal may be added if thought desirable.
Three to seven days.	Custard and meal.	Custard and meal.	Custard and meal.	The meal to be gradually increased.
Seven days to three or four weeks.	Custard, crushed wheat, millet-seed, chopped lettuce, bruised hemp, chopped potatoes.	Custard, barley meal, boiled rice, onion, dari seed, chopped artichoke.	Custard, oatmeal, groats, buckwheat, rapeseed, dry dough.	But two of these need be added to the custard, or the separate diets can be alternated day by day, or every three or four days.
One month to two.	Wheat and barley.	Custard and meal.	Wheat and barley.	—
Two months to six.	Maize, barley, beans, green food.	Dari, oats, maize, green food.	Maize, peas, wheat, green food.	These can be given on alternate days, or changed week by week.

tites, or treat them with too much consideration ; and as soon as they get old enough to swallow, first crushed and then whole maize (the small round sort), and barley, that they get. They have to rough it upon that diet as best they can ; and the result is sufficiently satisfactory to justify me in recommending such a plain, straightforward course to other people.

I have not hitherto laid sufficient stress upon the desirability of the admixture of a due proportion of powdered sulphur in the food, more especially during the prevalence of hot weather. This should be administered every other day, or at all events twice a week. Care should be taken to see that the sulphur is very finely powdered, as the swallowing of a little lump of the same by a very young chick might be productive of very disastrous results. The quantity given to very young birds should be minute, ranging upwards as they grow, until for a quart pot mixture of food you should add as much of the sulphur as will lie upon a penny piece. It is better to intermingle the dry powdered sulphur with some meal, thoroughly mix it up, and then incorporate the whole with the rice.

CHAPTER VIII.

THE DISEASES TO WHICH YOUNG PHEASANTS ARE LIABLE, WITH INSTRUCTIONS FOR CURE.

Diseases desperate grown
By desperate appliance are relieved,
Or not at all.

Hamlet, Act iv., scene 3.

THE GAPES.

THIS portion of my subject is approached, I can assure my readers, with considerable diffidence ; in fact, my nights have latterly been rendered hideous by visions of a gigantic bird, a cross between a "cassowary" and a "cock pheasant," while a huge bunch of blood-red worms issuing from the throat of the monster, and threatening to envelope the beholder, have added to the terror of the apparition. But no matter ; what can't be cured must be endured, which is very true of the gapes ; and, thanks to the "dog muzzling" and "hydrophobia" controversy, in which I have so lately borne the brunt of the battle, I believe that I am fast arriving at the pachydermatous condition on which the worthy editor of the *Field* occasionally plumes himself.

That worms do for us all in the end is a truism ;

but, unfortunately for the young pheasant poult, he is too apt to make their acquaintance at the commencement of his existence, and more pheasants succumb in the course of the year to the gapes than ever they do to the shot-gun.

Poor bird, who now that darksome bourne
Has passed, whence none can e'er return.

Was remarked long ago by Catullus ("The Grave," iii., 2), and probably, if he was alluding to a pheasant, he was thinking of the "gapes;" in fact, as advice, to be valuable, should be brief—so following the noble example of Mr Punch, who summed up all there was to be said about matrimony, in his time-honoured piece of pithy recommendation—I can only, when asked for a sovereign remedy for this disease, answer, "Move."

There you are; there's the whole gist of the argument, and if I write for a fortnight I cannot improve upon this monosyllabic remedy. If your birds get the gapes on one field, off with the whole batch to another. It is the only way to treat the disease wholesale, and is pretty sure to be effectual.

If you have only a few birds affected, and can afford the time, treat them coop by coop by the carbolic acid cure; but, as you can only proceed by a few at a time, if you are lumbered up with a lot of gaping birds, the far-off lots will be dead before you can find time to attend to them. A simple and possibly efficacious method of administering carbolic would appear to be to mix the powder with sawdust, and cover over the

bottoms of the coops inhabited by the young poult affected by the disease with this mixture, just before the time that they will naturally seek the coop for shelter during the night. When you have watched the young birds well in, shut up the front of the coop with a board, and exclude in every possible way as much of the external air as you can; the heat from the bodies of the birds will cause the carbolic fumes to ascend from the sawdust, and the young birds cannot but inhale the same. I can easily suggest a plan by which a quantity of birds could be treated at once—viz., by heating in a furnace a sufficient surface of earthenware tiles, taking these out with iron pincers (after the hospitable fashion of entertaining visitors related in “*She*,” of the amiable aborigines about whom Mr Haggard so delightfully discourses), volatilising a sufficient quantity of pure carbolic acid by pouring it upon the red-hot tiles, and suspending your birds in the fumes encaged in a broad, low, flat hamper, similar to those we send away live rabbits and hares in, with the partitions pulled out; and, when asphyxiation has apparently taken place, turning them out again, when most doctors agree that the “worm will in this case have died;” but, unfortunately, the objections to this seemingly simple plan are manifold, and, I fear, insuperable. In the first place, there is the difficulty of catching such a lot of half grown birds, for, as a rule, the gapes attack the older birds more than the young ones; and then again there are

difficulties of returning each chick to his own mamma, for no other mamma is good enough for him—not she. As soon as the poults have learnt to know the cry of the hen—and every hen has a different cry, aye, even unto a thousand or more, just the same as every sheep in a flock boasts of a different cast of countenance—to that hen will the poults stick, and under no other will they brood; so that I fear that any thought of a wholesale cure by means of carbolic acid must be dismissed as hopeless, although in the case of a few birds, and where the whole lot can be easily gone through in batches, I should strongly recommend a resort to it; an iron spoon to burn the acid in, and a common egg basket lined with flannel to hold the patients, being perhaps as cheap and simple a method of application as any other.

The disease commonly known as the “gapes”—so called from the continual gaping or opening of the bills of the chicks affected—has its origin, I have little doubt, in noxious inhalations from the land; in proof of which theory I have to submit the fact that, given several hundred young pheasants in a field, the coops at either end have been known frequently to be free from disease, whilst all the middle ones have been affected, and have had to be transferred to the other ground. Sometimes it may be the middle lot that is found to suffer, and the ends escape, or all may be affected together. No worms, snails, excrement, or noxious vapours in the air—to all of which causes this

disease is attributed by rash persons—can account for this phenomenon ; add to which that, if on perceiving the first symptoms of an impending attack of gapes in your young birds, which consists in a “ruffling” or “standing up” of the tiny feathers just above the bill, you kill and cut open one of the affected birds, you will find some red froth just above the windpipe, in the passage leading to the lung. From this froth the worms gradually evolve or appear as the disease grows upon the birds, a process somewhat similar in operation to the production of what is known in rural districts as “cuckoo spit,” which is a white froth that comes on land that has been “jelled up,” and also on quick hedges. This froth generates or conceals a worm, or, rather, the eggs of a worm, which become apparent by degrees, and the same operation evidently causes the gapes, the froth being engendered by exhalation from the land ; wet, unkindly land, that dries suddenly, being the most certain to propagate the disease, which also attacks calves in exactly the same manner, the worms being in this case larger ; and the disease will be recognised by agriculturists under the name of “hoose.” As the disease increases in intensity, these worms, or entozoa—their scientific name being “*Sclerostoma syngamus*”—congregate in a knot, containing perhaps six to ten worms, within the windpipe, thus naturally interfering with the breathing of the chick, which, to relieve itself, gapes, thus causing the body of worms

to separate for a time, and enabling breath to be drawn with greater freedom, until the knot of worms again closes up, and another gape becomes necessary for relief. Naturally, as the worms increase in size and strength, and the bird becomes weaker and weaker, with less energy or strength to gape, and probably inflammation in its throat superadded, the end soon comes, and the poor victim suffocates. In the case of very young birds, a cure in the advanced stages of the disease I believe to be impossible; but, after the chicks have attained the age of from five to seven weeks, if then attacked, they have plenty of power to struggle against the malady for some time; and, if you have not too many birds affected, you can then employ any of the various cures that are recommended; though why anyone should take the trouble to apply turpentine, olive oil, extraction with horse-hair, or spiral springs, and the thousand and one other nostrums put forward by various authorities, I am at a loss to imagine, except when they are prevented by circumstances from making use at once of Nature's plain and simple remedy—*i.e.*, an immediate change of field. Be that as it may, if you should pull out any worms, be careful to burn them, as also the bodies of any young birds that have succumbed to the disease, or you will be materially assisting Nature in the reproduction of this noxious pest.

That the eggs of the gape worm may be carried about on earth adhering to earthworms by blackbirds,

thrushes, rooks, and thus administered to their young—a theory advanced by one of my correspondents—as also the inoculation of chickens with the disease by means of the administration of earth worms in their diet, is quite possible; but I still maintain that the ground is primarily responsible for the productions of the disease, and that upon certain lands, which we pheasant rearers must diligently search for, and when found “mark with a white stone,” the disease will never appear; that if the entozoa should be imported to that land they will decay and die there; and finally, that that particular piece of land will act as an unfailing “Pool of Siloam” for all and as many infected coops that there may be room for upon its surface. We are blessed here with one such “happy land”—a piece of old pasture upon which pheasants have been reared with impunity for five years in succession, and which we now keep as a hospital in case of the arrival of a strong epidemic of gapes, which comes not now, for the simple reason that my manager, with the co-operation and assistance of a certain sporting doctor, has discovered a mixture which, in liquid form, is placed under and brushed over the ground covered by the coops every night. The birds inhale the properties exuded by this preparation, and the gapes are warded off or an incipient attack cured; although, when once the disease has got home, this remedy is, I fear, as useless as any others of the so-called “certainties.” The recipe not being my own pro-

perty, although, of course, I am aware of the ingredients used in the composition, I do not feel at liberty to publish the "formula" for preparing it, but as to its efficacy I can bear the most grateful testimony, and a line to my manager will procure a bottle.

The modern idea of curing the gapes appears to be the infusion at night into the coops of a strong dose from a more or less complicated machine of various volatile and medicated powders. Of course, like everybody else, we have here gone through a course of these "powders," half a dozen different specimens of which may be selected any Saturday without difficulty from the advertising columns of the *Field*. I regret to say that some time ago the conclusion was come to in this quarter that they are all useless, so I will not "raise the hair" of the proprietors by dilating upon the various claims they set forth to an anxious public, the sole result of their use being, as far as we can judge, to kill off a certain quantity of the stronger and healthier chicks, whether "gapy" or not, by causing them to jump violently upwards upon the appearance of the cyclone of powder inside the coop, and to smash their heads against the roof, whilst settling many of the weaker ones by the suffocating effect of the fine particles upon their lungs. Add to this the lively effect produced upon the old hen, who, impervious herself to gapes, strongly resists the appearance of the cloud of unwelcome atoms,

which must present to her olfactory nerves very much the disagreeable sensations of the traveller in the desert overtaken by the "hamseen," or south wind sand cloud, and causes her to stamp and jump recklessly about the coop, greatly to the detriment of her defenceless and tender charges. In the name of humanity. if you must blow in these powders, remove the old hen first. *Verb. sap.*

Did I but believe in the efficacy of any of these much vaunted pulverisations for the cure of gapes, I should have much pleasure in suggesting certain common sense improvements in the construction of the various bellows, syringes, and other wondrously designated machines which are advertised for their application; the introduction of the nozzle thereof underneath the coop, thereby letting in the fresh air, which it is always distinctly stated is detrimental to the salutary effect of the powder application, being a great objection to their employment, as well as the lifting the coop off the ground, thereby allowing a chance for a chick to escape, or poke his head out, to be crushed upon the readjustment of the coop. And also I might easily suggest an improvement in those which, blowing the powder out through a fine wire sieve at the extremity of the muzzle, cause on a damp night a caky substance to be formed out of the powder, thereby retarding the action of the machine when next used, not to mention the hard work imposed upon the operator, which, to quote an old

keeper who was lately inveighing in somewhat unmeasured language to me against the use of these particular remedies, ought to render the inventors thereof "liable in every instance to six months hard, without option." This completes my analysis of the powder cure for gapes.

That I am not speaking off book may best be supported by the fact that, although led by former experience to thoroughly mistrust any absolute cure for well-developed gapes, I have this season, 1887—solely for the purpose of thorough investigation of the disease, with a view to this dissertation thereon—sacrificed a certain number of coops containing nearly three hundred young birds, by placing them upon ground pretty certain to propagate the disease (in the result of which amiable experiment there has not been the slightest disappointment), and tried religiously every advertised cure which we had any occasion to believe offered any reasonable prospect of success, without so far any satisfactory result. This "charnel house," as well as the arsenal of alleviators, bellows, and other mechanical adjuncts, also the laboratory of gape mixtures, gape cures, anti-gapes, and other paraphernalia of which we have of necessity become the happy possessors, I shall—or my manager will in my absence—be delighted to show to any enthusiast who may be passing this way, and to dilate further to him on the subject. The result of these investigations is a decided determination to return to our old principle

of "prevention better than cure," and the use of the compound which, working unobtrusively on the ground underneath the coops at night, neither disturbs nor hurts the young birds, and apparently renders them "immune" to the disease.

There may be a cure for really wholesale developed gapes. All I can say is, that, greatly to my regret, it is as yet unknown to me, and therefore I am unable to impart the secret to the readers of the *Field*. I can only express a hope that some day the "Simon Pure" may be sent to me for experimental purposes. Meanwhile, though I have given to my readers the best advice that I can put together, for the avoidance of and cure for this most insidious and destructive curse to young pheasants, I feel, with Charles Sprague in his "Curiosity," that I have held

But a warped mirror to a gaping age.

The various mechanical means and treatment of the gapes in pheasants by the use of turpentine, &c., are so clearly and excellently described by Mr Tegetmeier in his book, at page 81 and those following, that I feel it would be wasting valuable space to refer to them further, otherwise than to suggest to those interested that the price of the book will soon come back to the investor.

CRAMP AND OTHER AILMENTS.

As before pointed out, the causes of most of the ailments of young pheasants are either wet, unsuit-

able food, or a choice of bad ground whereupon to stand the coops ; and reference has before been made as to the kind of ground most likely to develop cramp, as well as to that best fitted for removing the same. Wet weather we are unable to control ; but damp ground is, to a certain extent, negotiable, and therefore it will be our own fault if, after the disease has once developed itself, we permit ourselves, for any very great length of time, to suffer from its ravages ; and to stand coops about in damp, unseasonable places is certain to bring with it its own reward—probably gapes, and, if not, cramp.

The same remedy that was recommended for gapes—*i.e.*, changing the ground to a spot drier, higher, and more generally suitable—holds good in the case of this disease also ; and the addition of a board under the coops at night, for the first night or two after the move, will probable effect a cure. Should it be impossible to get fresh ground, and the birds cannot be moved, then adopt this precaution—provide for each coop a movable wooden bottom, to be affixed at night and removed in the morning.

For active treatment, put all the birds that are affected, one coop at a time, into a basket, into which some warmed sacking has been introduced. Move them in this into a warm room before a fire, and give them their food hot, with the addition of some peppercorns ground up in it. When they have recovered, replace them in the coop, seeing

that the latter is thoroughly dry, and placed on a dry spot.

Several interesting scientific articles upon cramp in young pheasants appeared in the *Fields* of July, 1887, from the pen of Dr. Klein, giving an admirable diagnosis of the disease, but suggesting no new cure.

Cold is brought about by the same cause as cramp, and, if neglected, is very liable to develop into roup, which, if pronounced, is almost as incurable as gapes. The treatment for cold will be similar to that for cramp, with the addition of some strengthening medicine, before alluded to. Cold in pheasants at the commencement merely exhibits the form of slight discharge from the nostrils, which increases and assumes a violent and more purulent form as the disease develops into roup. The best way to treat roup is to kill off the worst cases, change the ground of the others, and improve their food—bread soaked in ale, with the addition of common black or cayenne pepper, and the moistening of the food with a solution of a quarter of an ounce of sulphate of iron to a quart of water, just using enough to give the food an inky taste; and, in worse cases, half of one of Baily's roup pills, if you have not an unconscionable number of birds affected at the same instant, may be confidently recommended; as, again, may an application of an ointment consisting of mercurial ointment and pure lard (1oz. of each), petroleum and flowers of

sulphur ($1\frac{1}{2}$ oz. of each), for the application, in a semi-fluid condition, to the heads of young poults attacked with lice. The clearing off of these lice has, it is believed by some, often warded off an impending attack of the gapes. The first symptoms of roup besides the discharge is a laboured breathing on the part of the chick, the skin below the lower bill being inflated and emptied at every respiration.

Vent binding is a very common malady, easily discovered, and easily cured by a careful keeper. The vent feathers should be carefully cut off, and the parts treated with sweet oil. This, as before mentioned, is also the first process to be adopted when diarrhœa is discovered. If one or two cases of either of these diseases should be observed, carefully examine all the rest, with a view to discovery of others affected; for, when once they begin, these ailments are not unlikely to run all through the whole troupe; as is also an attack of ophthalmia in the young poults, or epidemic inflammation of the eyes, which is a nasty business, the eyelids becoming glued together, and the birds being unable to run about, and to discover and pick up their food. The treatment is simple enough—the dropping into the eye of a weak solution of zinc and distilled water; or, in more obstinate cases, a few drops of a lotion formed of nitrate of silver—say, three grains to the ounce of distilled or rain water—will, provided you can catch your birds easily, and, as aforesaid, be certain of returning them

to the right coops and the same old mother, be pretty certain to effect a cure.

Be careful that your birds be unable to get at any "yew" or "wool;" and the blossoms of certain kinds of firs are pretty well ascertained to be inimical to their well doing; but, as I have already advocated the employment for rearing purposes of a field, surrounded by as few trees as possible, I need not, I think, trouble my readers any further upon this topic.

CHAPTER IX.

THE FOOD FOR OLDER BIRDS, AND MOVING INTO THE COVERTS.

Who taught the natives of the field and wood
To shun their poison, and to choose their food.

POPE (*Essay on Man*, Epi. III., line 99).

COMMENCE the process of teaching your young birds to eat cracked corn—when they have attained the age of three weeks is quite soon enough to commence—by placing a little for the old hen to deal with just outside her coop. She will soon introduce it to the notice of her offspring; and when you see that they are beginning to eat it, you can then spread it out a little wider from the coop, and leave it to themselves to pick up and devour each grain. It is advisable to keep on the soft food as well; indeed, one meal a day of soft food should always be given for some time to come. The corn should be boiled in the rice strainer just enough to swell it, but not sufficient to make it sticky. You can keep on mixing your food rougher and rougher during this period, until, when the birds are from seven to eight weeks old, it is not even necessary to take the husks out of the food. This process must be carried

out until the young birds will eat with avidity the whole round uncrushed small Indian corn or maize, upon which diet the rest of their short existence will be passed. The birds should be caught up at five or six weeks old. The hens then begin to lay again, and will not have the chicks inside the coops; they will begin to roost in the open all round the coop, and it is high time to transport them to the coverts. The process of catching has been already described; but it may be as well here to allude to the best method of securing a lot of young birds who still pass their nights inside the coop. This is done by slipping a board underneath the coop from behind. First get your board fixed in front to secure the prisoners from egress; then lay your other board down flat on the grass behind the coop, and let two men push the coop very gently on to it, taking care to use their fingers and intelligence all the while to see that there are no little heads in dangerous proximity to the sides.

Another plan is to place a bottom board under the coops during the day prior to the night on which you intend to move the birds; you have then, if you can be certain that all have entered the coop, only to cover up the front of the coop with a well-fitting board and secure the same tightly, and the birds are ready, and removal will be easy and safe.

When the birds are secured, if they have far to go, it is best to affix the coops on to a wooden frame, made to fit on to the top of a spring lorry or cart.

The framework should be made so as to fit exactly in between the two projecting flanges, which will be found on the under side of the board of every coop ; this will keep the coops and their contents secure, firm, and free from shaking on the journey. Three coops will go parallel in a row, and twenty-one or more coops can thus easily be transported by night to the covert which is to be their future abode. If the distance that the birds have to travel be not of any very great extent, a hand-barrow, or bier with four handles, to be carried by two men, will be found an easy and safe method of removal ; or each single coop can be taken up in turn and carried off by the keeper. If water be given to the birds in the woods, continue to use the camphor, but rain and dew will generally suffice.

Put the young birds in their coops on to the open rides, or among the springs and coppices in the covert, taking care not to select too thick vegetation for their first asylum. If you are short of boards, and the same will be required for use again at once, they can be withdrawn as the coops are set down, packed in a bundle, and taken home again ; otherwise the bottom board may well be left until the morning. As to the boards in front, it will be best to lean them out at an angle from the top of the coop, leaving a space of five or six inches at the bottom for the young birds to crawl out through in the morning ; they will walk out quietly, and so feel more at home. The next day you

can remove your boards, and pack them up as before advised.

Take away five or six of the old hens per diem, as you see them beginning to get pale in the comb, and commencing to show signs of "having had enough of it," although a few should always be left; the familiar maternal cluck comes like soft music to the adolescent poult, and keeps him from straying too far from home and getting into bad ways. Although we have long ere this entrusted our charges with the latch key, the youngsters, who by now are supposed to be at least ten weeks old, will sit up in the trees and amuse themselves in the long grass, but will return ever and anon to feed around the coops. The strong ones can now be fed twice a day with meal, and once with cracked or whole corn.

Soon after arrives the happy time of "barley in the straw," in August probably. A good heap of this, placed in convenient open spaces in the coverts, and well sprinkled daily with grain, will keep the youngsters busily employed, and careful watching and destruction of vermin must do the rest.

Into the mysteries of planning out the drives, beating coverts, and the "stopping" of the same, I do not propose to enter. My object has simply been to set forth, in the plainest possible language, the means by which keepers may make the most of the eggs their masters purchase for them, and, finally wishing that improved sport may wait upon such of my

readers as have been kind enough to wade through and intend to follow out the instructions contained in this little volume, I shall close the subject. Of course, we cannot all agree, and as to the proper method of rearing young pheasants there is, I know, a wide divergence of opinion.

'Tis with our judgments as our watches, none
Go just alike, yet each believes his own.

POPE, Ep. v., part 1, line 9.

CHAPTER X.

CATCHING THE YOUNG POULTS, MISCELLANEOUS REMARKS, AND A FEW WORDS ON TURKEYS.

Sum up at night what thou hast done by day,
And in the morning what thou hast to do.

GEORGE HERBERT (*The Temple*, Stanza 76).

WILL NOW devote my attention to commenting upon, or replying to, some of the more pertinent remarks and questions with which I have been favoured by various unknown correspondents, as to the different branches of the subject which have already been touched upon. It is very necessary to have the bottom of the nest, in which the hen is put to hatch out her pheasants' eggs, nicely moulded or beaten out into a cup form. If a lump of any irregularity is allowed to exist, the eggs get rolled outside the hen, and are only half sat upon, and consequently are deprived of that warmth which is their due. To put the nests into shape, we use an instrument similar to a large skittle peg, with a rounded end. This can be conveniently held in both hands, and the hay, sage grass, or whatever material you use for the nests above the green sod, easily stamped into a true hollow.

When the hens are tied up to their pegs for feeding purposes, which pegs should be 3ft. 6in. to 4ft. apart, it is not necessary to put up boards between them to prevent fighting. The hens have something else to think of during their brief enlargement, and, besides, if a bellicose spirit should arise, they cannot get at each other to do any harm. Even if they can just touch each others' heads, the one that is getting the worst of it is not bound to keep that portion of her anatomy in danger, but can retire gracefully, as other "hen-pecked" creatures, besides fowls, have been known to do ere this.

It is a very good thing to keep a Tweed landing-net lying about among the pegs to which you fasten up the hens. This large salmon net, which is fitted with an extra size iron ring, should have a very soft and large-meshed net attached, and will often be found useful to catch any hen that may get loose from her peg, or, for any other reason, be required at a moment's notice.

One of Boulton and Paul's portable pheasantries is also a useful adjunct to the hatching yard. In it eight or ten hens that are just beginning to contemplate the assumption of maternal solicitude can be safely confined close at hand; and, as there are convenient handles, by means of which a couple of men can transport the whole apparatus with ease when a change of position is considered desirable, and a wire-netting bottom through which the hens can

peck, but cannot escape, it will, I think, be found quite as useful for fowls as for pheasants.

The droppings of the hens should be taken particular notice of whilst they are enjoying their leisure hour "at the stake," harder and more stimulating food being provided for those that display premonitions of dysentery. Should a dipsomaniac hen do no eating at all, but only drinking, and also display aggravated symptoms of the above disorder, she had better be killed at once, and another substitute provided without delay. A keeper cannot, just at the peculiarly valuable time of the year, when birds are coming out, be expected to waste his time in doctoring a few old barndoorers. Should, however, the hens be only slightly affected, and should he elect to attempt a cure, some ground black pepper meal in their food is the best remedy.

A "catching coop," with a swing door suspended by hinges from the top front, held in position by a string passing over the back of the coop, and released from behind by the keeper when he wishes to confine his young pheasants for moving or other purposes, has been brought to my notice; but the idea, which at first sight appears to be ingenious, will in the end, I fear, prove to be nought but a "flatcatcher," for the objection to this plan appears to be that, having, as will be necessary, to release your board from behind the coop, and also from some distance off, in order to avoid the frightening of the youngsters

—who, as they grow up, get exceedingly “tickle,” and will rush from the coop at the slightest noise—you are unable to see if a stray poult or two be not resting just outside of or on the bottom ledge of the front of the coop. These the slamming-to of the board would undoubtedly destroy; so I venture to submit that the old-fashioned plan, for getting a “grip” upon your brood of young birds, which I will now describe, still remains *facile princeps*. This is, as Dr. Lynn used to say, “how it’s done.”

Provide yourself with a board to exactly fit the front of the coop, and proceed to starve your young birds to ensure their returning to the coop at night. Remove the shelter of boughs, and stand the coop to face the wind. Wait until nightfall; then, some time between 11 p.m. and 1 a.m., having divested yourself of boots, leggings, gaiters, or any article of clothing likely to rustle and make a noise, and so give warning to the inmates of the coop, approach that object of your attention from behind very quietly and cautiously; take a peep first to see if there be a chicken or two resting on the front bar of the coop; if not, clap your board over the front, and you have your prisoners secure. Should you fail, you must repeat the starvation process, or feed very lightly, and try again.

If you should desire to try and rear some late poults—by no means so hopeless a task as people

suppose (we have frequently here set eggs up till July 7, and succeeded in doing very fairly well with them)—do not fall into the usual mistake of putting them to grow up on the same field from which you have just removed the earlier broods; give them an extra chance, which they badly want, in the shape of a fresh bit of ground. The first birds will have exhausted all the insect life and goodness to be got out of the meadow, and the second lot will have to put up with the old droppings, and general staleness and exhaustion of the ground.

You take a vast deal of trouble to secure nice ground and every advantage for the early poults, that are in reality more favoured by nature and the date of their birth than the later hatches, which require decidedly more attention, and every chance you can give them.

I print a cutting which, as it has interested me, may prove interesting also to my readers, relative to the old English pheasant; it is from Mr Horne, of Hereford:

“It has long been my desire to re-introduce the true *Phasianus colchicus*. The bird now known as our common pheasant is a very different bird from what it was when first brought to this country between the twelfth and thirteenth centuries; changed by climatic influence and the admixture of Chinese, or ringnecks, and other varieties, it has become quite different from the original stock, and, in fact, hardly

any two pheasants we see hanging side by side in a poulterer's shop are alike. After repeated efforts and wearisome delay, I have at last, by the assistance of kind friends, obtained from their original home on the Phasis or Rion river the true bird ; it is a very dark, rich colour, of course ringless, and having a saddle of dark red feathers, with a tint almost maroon on them ; the tail has the markings more blotched than our birds, and is a coppery colour. I find it has not the black breast so often said to be indicative of our old stock ; it is only black on the lower part of the breast. They are fine, upstanding birds, with very good carriage, clean built shoulders, and look like flying well ; they are exactly like a skin in my possession of a bird that was exhibited at a meeting of the Zoological Society last year, and was shot in Trans-Caucasia by a correspondent of the *Field*, and which was then pronounced to be the true colchicus. I had my first lot of birds last autumn, and have recently obtained another importation, but, as is generally the case, more males than females ; these last are those that have only just arrived. I hope I may be fortunate enough to breed from them this year, as I feel sure they will prove a boon to farm preserves, by crossing the cocks with the purest dark birds of our present stock ; we shall then, to a certain extent, get out of the Chinese, a wanderer, and in every way inferior to the old race, whether for sport or table. I hope to acquire a specimen of this new Jubilee

pheasant, and shall offer the produce to the public as the 'Victoria Cross.' "

A lady writes to ask me why her young turkeys always die a day or two after they are born; and, although the question has nothing to do with pheasant rearing, it may perhaps be of service to other would-be turkey rearers if I answer it in this chapter, as it may not be generally known that young turkeys, as a rule, require cramming with egg—hard-boiled, of course—for two or three days after they are born. They are such fools that they have not the sense to pick and feed themselves, or, if they do apparently peck, they do not swallow the food. Let my readers try the cramming process, and they will probably succeed in rearing turkeys. The best plan is to put some common fowls' eggs to incubate in the same nest as the turkeys' eggs; let them hatch out together, and the young chickens, having more sense, will feed themselves, and the turkeys will copy them and follow suit.

The proper way to cram your young turkey—or, indeed, pheasant, if you should elect to do so to some weakly birds—is to take the chick in your left hand, open its beak, and hold it so with the forefinger of the left hand, whilst with the right you pass into the gullet a pipe-shaped bolus of hard-boiled egg, mixed up with a little oatmeal or Indian-corn meal, lubricated with water to the required consistency. Remove your fingers, and allow the bird to swallow;

when it has done so, repeat the operation; then release the victim, and go on to the next. Twice a day of this artificial feeding will be found sufficient, and the young turkeys will soon learn to peck for themselves. Get them into a grass field as soon as possible, away from other fowls—"an old rooster" has always a feeling of undying enmity towards turkey poults—and be careful to shut up the coop at night, with a strong board in front to guard against rats.

Formerly it was the custom to cram young pheasants for the first two or three days of their existence in this or some similar manner, but the practice has died out, being quite unnecessary, except in the case of turkeys, pheasants and young chickens being quite sharp enough to know what food is, and where and how to apply it; besides, the labour and waste of time inseparable from the process of cramming eight or nine hundred birds, or perhaps more, are not for one moment to be thought of.

In seasons as hot as the spring of 1887 it is a very good plan to put the young birds into tolerably open shady covers, within a few days of hatching out. This certainly saved many of our pheasant poults during that abnormally tropical season, in an ordinary one, had the same treatment been carried out, the drip from the trees would doubtless have soon settled the lot. In pheasant rearing, as in aught else, we must be guided by circumstances, and look

to Nature for a lead. We are experimenting at the Rhiwlas Game Farm, upon various medicaments to be mixed up with the food of gapy chickens, in hopes of discovering some certain means of alleviating that fell disease. Meanwhile, if taken in time, "Guest's Gape Preventative," used on the ground under the coops, has well upheld its reputation, and I have no hesitation in recommending a trial of the same. Arrangements are in process by which, for the season of 1888, both this useful remedy, and also the prepared meal that has been produced so successfully upon the Rhiwlas Game Farm, will be produced in sufficient quantities so as to benefit other breeders besides ourselves.

And what is writ, is writ—

Would it were worthier.

Farewell! a word that must be, and hath been—

A sound which makes us linger,—yet—farewell.

Childe Harold, Canto iv., stanza 186.

APPENDIX.

CHAPTER I.

PRACTICAL HINTS ON DRIVING GROUSE.

Delightful task ? to rear the tender thought,
To teach the young idea how to shoot.

JAMES THOMPSON (*The Seasons*, line 1149).

Could you on this fair mountain leave to feed
And batten on this moor.

Hamlet, Act iii., scene 4.

HAT the present craze for large bags of grouse, killed from behind butts or artificial shelter, has revolutionised our ideas of sport as compared with those held by our ancestors, there can be no manner of doubt. The ease with which guns, shooters, loaders, and all the paraphernalia can be carted without any trouble to the ground, and the *otium cum dignitate* with which a man can ride a pony up to his allotted castle, dismount, arrange his cigars, whisky flask, cartridges, guns, and other *impedimenta* with the certainty that he will not be dispossessed from a comfortable seat on his driving stick for some hours, if at all, during the day, has, it is

useless to deny, an extraordinary attraction for the present customers of Messrs. Purdey and Atkins. Rents, in Yorkshire especially, which used to be moderate for grouse moors, have gone up with leaps and bounds; and, whereas, only a very few years ago a man, if he were a tidy shot, and could boast a galaxy of friends of somewhat equal calibre, could pretty well with certainty count on killing sufficient grouse during the season to pay all his expenses, and the better part also of his rent—nowadays these rents, owing to the unprecedented demand for any decently flat moor in the northern counties of England, have sprung up to such an extent, that it is only the fortunate proprietor, who is not dependent upon his land for an income, or the more or less millionairish outsider, that can afford to take his ease in his Yorkshire moorland arbour. *Nous avons changé tout cela*; and the six feet of earth which, by a time-honoured axiom, was supposed to be the final desire of human existence, is now changed into six feet of earth, certainly—but six feet square—surrounded by a semicircular bulwark of heathery slabs, and furnished with a couple of comfortable seats for the whilom proprietor and his servant, a table for his cartridges, nicely-fitted wooden rests for his guns, a peg to tie his dog up to, and in many instances a level-laid larch floor to stand upon and keep the damp out of his toes; together with one or two more loaders, a man to score his kills, and

another to sit behind, watching the back of the butt without intermission, to mark what birds may fall in the rear. All this have we; and, being so, let us make the best of it, and try to believe that it is all for the best—this new-fangled notion of sport being, without doubt, most conducive to the increase of the stock of birds upon any moor where it can be carried out in its integrity, until the time that retribution sets in, the ground gets overloaded, disease appears, sweeps the moor, and the whole process has to commence again *de novo*. Happy the man whose lease commences at the zenith, and who is able to quit, ere disastrous retribution overtakes his enormous artificial stock of red grouse.

The mere fact that the killing of any single grouse—that is, a bird which flies alone without companions—is a certain benefit to any shooting, is quite sufficient in itself to account for the rapid increase of stock upon a driven moor; the generality of these single specimens turning out to be “old cocks,” ancient bachelors of pugnacious habit, who take very good care during that important epoch of the year, the breeding season, to select and carefully guard for their own especial use and behoof an unreasonably large acreage of heather, which, but for these drones, would be invaded and utilised by the really useful, *i.e.*, *breeding*, denizens of the mountains. If they be not old cocks (old bachelors, as said before), these single tempting shots that

help so much to fill the bag—why, a truism—they must be hens; and every keeper knows that a single old hen (an old maid, in fact) is about as valuable a member of the grouse community as Aunt Tabitha or old Cousin Martha is amongst ourselves—ornamental and useful to the workaday world. These old grouse come one by one straight and steady up to the guns. They generally fly low, right along the ground. As with French partridges, there is no swerving; no whirr and buzz of hundreds of wings to distract the shooter's attention. A quiet aim is taken; even the tyro seldom misses these hoary hermits. Over he topples close to the butt, and the moor for the next season is benefited to a certainty, whereas when a wall of birds all of a sudden confronts the astounded beginner, the betting is about two to one on the bird, "browning" thrown in.

Another very marked alteration, which the prevailing fondness for shooting at the breast of a bird instead of his back, and forcing him to seek your society, instead of tramping yourself, wearily and for miles, in order to pay him a personal call at his own domicile, has caused during the last few years (and no one knows this fact better, and to his cost too, than the present writer), is the change in the relative demand and prices paid for the faithful shooting assistants of the last generation, our pointers and setters. But for Field Trials these

would now be an absolute drug in the market; and the race of breakers, as it is nowadays confined to about half a dozen well-known families—the Ansteys, Armstrongs, Bishops, Brailsfords, Michies, and a few others—would most assuredly die out entirely. No; the retriever and the retrieving spaniel are the dogs of the day, and have elbowed their rivals from the field; and any man, could he but break them (which he *cannot*, for a retriever cannot be made under a couple of seasons), would with ease dispose of twenty “heel” dogs ere he was asked for one “Hold up” one. Be this as it may—and whether for good or evil it is not my province to determine—there is no doubt that the art of driving grouse and blackgame has been of late years brought to the same pitch of perfection in Yorkshire, Lancashire, Cumberland, and Westmoreland, as has the “manipulation of partridges overhead” in the home counties of Norfolk, Cambridgeshire, and Suffolk; and, although a description of the arts and appliances necessary to further a successful day’s grouse driving will come to most readers of *The Field* familiar as household words, yet there will be many who have not had the good fortune to be so favoured as I; and, from reminiscences of Swinton, Bromhead, Wemmergill, and others, it will be *mea maxima culpa* if I cannot recall a few items to interest or instruct other sportsmen who may do me the honour to scan these lines.

The excellent bags made this season, 1887, at Bromhead have, I notice, this year been published in *The Field*. I need, therefore, feel no reticence in alluding to the same, although not by any means so remarkable as in former years—1872, for instance, when 1350½ brace were killed in one day by a party of certainly not as accurate gunners as those who now line the fatal ravine, on either side of which the butts are erected, and up and down the bottom of which, drive after drive, six times during the day you travel as you change your number and your position in readiness for the next affray. For to a rifle encounter, and to that only, as once witnessed by self and company during the Franco-Prussian war near Mezieres, can I at all liken the *tout ensemble* of a big Yorkshire drive. Over nine hundred brace have I seen picked up at Bromhead; and this year, had the wind not been contrariwise, this total would very possibly have been equalled—the moor, although probably, for its size, the best in the world, being long and narrow. And should Boreas be rude, as he frequently is—in short, as boisterous in the wrong direction as are certain of the Sheffield blades, who tax the energies of the management by their well-meant though occasionally too-pronounced efforts to swell by “self” and “canine” the already plethoric total—away go vast packs of birds, heedless of flags, and shouts, and shot, and screams, over on to the Association moors adjoining, there, alack! to remain

quiescent until the evening tide, when the dinner bell brings them back. The Bromhead grouse are very domestic—they always come home to tea; and as the two moors are never driven on the same or following days, no loss of birds actually accrues; but ere the return flight has commenced, sport is over for the day, the guns are dressing for dinner, and neither Schultze nor shot vex the return of the wanderer.

The proceedings of one day's grouse driving are, except in minor matters of detail, so much alike another, that a short description of the usual routine will suffice to put those who have not assisted at any of these high carnivals quite *au courant* with the recognised practice of the north. After breakfast, a movable feast (I *have* had to! toy with a rasher at 6.30 a.m., but nine is more usual, and a more Christian-like circumstance), the draw—the really most important personal portion of the proceedings—takes place, your fate for the day, and to a great extent your good or evil repute for the evening, being thereby decided by Dame Fortune. In old days a few numbers pencilled on gun wads, extracted from the host's pocket, constituted the rough-and-ready method of settling this important question. Nowadays we are more scientific. And a printed card somewhat similar to the rough illustration on p. 132 is handed to each gun before starting. Should the number of sportsmen be uneven, each moves up two butts after

each drive ; if even, one. By this means the fact of an outside place falling to each gun more than twice in the day is avoided ; a somewhat unreasonable prejudice existing in the idea of grouse-driving sportsmen against the outer or extreme butts—which, when the wind is blowing strongly in their direction,

NAME.....	
DATE..... 18 .	
BUTT.	BIRDS.
1	
3	
5	
7	
2	
4	
6	
Total :	

often turn out as good as, or better than, the centre places. Indeed, when an affable host assures his friends that “he is only just going to stand in at one of the ends himself, and pick up a few chance birds,” it is not to be taken for gospel that he is in reality extraditing himself from the thick of the shoot.

ing. No, no; a quiet private understanding with his keeper before starting, and a selection of the leeward butt, often effect most astonishing results, and your astute entertainer—greatly, of course, to his own astonishment when “trotting up” time comes—walks in an easy first at the head of the poll. Ahem!

This card is shown for seven drives and seven guns in the party. Should there be an even number of the latter, it is better for them to move up only one each time. Of course, the number of birds picked up at each butt are pencilled in after every drive, or sometimes double drive; and the grand day's total for each gun is compared when all is over and the shades of night are near, with the absolutely correct list held by the man with the cart, in whom there is no variableness, and whose dictum is gospel. Some very curious discrepancies are apt to creep in about this period, and afford ample food for conversation over the wine and the walnuts.

As the large grouse drives generally take place in September and the early part of October—some moors being actually driven even on Aug. 12, when birds are forward and well grown—there is plenty of light to serve out six, seven, or even eight drives in the day; although these arrangements depend, of course, very much upon the distance that the drivers have to travel, and also the ground to be got over by the guns between each drive. Naturally a double

set of beaters, driving backwards and forwards without intermission over the same set of batteries, will accomplish many more drives during the day than when a change of *venue* is frequently the order.

A noticeable difference is also apparent upon almost all moors in the different methods used to land the shooter in his temporary home. On one famous moor with which I am acquainted, a well-cushioned "break" and "pair" convey you to comfortable roomy butts, just off an excellent turn-pike road. A wooden shelf, with a good ledge all round to prevent your cartridges slipping off, stares you in the face; a rack protrudes to receive your three guns, a boarded floor with a ring screwed therein for the restraining of your retriever diminishes any danger of wet feet, and enables you to relieve your feelings in a clog dance with great effect should the grouse keep you waiting; whilst, as soon as the carriage has gone off, the drive commences, and birds begin to come. But this is quite the height of luxury—too much so, in fact; but not to be wondered at, the proprietor of this pattern "fell" being a noble earl, tolerably well renowned for taking care of his own comfort, and that of his guests, under every conceivable circumstance. The mid-day meal, as served after an hour or two in these boudoir butts, to his hungry party, would not, I can answer for it, disgrace the *chef* of the Wind-

ham. However, all this is exceptional, and, as a rule, one should be thankful if offered a pony to ride to the moors upon—"Shanks's mare" being the more common, and, upon the whole, perhaps safest method of progression. There is generally a hill to start with, and, although the masters are as a rule in pretty good training, and get on right enough, one cannot occasionally help pitying the smart London valet, staggering along under the unaccustomed load of a couple of Purdeys and a couple of hundred cartridges, and probably a waterproof, driving seat, or some little trifle of that sort, thrown in gratis.

But to your butts, O Israel—or rather O Gentile; for, as far as my experience goes, the Semitic race are more frequently encountered in Piccadilly or Buckinghamshire than discovered prematurely "turfed" behind a Yorkshire scatter-gun pit; and your butt is, as a rule, easily enough found, a large white number, almost as large as some of the street-door numbers in Paris, generally staring you in the face. How anxiously, having just puffed and blown up a good steep hill, do you inquire of some one in the know whether No. 7 or 1 is at the right or left of the line? Arrived at last, you sit down either on your driving stick, or the seat with which a careful host is pretty sure to have provided you; mop your brow, make a resolution that you will not smoke before luncheon (which firm resolve lasts for about a

drive and a half), followed by an amendment that on this particular day, your host being on one side of you and the swagger shot of the party on the other, it will not do to miss anything; and, now, if a big drive is expected, it is as well to arm yourself with, and fix conveniently in an easily accessible position, a little apparatus for marking down the number of successful shots that you achieve, and the relative positions of the slain. But of these more anon.

CHAPTER II.

PRACTICAL HINTS ON GROUSE DRIVING.

To shoot at crows is powder thrown away.

GAY (Epi. IV., last line).

IN my last chapter I spoke of the advisability of providing some means of marking down the number of successful shots achieved, and the relative positions of the slain. I append, on p. 138, a rough sketch, showing the outer leaf of a small drawing block, to be procured at any stationer's for 9d. The centre represents your position as given in Butt 1, the arrow points turning in the direction from which birds are supposed to be coming. The number of the drive, your butt, and the date can be affixed in the corner if you are sufficiently curious to wish to retain your calendar of the slain for future reference. The crosses are meant to represent possible runners, while the dots are placed as you suppose that you will find stone-dead birds, according to their position within your imaginary squares. Your butt being the centre, as a peg is generally placed in the ground between each butt to warn the occupants how far

they may go into their neighbours' country during the search after each drive for the result thereof, you will have no difficulty in defining your boundaries; while a cedar pencil carried in the mouth, instead of a pipe, during the drive, enables you to

mark down with almost unerring accuracy the result of every successful shot. As to the unsuccessful ones? Why, I know a man, and a very good grouse-driving shot he is too, who invariably carries with him to the mountain a tiny spade, wherewith to conceal from too inquisitive eyes the number of

cartridges that have during each drive been expended; and he does not waste many either, this sportsman, therefore often have I wondered why he should take so very much trouble for so little return. An extra long peak, lined green, to his cap, which on a sunny day he turns forward to checkmate old friend Sol, and on wet ones to keep off the rain from too plentifully bedewing his back, is another somewhat uncommon trait appertaining to my friend's impedimenta. Certain of my readers will now surely be able to put a name to this model grouse driver—one of the keenest sportsmen and best-informed authorities upon shooting in this or any other "Arctic" island.

These crosses and dots should be of immense assistance to yourself, your loader, assistants, and dogs when gathering up the fragments on the approach of the beaters. It is not difficult to draw four imaginary lines through and across your butt, and you then know almost to a certainty how many birds ought to be recovered from each of the four quarters. Speaking of dogs, it is highly desirable for each gun to be accompanied by two clever retrievers—and how rare they are and difficult to procure!—one a slow dog, to wander close round home, so that nothing be lost; the other a fast traveller with an extremely sensitive nose, to take the outside beat, and gather right up to the boundary, if not sometimes a trifle beyond it. It is difficult,

for this heavy killing business, where from twenty to fifty brace have frequently to be picked up after each drive, to get hold of retrievers that, however keen at first, do not get eventually surfeited with the constant carrying of the dead birds. It is therefore not a bad plan, before allowing the dogs to commence, or, if tied up, releasing them from their peg, for one or two of the inmates of the butt to sally forth first and pick up for themselves what birds they can see lying around for the space of two or three minutes.

One of the best of the slow, pottering sort of retriever, above alluded to, that I have ever seen was an ugly mongrel, the one pup saved from the litter of a chance retriever bitch, imported into this country from the Dogs' Home at Battersea, on a temporary engagement as foster mother to a litter of valuable pointers; and I have little doubt that ere now the youthful baronet—well known at the Gun Club—into whose possession passed Waif, as the dog was aptly named, has often since had reason to bless the lucky moment when he acquired this astute assistant.

As a specimen of what the fast, high-ranging, quick-galloping retriever should be, I have never seen anything to equal my well-known prize-taker Rhiwlas Jet, who to the nose of a sleuthhound unites the pace of a greyhound, the tractability of a poodle, and the tenderness of a chiropodist; and distant be the day when she and I have to part company.

Another very excellent and useful companion for a grouse drive is a clever retrieving Sussex spaniel, the dark brown colour and small size of this breed rendering them almost invisible, and consequently harmless, should they happen when seeking to stray over the sky line—a breach of discipline in retrievers much commented upon by careful hosts and head keepers as liable to disturb or frighten back the birds for the next drive.

But a truce to preliminary dissertation. Our party are now in their butts, or ensconced behind some friendly wall. If the latter, the places where the guns are to stand should be marked out, and made comfortable by the laying of a sod on the top of the stones for the shooter to rest his elbows and gun upon, assisted also by another sod or turf pegged into the side of the wall in front of where he stands, just the right height to lean the muzzles of the spare guns against, and so prevent any risk of grating or scratching of the barrels.

A single bird or two arrive; generally killed are these venturesome pioneers. A small pack of perhaps seven or eight very often then presents itself. Generally missed is that first small pack, and then ensues a brief space of inactivity; not a sound should be heard nor a movement seen. Every eye is fixed upon the horizon before him; all is calm and still as your eye wanders, with restless gaze, from right to left, across and in front of you, one gun in hand, full

cocked and ready. Suddenly you perceive a change. The heather afar off appears imbued with life; a sort of undulating mirage is apparent, which, as it gets nearer and nearer, appears to get blacker and blacker. Can it be crows? No; the apparition resolves itself into "the big pack" Myriads of grouse are on the wing, around you, above you, to the right and to the left of you, almost brushing your hat with their wings as, at best speed, they fly frightened by. Now is the crucial moment. Keep calm and get off all your barrels in front of your box; look neither to the right nor left, nor, worst of all, behind, but keep pegging away as fast as your guns are handed to you. There are plenty still coming, and to shoot behind is mere folly and a waste of the golden moment. Some packs of grouse come so wide and deep that even the slowest of tyros finds no difficulty in getting his six barrels into them ere they are past. Not unfrequently one of these huge droves of birds will break and scatter as they pass the top butt, and come swooping on high all down the line from both front and rear, affording every "Jack in the Box" a chance of distinguishing himself.

This latter phase of grouse character is well exemplified in Mr. Stuart Wortley's last picture entitled the "Big Pack," which is, or was, hanging in the tea room of the Gallery Club, in the Grosvenor Gallery in Bond-street, whither I should advise any

sportsman who has not already criticised this really life-like oil painting to hie him quickly and do so. It is taken from an actual scene in a drive upon the Bromhead Moors. The prominent figures in the nearest butt are portraits of two men quite in the front rank in their respective lines: Mr. Rimington Wilson and his head keeper Ward; and as to its truth to nature, I can offer myself as a disinterested witness, happening to have been in a butt just in front of Mr. Wortley when he was making the first sketches. The dead grouse and the heather in this picture have always appeared to me to be masterpieces. If inclined to be hypercritical, some people might say that the arms of the shooter appear a trifle too long, and that the cartridges scattered about seem somewhat longer than they should be; but there—I am no art critic, and it is certainly a wonderful picture. *Verb. sap.* Go and see it.

But the big pack has flashed by, and smaller ones and single birds continue to arrive in steady succession. Far easier to hit are these latter, and a god-send to the unhappy man who has emptied all his muskets fruitlessly into the bosom of one of these enormous concourses. The greatest possible mistake this browning, yet still sometimes they do it; aye, even the most experienced of driving shots cannot at all times resist the temptation to essay the killing of a brace or leash with one barrel. It very rarely

comes off. You stand a far better chance of attaining this happy despatch with a small pack rising to dogs sidewise, or a lot of partridges all making for the same gap in a hedge.

"*Experientia docet*" is as true as usual in grouse driving, and the man who can keep his head best amidst the whirr and whizzing of wings will kill more birds in a bad butt even, than will the neophyte who, however good a shot at walking up birds, fails to account for his proper quantum, even when luckily placed in the centre of the line, with birds swarming round him like bees.

One particular instance of the value of experience, and a ready grasping of the situation, of which I was an eye-witness in the next butt, occurs to my memory at this moment. A small pack, consisting of five grouse, were approaching Lord de Grey, who was my next-door neighbour, and, as no birds happened at that particular moment to be coming my way, and five being a somewhat awkward number to deal with, it was a favourable opportunity to take a lesson. You or I, reader, would probably have let off our first two barrels at the advancing birds as soon as they arrived within easy range, thinking ourselves fortunate had we disposed of a couple with gun No. 1, and the same number with our second musket. If we had got off four barrels in time to indulge in a chance shot at the remaining bird, it would have been, when he was well away

on the wing behind us, and with little chance of arresting his career. Not so the past master; *he* took a long shot at the leading bird, some forty yards in front of his battery, killed it, and then, instead of firing the second barrel, dropped his first gun, picked up his second (he was using three), secured two more grouse before they passed him, caught up his third weapon, and killed the remaining brace of birds behind him—a truly artistic performance, and a good practical lesson to the men who will *not* see that to shoot at a bird as he is coming to you affords by far the best chance of adding him to the score, and yet the reasoning is *so* simple. When you put up your gun to face an approaching bird, be it pheasant, grouse, or partridge, every iota of a second brings him nearer your killing radius, and into greater danger to himself. You may fire at him with impunity at a good long range in front of you, giving yourself ample time to get off your second barrel at another bird still in front of you after you know that the first shot has taken effect—the birds fly *into* your charge *as* they meet it, and absolutely, when in front of you, assist at their own destruction; whereas, after a bird has passed behind, every beat of his wing increases the distance between you, and renders more remote any chance of a better acquaintance. Sideways you cannot fire, on account of the proximity of the neighbouring butts, except on one side or the other, when you happen to be

in an end battery of the line; and even then it is very bad practice so to do, as you may feel inclined to repeat the operation when again replaced in the centre. Grouse driving, although it ought to be one of the safest, is apparently one of the most dangerous forms of modern sport. How seldom does one encounter a party assembled for this particular purpose without very soon ascertaining that one, at least, of the sportsmen is encumbered with a glass eye; and after using them once or twice, one finds from practical experience that the preventive pebble spectacles, which are supposed (and I have been told that they carry out the supposition) to turn a shot at 30 yards, are cast aside, and a man goes on, taking his chance, and trusting to the mercy of his comrades. Either the rain or perspiration—and keeping three guns at work for half or three-quarters of an hour when you are in a favourite butt and the grouse are coming thick, fetches it out of a fellow even on a cold day—blurr the glasses, or they feel heavy and spoil your shooting, or what not. I cannot say exactly the reason, but this is certain, that except sometimes on the nose of a very ancient or timid sportsman out covert shooting, or else adorning the visage of some unfortunate wight who has but recently been hit or frightened, you very rarely see these much-advertised articles actually in use.

To avoid as far as possible any danger, however remote, accruing to either drivers or guns from in-

discriminate sportsmen wandering about the moor picking up with their retriever, it is the rule of many places that no shot is to be fired except from a battery—salutary regulation, but an aggravating one at times, when your dog puts up a bird which can just flutter along the top of the heather, and which, getting stronger as it goes—*vires acquirens eundo*—finally disappears over the sky line, to die before night without doubt, when, as you bitterly think, had it not been for that absurd rule that no loaded gun is to be taken out of the battery, you could have so easily cut short his wobbling departure. No one would have been the worse, and humanity the gainer; but let him go. The laws of the Medes and Persians could not have been sterner than is that of the grouse moor; and another very excellent reason why indiscriminate loosing off should be sternly discouraged is, that as in most places it is the custom to start each new drive by the firing of a double shot, both barrels one after the other as quick as may be—someone who uses black powder being selected as signal man—any shot at a wrong moment audible to the drivers might, and probably would, bring them on too soon, and so ruin everything.

There is no form of shooting that to my mind affords better practice to the beginner than grouse driving, and in no other school of instruction in musketry do you get so many chances to observe your own defects. You will not be long at the game

before you aim, as you think, well in advance of the leading bird in a pack or at a couple or three birds close together, which you artfully hope to annex with one cartridge. The aimed-at object goes gaily on, but to your horror a totally different bird, flying some two or three yards behind the leader which you had marked as your own, collapses and bites the dust! Comment is unnecessary. Lesson No. 1. Learn to fire well forward, for, although a grouse is a heavier bird than a partridge, he does not move his wings so rapidly, nor beat as many strokes with them in the same space of time, yet, what with the swing that he acquires from the longer distance that he has come, possibly part of it down hill, and what with the strong wind behind him, which so often urges him on his wild career, I verily believe that, as a rule, he flieth the faster of the twain; and, in consequence, the bead must be drawn further in front of his beak. The most successful grouse-driving shots I have noticed pitch their gun straight up at a bird the instant they make up their minds to shoot; until that moment both the gun and the arms of the shooter are motionless. Unnecessary movement has a tendency to scare the birds and alter their flight. Swing is at a discount in grouse driving, however valuable elsewhere, and any tendency to follow a bird round should be eliminated as quickly as possible, as savouring much of danger to the occupants of batteries on either side.

When the heather is high around where you are shooting, and especially in the early morning when the dew has not yet left it, the course of your shot pellets can often be traced by the eye after pulling the trigger, and you will be able to perceive in which direction you have aimed, whether below or behind a bird. Lesson No. 2. Again, when shooting at a grouse coming straight at you, somewhat above the level of the shooter's head, care should be taken to fire well up at him, or a visible scraping of a sort of lane down his breast, and possibly the removal of a portion of his tail, will be the sole result, the bird going on as if nothing had happened. Lesson No. 3. Whilst in shooting at a runner or bird on the ground the reverse aim should be adopted, and you should try to fire under him. The proper way to make certain of hitting any stationary object upon the ground with a shot gun, is to aim carefully at the earth, say a yard nearer to yourself than the birds, and gradually *raise* the barrels of the gun slowly until they cover the quarry, then instantly pull; in this way you will rarely if ever accomplish what so many people are accustomed to be astonished at, the missing of an easy *sitting* shot. This practice of shooting at birds just settling is, however, much to be deprecated, as it assuredly puts all birds that have "grounded" within any reasonable distance of the butts right back over the advancing beaters' heads; whereas if you keep quiet and only shoot in the air,

they will generally come forward. I do not pretend to be able to explain this phenomenon, but so it is, and many shots are often wasted by attempting to kill two grouse with one barrel. The pack may, and do, appear to be flying pretty close together, and you imagine that it is impossible for a charge of shot at twenty yards to miss them all; but a very experienced keeper informed me only lately that nothing is more deceiving than the distance between grouse on the wing; there is always at least a yard between the birds, and the man who makes sure of his first barrel, by singling out and keeping his eye upon the bird which he has decided will first come within killing range, and making sure of him, will do the best in the long run. I for one should like very much to know whether, in the famous drive to the "Obelisk" butt at Wemmergill in 1872, when Sir Frederick Milbank killed 194 grouse in twenty-five minutes, he succeeded in killing more than one bird per barrel, and, if so, how often? This famous drive still preserves its reputation, although No. 3 battery from within which Sir Frederick performed this remarkable feat has, for some reason or other, to a certain extent lost its charm—possibly reminiscences of his prowess have been handed down in grouse parlance by intervening generations unto the present occupants of that particular slope of Yorkshire heather—and the granite and marble obelisk erected by Lady Milbank as a memento of that morning, close

behind the battery which yielded such a wonderful shoot, and from which that particular drive takes its name, has been sawn asunder by prosaic successors, as interfering somewhat with the free use of the gun behind, and now lies prone, surrounded still by its ornamental inclosure of iron railings. When the "typical New Zealander," of whom we hear so much, really arrives, should he visit the Yorkshire Wolds, he will wonder much to himself as to who fought the great battle of Wemmergill, and to the memory of what renowned chief was the red granite column at his feet erected. But the doughty deeds of Sir F. Milbank, and all that he did, are they not written in the book that is called Badminton?

And now, having attempted to render as clear as I can the whole duty of the "shooter" towards his grouse, I shall have something to say as to the "driver" and his most important portion of the proceedings.

CHAPTER III.

THE WORKING OF THE DRIVE, AND THE DUTIES OF THE DRIVERS.

We only part to meet again.

GAY.

Men who their duties know.

SIR WILLIAM JONES.

TO the drivers (briefly referred to at the end of my last chapter) belong no small part of the responsibility and certainly much of the *kudos* to be attained in shape of a big bag at the close of the day's sport. They walk hard; hard, in fact, is a mild term to use when attempting to describe the nonchalant fashion in which these stalwart young fellmen—seventy or eighty in number, perhaps, collected from the various farms outlying the moor to be shot—tackle their native slopes and heights. They are to the ordinary Englishman what the greyhound is to the bulldog—having the same pluck and determination, but a decided advantage in the matter of legs. A recruiting sergeant anxious to uphold the honour of the old colours of any particular regiment should search nowhere else for the “raw material” but amongst the hills and dales of our four northernmost counties.

I myself believe they can walk the Highlanders silly; and, another advantage, they have but little taste for whisky. Well paid are they, and deservedly so, for their exertions; and you must have plenty of them, or the day is certain to turn out anything but successful; so that the *nouveau riche* who, inclining to spend his money upon sport, thinks of taking Byron's advice—

So, for a good old gentlemanly vice,
I think I must take up with avarice,
—("Don Juan," Canto i. st. 216.)

had better seek some other outlet than a Yorkshire driving moor, which, leaving the rent and entertaining out of the question, will cost him, to a certainty, from 20*l.* to 25*l.* per diem for his beaters alone, a crown a day and a pint of beer being the customary honorarium to these young giants of the north.

Amongst the rank and file of the drivers, the "turners" or "pointsmen" hold the first position; and, as they have to work their brains more than their understandings, the older and more experienced *employés* are selected for this purpose. And here I must protest against the indiscriminate use of these terms as applied to those flag-bearers whose duty it is *not* to force the grouse forward or around, as the case may be, but, by waving, shouting, throwing up of caps, flags, and other artifices, to divert that somewhat obstinate bird from following the course suggested by his own wayward will, and sending him to destruction, a pretty rocketeer over the guns.

The word "point," to my mind, denotes a fixed object always in view of the birds, whether it may be a man with a flag in his hand, a simple flag stuck in the heather, a pony, or even at times, upon some moors, an artificial kite ; whereas the term "turner " proper would appear to be more legitimately applied to those important individuals who lie crouched in the heather, flag tightly rolled up and carefully concealed, until what time their eagle eyes perceive a pack of grouse likely to "break out " of the drive, and so escape running the predestined gauntlet of the guns, when up they suddenly jump, and wave frantically—a sudden apparition, which has, as a rule, a most salutary effect upon the cunningly conceived conception of the would-be "truants."

Points and turners are usually in their positions, guarding the right and left flanks of the proposed drive, before, or as soon as, the guns take their places in the boxes ; and it is part of their duty to pass on to the far-off "drivers " by a wave of their flags, whistles, or other signals, the warning given by the head keeper or host that active operations are to immediately commence.

If the portion of a moor to be driven is a big flat, as is very common, these men usually stand erect above and below the line of guns—for some distance in front of, and, of course, well removed from, the upper and lower batteries—ready to influence, by judicious waving of their conspicuous ensigns, the

constant stream of birds which should be pouring over the concealed firing party.

If the slope of a hill be the battle ground, the points on the low side should stand always erect and in view, with extra standards planted in the ground between the men, as a grouse, or grouse, having made up his or their minds to break out down hill, are very much more difficult to wean from their fixed idea than those which may make the attempt in the opposite direction—*i.e.*, those that have determined to evade the threatened danger by flying “higher up the mountain side;” but if they catch sight of a conspicuous line of flags from afar off, discretion may take the part of valour, and the birds keep straight on, as they should do, and which it is the aim and object of all parties concerned to induce them to stick to; whereas the sudden and unexpected appearance of a man with a flag, mysteriously springing, without warning, from the heather, has such a strong effect upon the mind of a grouse flying uphill, which is not quite so easy to him as flying down or straight forward, that he in most cases changes his mind, goes on in the direction in which his natural inclination would lead him, and suffers accordingly. A turner placed even behind the guns occasionally is very valuable, but this only comes in by experience. But one important point to be remembered is, that grouse which mean going up hill over a ridge, *will* fly high, so affording more difficult, *i.e.*,

more sporting shots, to the occupants of the upper boxes.

The flags served out to these "turners" and "points" should be of a larger size than those carried by the actual "drivers;" 4ft. square, at least, on sticks 6ft. long, will be found a serviceable size. Pink and yellow calico is the material usually employed, and, for the sake of effect, a Maltese cross of one colour upon the other is very effective; or half the flag can be of one colour and the other the opposite. They should be hemmed, or else are liable to fray in the wind, and so wear out too soon. Should the keeper be unable to attain access to a sewing machine for this purpose, or, what is quite as likely, have neither the time nor the skill to operate there-with even if attainable, an equally effective result may be attained by "diamonding," or cutting the edges of the flags into points with a sharp pair of scissors, which will be found to produce the desired durability at much less trouble than an all-round hem would entail.

The driving party should carry much smaller flags on shorter sticks, capable of being rolled up at a moment's notice and converted into beating sticks. As it is not necessary for this party to frighten the grouse too much, a flag of turkey red will be found to be useful—the centre of the line of beaters, as also the two extremities, being marked by men carrying white flags, on the same principle as the using of a

cork painted white to denote the centre of a fishing net. The head driver or keeper can thereby at any moment discern the centre of his line, and determine from its position with regard to the other similar coloured flags as to how his orders as to "dressing," "formation," &c., are being attended to.

Twenty drivers will effectually cover half a mile of ground, and they can walk at from fifteen to twenty yards apart, as long as they preserve their distance, and keep, like soldiers, the formation prescribed for them. This will generally be in that of a deep horse-shoe, shallow at first, but deepening in as the drivers approach the guns; but on some occasions the drive will be conducted on the principle of a half or three-quarters cart wheel, and with other variations also. In one of the most effective drives that I know, the beaters start actually at right angles to the guns in the butts on their left, the left-hand man of their driving body, standing nearly still, waving a big flag throughout the whole manœuvre, while his comrades gradually execute a gigantic wheel, right shoulders forward, until the grouse are forced clean around over a flat and up a hillside to where the guns are placed, about thirty yards beyond the sky line. At other times the beaters actually appear to be walking away from the guns; yet still the grouse come. So much depends upon knowing the ground, the favourite flight of the birds, and the quarter from which the wind is blowing on the fatal day.

Grouse can be forced straight on a very long way down wind. Their flight is naturally longer than that of a partridge, and when started a second time, if they have not become suspicious of the presence of the guns, they will still continue their forward flight. The opposite or return drive, which is pretty sure to be up wind, should be arranged for a much shorter distance, not to allow of more than one settling of the birds, which should be calculated to take place at or within shot, if possible, of the butts, as, if twice disturbed up wind, the packs are pretty sure to rebel, break back, and disappear into space over the beaters' heads.

Grouse are also much more easily disturbed from their seats than partridges, consequently a greater distance between the drivers is permissible ; but when it comes to real strength in flying, an old cock pheasant will beat the lot. There is a well-known loch in Scotland, about two miles broad, from the shores of which packs of grouse, coveys of partridges, and single pheasants are often known to essay, when once started, a crossing of the sheet of water ; but the pheasant is the only bird that ever gets over in safety, grouse, partridges, and blackgame all dropping into the lake ere they reach the opposite shore.

The curve or line of beaters must be kept very exactly, any man losing his dressing and getting in front or in rear of the line appearing to act as a wedge, and encouraging any birds that may be raised

whilst this defect is apparent to take their own course, and break out high over the other beaters' heads, either to the right or left. It is curious, also, to note how, if a pack of birds mean charging the drivers and so escaping, they will select a space to do so which may be occupied by a beater or keeper *without* a flag; consequently, if a gun be walking with the line of drivers—and a gun is very useful in keeping birds forward—he is pretty sure to get good shooting, as the grouse, seeing no flag, will most likely come back over his head, more especially if he keeps the men on either side of him at an extra distance, so as to afford a good gap; but this is not conducive to the sport of the party in front, and, consequently, if a gun be employed, it should be in the hands of a keeper, and only used to frighten birds forward.

When the line of beaters are getting within a hundred yards of the guns—more especially if the latter are ensconced, as is usual, in batteries over the sky line, and consequently out of sight—they should be instructed to shout, or rattle their sticks, &c., to make their proximity known. Otherwise, an old cock getting up at this moment, and flying low, straight on, may be the cause of a charge of No. 4 coming pounding in amongst the unhappy drivers.

Here let me advise the discontinuance of the practice, now so common, of using the hard or chilled shot, which has a horrible tendency to glance off from rocks, &c., even, it is believed, from the bones or feathers of

a bird, if by chance the charge behind it be a weak or bad one—entailing danger upon both the beaters and the other guns. The same remark will apply to all other kinds of shooting. There is no advantage whatever in using the chilled instead of the ordinary soft shot. The latter kills quite as well; and, furthermore, any unhappy epicure who has chanced at dinner time to close his teeth sharply upon both sorts, will be able to talk to you pathetically as to the difference as regards the injury to his precious molars. Gunmakers also have the temerity to charge an extra price for “chilled shot,” whereas, being only the refuse, it should in reality be doled out at half or a quarter less than the soft, which has gone through all processes, and consequently has cost the makers considerably more to produce.

As grouse rise in the centre of the line of beaters, they should see in regular succession, as they fly onward, each one of the more advanced flags, without any break or intermission. This will eliminate from their instincts any idea of breaking out, and so becoming lost to the drive. A clever flanker does some pretty work. Keeping down, right down in the heather, watching the sky line to see how the birds are working, his eyes, from long practice, can detect the advancing specks long before the majority of the gentlemen can, and he seems to know by intuition whether their heads are the right way, or whether his services will be required—popping up, when he does

so, exactly at the right moment, and so controlling the flight of his birds. A hat thrown in air just at the critical instant has very often a most beneficial result; whilst, if there is any special gorge or gully, or valley between two round hills, down which the grouse have contracted a habit of breaking, the sending up of an artificial hawk kite at that particular spot, and tying it down to hover about one hundred and fifty yards in the air, will have a most extraordinary effect in counteracting the dangers of that particular pass. By the way, there is but one man who can make a really satisfactory hawk kite; he sells them made of silk in sets of three, different weights, so as to suit all winds, in a partitioned tin case to be carried on a man's back; and his name and address is Mr. W. Irvine, Blairfindy Lodge, Ballindalloch, Banffshire, N.B.

The following description of the kites above referred to appeared in the *Field* of Nov. 19, 1887, and will supply any further information required; it should, however, be mentioned, that in places where driving is unattainable, very good results may be obtained by a line of guns walking the moor in a half circle, with one of these kites flying at each end some three or four hundred yards ahead of the line. This will force grouse back over the guns, and once tried will be often tried. Of course this plan necessitates a double set of kites.

"We have received from Mr. Irvine, gamekeeper at Blairfindy Lodge, Glenlivet, near Ballindalloch,

Banffshire, N.B., a sample of the kite which he has used for some years, and has supplied to many private customers, as well as members of the gun trade. From a careful examination we are satisfied that in mechanical construction it is superior to those already in the market, and we are assured by a friend, in whom we place the fullest reliance, that he has on several occasions shot under it with great advantage. It is made of varying materials, to suit the strength of the wind, the lightest being of very thin cane clothed with sarsenet, and this, we are assured, can be flown in a very light wind indeed.

“The great difficulty with all kites, as we have found by experience, is to fly them so as not to disturb the ground to be beaten, and yet to avoid going down wind with the dogs. With the ordinary kite it is only with a steady and fairly strong wind that the kite can be flown down the beat, while to send a man in front of it some few hundred yards, over the unbeaten ground, is fatal to success. Over wild moorlands the Irvine kite can be flown in a slant, by the side of the moor to be beaten; while over partridge ground, where game is pretty thick, the best plan, according to our experience, is to fly it down wind, and while over each field to be beaten, the shooters and dogs should quietly go down under one of the sides, outside the fence if possible, and beat the ground against the wind. When this is done, dogs can be used with as

much advantage as in olden days, and if the kite is not flown too often, birds do not seem to be driven off the beat by it. Of course, in a wild covert, where birds are scarce, the time lost would be fatal, and the flushing of game down wind must be risked; but with cautious dogs, possessed of good noses, this will not happen frequently, as the birds lie like stones.

At all events, it is the only way in which game will lie to dogs in these modern times; and with this point in view, the grand *desideratum* is a kite which can be flown some seven or eight hundred yards in front, either with a very gentle wind or with a fairly strong breeze. Of course, in a gale no string or kite will bear the strain. The dimensions of the kites are 4ft. 4in. by 2ft.

“The following are Mr. Irvine’s instructions as to flying and management of kites: ‘All the kites to be taken out of the case as one, and, when putting them into the case, put them all in as one. This will prevent them from any damage when taking them out

and putting them into the case. In putting the wings to the body, have the two joints put in together, and not the one before the other, as they may get broken; and, in taking the wings from the body, draw out the joints even. The short line at the back is to fasten the wings to the body. The line to fly the kite is to be fastened to the three loops, and, when doing so, see that the line fastened to the head or neck of the body is not twice round the neck, and also that the two lines from the wings are outside of the cross line on the wings. When putting up the silk kites, if they do not go up off-hand for want of wind, have the kite taken out 100 yards or more—one holding the line—and in this way the kite may be got up, letting out the line as it rises. Take care the kite does not catch the wind till the lines are all tight. Keep the head or edge of the kite to the wind till it is ready to be put up. To fly the kite properly, 700 to 800 yards of line is required. The higher the kite is put, the grouse will lie better. Hunt down wind with the kite, keeping it about 200 yards in front of the guns. Should the grouse rise out of shot, they generally fly towards the guns. If down wind cannot be got at all times, send the person with the kite to right or left as the wind may suit—keeping off any ground that is intended to be hunted or on the march—and this will prevent the grouse from flying off the ground. The heavy kites must be taken out to *all the length of the line* intended to fly them with

before fastening them to the line. These, with a small swivel, to have 20 yards of small line fastened to it, with three to four ounces of heather fastened to the other end; and, when putting up the kite, take care that the line fastened to the swivel is not obstructed in any way when the kite is put up. When taking down the heavy kites, and when they are near the ground, they may turn over, and come down with a dash, and get damaged. Have 50 or 100 yards of the line loose beside the person taking the kite down, and, if the kite offer to turn over and come down, let go the loose line *at once*, and the kite will fall to the ground without any damage. Have the kites carefully tied up when taken down; this will save much time and trouble when they are wanted next day. Each kite is made to fly with a certain strength of wind, and the silk ones require very little wind to put them up.

“The light line is to fly the silk kite, the medium one for the light cloth, and the heavy line for the heavy cloth one. When putting up the kite and when taking it down do not let the line touch the frame of the reel, as it will get damaged. Let out the line as the kite rises. If the wind is suitable for the kite, it will rise quickly. It is not necessary to let out all the line unless the kite take it well up. The kites will not fly long if it rains, and it is better to have the kite taken down on the approach of rain. If they should get wet, have them dried the same night; the

lines taken off the reels and wound on to a piece of board and carefully dried. Should the wind fall or rise that another kite may be required, do not let the kite fall to the ground, but have it wound up, if possible; for if allowed to fall at a distance from the guns the grouse will take flight. The person who flies the kite should carry the case with all the kites, and it is better to have another person to assist him if he has to change any of the kites.' "

I have often wondered how a line of inflated gas balloons, made in the form of a bird of prey, of the same material as the large floating balls always given to the children who accompany purchasers at the Louvre, Printemps, and other well-known *magazins* in Paris, would work in controlling grouse, if such an article could be procured. I should be glad to know where.

Upon the construction of batteries it is hardly, I think, necessary to dilate. They are made in three forms—round, semi-circular, or straight. If a drive is to come in both ways along a gentle slope or flat, a simple wall of peat sods, about 8ft. long and 5ft. high, is all that is necessary to shelter from grouse observation the gun, his loader, and dog. If you are going to have a crowd in your butt, or the birds are coming from a height and are likely to see you almost before you see them, a circular butt, with one end overlapping the other, making a sort of short passage, and effectually screening the entrance, is desirable; and

where the *point d'appui* of the drive happens to be situated in a narrow gorge or pass, or where, for some other reason, such as the grouse having a liking for a somewhat contracted and concentrated flight, it is desirable to erect two or three back butts right in the line of favour—some way, say a hundred yards at least, straight behind the crack forward batteries, those that are known, as a rule, to get most of the work. These butts, although to an inexperienced eye they may look a little queer, are in reality quite safe, and, moreover, get very often the lion's share of the bag.

Grouse will sometimes, all of a sudden, and for no apparent reason, make their appearance between the two lines of boxes, affording no chance in front, but swinging temptingly over the guns behind. One of the most celebrated and prettiest stands on a certain famous moor, nicknamed "The Schipka Pass Drive," consists of four butts placed in front on the brink of a deep ravine, perhaps two hundred yards across, while the three hinder batteries are placed exactly on the opposite side of the gorge. There is no background but air to assist the occupants of the back boxes. The grouse always dip a little as they sink into the ravine, and, a few seconds after you see the puff of smoke issuing from the box right in front of you, the grouse suddenly appear, climbing up at you, as it were, out of the azure—a most curious sensation—and then, when that is passed, supposing that your effort is successful, down, down the bird falls,

head over claws, till he reaches the stony bottom of the ravine, whence your retriever eventually extracts him, pretty well prepared for potting, and of no account from the game dealer's point of view.

The batteries should not be placed further than eighty yards apart, sixty is better, and in as true—*i.e.* straight—a line with each other as possible. It may be objected to this piece of advice that if you get shot at sixty yards by your neighbour, it is worse than catching it at a hundred. Quite so; but the answer is obvious—no dangerous man ought to be invited to drive grouse; and, with careful shots and experienced sportsmen, the knowledge that the next butt is pretty close will only render the guns more careful, and besides, cabin next butt in the line of fire is more constantly before their vision, and in reality safer. If the butts are placed wide apart, the birds seem instinctively to find out the fact, as they will also infallibly discover any battery that has been left unmanned, and shape their course accordingly.

Butts should always, if possible, be placed about forty yards behind the ridges of the hills, so that the grouse be not aware of their danger, and unable to see the smoke from the guns, until retreat is impossible; and, where one battery is but indistinctly seen from the next in line, to avoid all possibilities of mishap, it is very desirable to erect a traversing butt of turf, at right angles to the offending batteries, which effectually does away with any chance of the

occupants shooting each other. Indeed, on my own moors, I put up these cross safety mounds in all cases. The expense is but trifling, and you then feel that all has been done that can be done to ensure safety.

These "traversers" should be very high, so as to effectually guard the next door neighbour from any possible effect of a careless shot, though nothing can prevent danger to the next butt but one from a right-angled shot fired without due care; still, then the distance comes in as an assistance, and, unless unfortunately hit "straight in the eye," a charge of shot rattling over your person from the next battery but one might be disagreeable, and provocative of strong language, but hardly dangerous.

Where the question of expense, objection on the part of tenants to the sacrifice of the necessary quantity of "turfs," or the configuration of the ground may render the erection of these "patent safetyes" undesirable or impossible, a simple safeguard still remains in case any host may feel a little nervous as to whether or no his guns are all "Griffiths's"—safe men. Let him into both sides of each butt, at right angles to where the shooter should stand, plant a sufficiently stiff pole or stick to arrest the sweep of the gun. Should the handler be inclined to swing his weapon too far to the right or left, the jar of the barrels against the stick will administer a good practical hint not to "do it again," and a man soon learns to toss and turn his gun horizontally to avoid

the obstacle, should he wish to fire straight behind him.

Care should also be taken to burn the heather for fifty yards or so around each battery, to facilitate the picking up of the dead birds, and so lightening the labours of your retriever. Some excellent advice upon this head will be found below; it is, however, most usual to burn thoroughly all round all the butts for some distance, so that the grouse get thoroughly accustomed to the innovation; and when a grouse has once invaded this your territory, I can recommend 40grs. of Cooppal powder and $1\frac{1}{8}$ oz. of No. 4 soft shot as the surest means of serving him with a writ of *ne exeat regno*.

Sir Ralph Payne Gallwey most obligingly sends, amongst other comments upon this subject, the following notes, which will be, I think, found of such general interest, as emanating from so well known an authority, that I venture to print them:—

“It is a usual custom where eight drives are gone through in a day by means of a double set of drivers, and by reason of the expectancy of a large bag, to only ‘pick up’ after every two drives. This would, I should imagine, put all marking ‘topsy turvey’ at once, as the paper plan would have to be reversed, and the wounded would be running about from one square to another, and you would have no idea which drive the wounded belonged to, or to what square. The only method I have used that approaches success

in my experience is to let a man sit down close to and at the rear of the box, and for him to count the birds he actually sees fall. The man is given a small white oblong slate (paper gets so messed in wet), down the slate a line is drawn lengthwise, and the marker puts 'D' for dead, and 'W' for wounded (this is done as quickly as are dots and crosses on each side of the line on the slate according as the birds fall to right or left of him, and of the imaginary line (corresponding to the one on the slate) drawn from the end of his nose to the horizon. The shooter need then only count the birds the marker cannot see fall, *i.e.*, the few that drop in front of the box. Have you, may I ask, seen the heather clean cut or burnt away in the form of a narrow oblong when driving grouse, the box, of course, being in the centre of the length of the patch so treated? This gives one a very good idea of how to gather the birds, and how many are left to pick up after a certain number are found on one or the other side of the line. It is also a check to searching over the same ground too often. A round patch cleared away does not help nearly so much as does a strip. Besides, a large round patch, I am convinced, causes the birds to fight shy of it, as dangerous from experience, not to speak of the way the broken twigs impale and tear the birds when falling. I see you notice the fact that a peg placed between the boxes is in some places used to prevent one shooter from

poaching in his neighbour's preserves after dead birds. I have usually noticed that one peg is of little use for this purpose, especially as it is a jealous loader or assistant who trespasses, and not often the shooter, though I have seen shooters rush out of their boxes before a drive was over to gather, each fearing the other's purloining proclivities. I once had a very useful retriever for such a purpose, as he used to watch his chance, and sometimes steal away from the row laid out at the next boxes, two birds at the same time. He was considered a wonderful animal by both my neighbours as well as myself till his "artful dodge" was found out. If a boundary line is required, two pegs should be used, so that a line can be mentally drawn between them, if not a real line in the form of a string, which is better still."

I do not see that the fact of a bird running from one square into another on the plan given in the *Field* is a matter of very great moment. If a second drive is to be attended to from the same butt, birds coming in the opposite direction to the former, all one has to do is to reverse the plan, when the former front squares become the back, and *vice versa*, and continue marking down birds as they fall, when at the end you will still know approximately how many birds should be recovered out of each square.

The plan of a marker and a slate appears to be a most excellent one, and, indeed, I should imagine preferable to the one recommended by me, and

should certainly be tried. It will not, however, in all places or butts be found possible to secure, or find room for, when you have got him, a third man to mark; and I should imagine that a common slate would, on the whole, answer best, as it is impossible to wipe out, in all the white china slates that I have come across, any pencil marks in a hurry, they only appearing to get clearer and clearer as you rub; but this is a minor detail, the plan is a good one, and I have to thank Sir Ralph for his suggestions and complimentary criticisms.

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