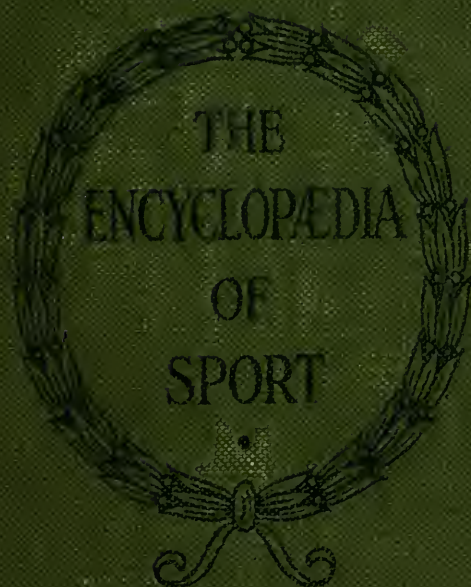
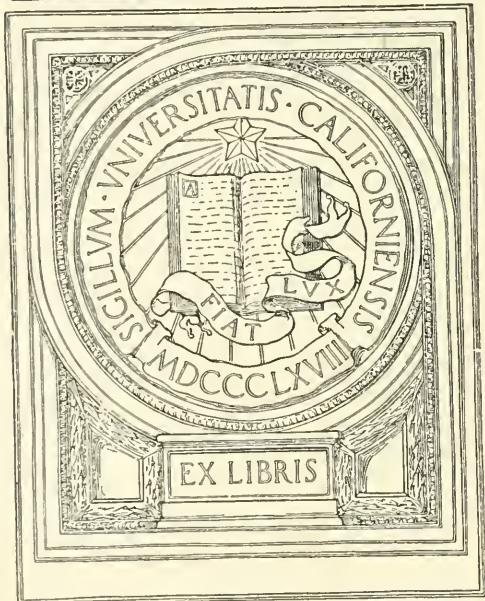


The Sportsman.

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PRESS OPINIONS

The Daily Telegraph.

Only one complete volume has so far been prepared for the public, but it is merely stating the obvious to say that the high standard raised at the outset has only to be maintained to ensure a work which will be brilliant in its entirety, and permanent in its undoubted value. An encyclopædia should be historical, explanatory, informative, and absolutely authentic. So far as can be judged, this one is that. . . . The new Encyclopædia is, indeed, an artistic production in every respect, and its utility is so far beyond criticism as to make the publication quite a big event in the history of British sport and sportsmen.

The Athenæum.

Five parts are now out of the "Encyclopædia of Sport," and are sufficient to show the business-like character of the publication. The articles cover a wide range, and are to the point, being free from the verbiage and excess of personal reminiscence which are apt to creep into such books.

The Standard.

There can be no question about the welcome which awaits so attractive and excellent a work of reference. Everyone who cares for outdoor recreations as well as pastimes which can be followed in all weathers ought to make acquaintance with the compendium.

Pall Mall Gazette.

The work is shapng to become the latest and the definitive guide and authority on sport of all kinds, and its fascinating pages will be consulted with eager interest by the great army of sportsmen everywhere.

The Field.

In part xviii., lovers of mountaineering and cave exploration will find plenty to interest them. Concerning the former much is related of its history and development by Sir W. Martin Conway and Mr. George D. Abraham, in a manner which cannot fail to meet with appreciation. . . . The dangers of the sport are pointed out, and advice is tendered as to the best methods of minimising the chance of disaster. This part of the article is so thoroughly done that young

aspirants to climbing honours would do well to study closely the instructions laid down. There is a section also especially devoted to Alpine climbing for beginners, following which advice as to equipment is tendered. There is a capital glossary of terms, and many illustrations adorn the pages in which mountaineering is dealt with.

The Winning Post.

No one will be surprised to hear that the issue of the "Encyclopædia of Sport" in fortnightly parts is proving a big success. The whole thing is so well done that its popularity is assured. The articles, written as they are by the chief authorities in the world of sport, have been thoroughly revised and brought up to date, and the numerous illustrations are excellent of their kind. . . . We strongly advise all readers of the "Winning Post" who have not already done so to obtain the first volume, and order the future issues so that they may have a complete copy of one of the very best sporting books. Mr. Heinemann is to be congratulated on his enterprise.

The Illustrated Sporting and Dramatic News.

Both these subjects (aeronautics and automobiles) are treated at length and in detail by writers who have knowledge and experience, and, what is equally essential—at least, if the uninitiated is to profit by them—the genuine teachers' most valuable faculty of making details clear. Both these great subjects are treated with a lucidity beyond praise by the writers, and they are supplemented, and the reader is wonderfully helped by pictures and sketches which the most untechnical mind could scarcely fail to assimilate. We are sure that with Mr. Heinemann, who is the present publisher, the same spirit will be carried through, and we congratulate him and the authorities whom he has enlisted on their success so far.

The United Service Gazette.

This volume (Volume I.), as also the others when they are published, should be the most sought after work in a mess library. . . . It is the cheapest half-a-guinea's worth published for many a year, and not a single officer in either service will ever regret having added the work to his bookshelves.

THE ENCYCLOPÆDIA OF
SPORT & GAMES



After Archibald Thorburn.

PHEASANT.

THE ENCYCLOPÆDIA OF SPORT & GAMES

IN FOUR VOLUMES

VOLUME III
HUNTING—RACING

WITH ABOUT FIVE HUNDRED ILLUSTRATIONS



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THE ENCYCLOPÆDIA OF SPORT

HUNTING.—This article is divided as follows: (1) Fox (Foxhunting on Foot), (2) Hare (Harriers, Foot-harriers, Beagles, and Bassets), (3) Stag (Wild and Carted Deer), (4) Otter, (5) Drag, (6) Hunting in France, (7) Horn Music, and (8) Hunters.

FOXHUNTING was looked upon by Mr. Beckford as an art, and it may be considered to afford greater pleasure to all the classes of society which are accustomed to participate in it than any other field sport. Dr. Paley has said that he never met with any sportsman who could define or state correctly the principle of sport, but nevertheless the allurements of the chase are stronger now than they have ever been, and attract larger fields of followers every year. It has often been said that a man cannot hunt from a bad motive, and the justice of the observation is generally acknowledged.

Authorities differ with regard to the date in which foxhunting first became an amusement in England, but we may take it that it was not at all generally followed until the year 1756; though the Charlton, afterwards the Goodwood, were in existence in the reign of William III., and the Bridgewater hounds very soon afterwards, besides others. We read, indeed, that King James in the year 1603 was accustomed to hunt as a pastime in the course of the long journeys which were undertaken at that period. The writer tells us that "live hares in baskets being carried to the Heath made excellent sport for his Majesty, Sir John Harington's hounds with good mouths following the game, the King taking great leisure and pleasure in the same." Gervase Markham, writing in the time of James I., praises the chase, and lays it down that "of all the field pleasures wherewith old time and men's invention

hath blest the houres of our recreation there is none to excelle the delight of hunting"; but in those days, it must be remembered, the term included the pursuit of fox, hare, or stag. The followers and admirers of the Staintondale hounds, in Yorkshire, claim for this pack that they were formed 220 years ago, and they are trencher-fed. The Sinnington can also boast of considerable antiquity, but these hounds are now kennelled, as are also the Bilsdale. Squire Draper commenced operations in 1726, for the purpose of exterminating or reducing the number of foxes in Yorkshire, which



EARLY MORNING.

had developed lamb-killing propensities. One of the earliest packs of foxhounds in the western part of England was established by Mr. Thomas Fownes, of Stapleton, in Dorsetshire, about the year 1730, and it appears that these hounds were subsequently sold to Mr. Bowes, of Streatham, in Yorkshire. The Dukes of Beaufort and Rutland, the Earls of Yarborough and Fitzwilliam, were amongst the earliest owners of

celebrated packs, whose reputation has been jealously maintained ever since they were first established. It has been stated that there are 354 packs of hounds in England and Ireland, but Mr. Sargent, who has been at great trouble in compiling an accurate list, allows for "hunts not returned," and estimates the total number at 360. In these days, foxhunting establishments are often conducted on a scale of lavish expenditure which is not only unreasonable, but which deters many promising young country gentlemen from becoming masters, and it is on this account that, at the end of the season, we frequently hear that well-known countries are vacant, and afterwards that the mastership has been offered to and accepted by a stranger, who has no interest beyond the chase in the land over which he hunts. Owners and occupiers of land will

preserve foxes more readily for one born and bred in the country than they will for a stranger, however greatly they may appreciate his public spirit in coming forward to take the hounds.

Melton Mowbray may be considered as the metropolis of the foxhunting world, for Leicestershire, rich in glorious grazing grounds, has for a century been looked upon as the premier country; but the agricultural features of the provinces, which were formerly derided and looked down upon as being realms of heavy ploughed land, have undergone a considerable improvement, from a hunting point of view, during the last thirty years. The low price of wheat has effectually hindered the progress of the plough, and the land on which the crop formerly flourished has been laid or fallen down to grass.

Although the wave of agricultural depression which has swept over England and remained with us for so long a period has had the effect of diminishing the attendance of owners and occupiers of land at the meets, they still give their loyal allegiance to a sport they love to encourage. In many provincial countries the subscriptions, for the same reason, have become seriously reduced.

Although there is no statute book of laws which governs the rights of country, there is an unwritten law in such matters which is perfectly well understood and respected. Thus, every master knows that he may not dig a fox which has found a sanctuary in an earth or drain in a neighbouring country; he may use a terrier, or employ almost any other means which ingenuity can suggest, but the soil must not be broken. It is greatly to the credit of all concerned that foxhunting disputes in regard to rights, limitation of country, or otherwise, so seldom arise; when they do, they are referred to the Master of Foxhounds Committee, which formerly held its sittings at Boodle's Club, but which now meets at Tattersall's once a year to hear appeals and administer justice. Nearly every master is jealous of any encroachment on his country, and huntsmen, who are generally anxious to conform to etiquette, will never allow their hounds to enter a neighbour's covert, unless they can carry and speak to a line into it. The ultimate decision of any vexed question must rest with the landowners and occupiers of land, but in case they are not unanimous it is found necessary to refer the dispute to arbitration, as indicated above. Although an owner of coverts may prevent hounds from drawing them if he chooses to do so, he cannot transfer this privilege to any neighbouring pack, unless with the con-

sent and sanction of the master of the country in which they are situated.

It is difficult to lay down any rule, or, indeed, even to provide an estimate of the expenses which will probably be incurred in hunting a country; these will depend very much upon good management. Circumstances vary, and no two years will be found alike, for the price of oatmeal, oats, beans, hay, and straw, is constantly changing, and this variation will often make a considerable difference in the cost. Mr. Delmé Radcliffe, writing in the year 1838, put his expenses for hunting three days a week, or seven days a fortnight, in Herts (exclusive, of course, of his own personal expenses) at £1,885 per annum; and he lays it down that a provincial country, such as Hertfordshire, may be well hunted for the sum of £2,000 per annum. To hunt four days a week it will be necessary to keep fifty couple of hounds, and for two days twenty-five couples will be found a sufficient number. Three days will require as many hounds to be kept as would suffice for four days.

Foxhunting is deserving of support and encouragement, because it not only provides employment for large numbers, but also gives a valuable impetus to our noble breed of horses; while the manly nature of the sport undoubtedly has a marked influence upon our national character. "No higher testimony to its practical utility," says Mr. Delmé Radcliffe, "in a national point of view can be required than that of as brave a hero as ever drew a sword. The gallant Lord Lynedoch, he whom Napoleon characterised as 'that daring old man,' has often affirmed that he should not have been the soldier he is had he not been bred a fox-hunter." Colonel Cook remarks that what chiefly contributes to make foxhunting so very far superior to other sports "is the wildness of the animal you hunt, and the difficulty in catching him."

Cubhunting usually commences about the first week in September, though the date will vary in accordance with the state of harvest and condition of the ground. In plough countries it is better to wait until the great bulk of the corn is carried, but in grass countries and in woodlands there is nothing to hinder the master from beginning as soon as weather permits. It is undertaken for the purpose of blooding and entering the young hounds, and may be regarded as the rehearsal of the more serious business in November. This schooling of the young hounds in the woodlands is a necessary performance, which is very interesting work for the establishment, whose care it will be to get the pack steady before the regular

season comes round. The meets are fixed at an early hour, because in the first place the fewer there are out, the better will the work be performed. Noise of any kind, viz., hallooing, cracking of whips, and viewing over the rides is not wanted, and the huntsman's cheer is the only voice which should be heard. Nothing should be allowed to distract the attention of the young hounds from the work on hand into which they are being initiated, and every sportsman should remember this, and repress any inclination to halloo, for in so doing he will support the wishes of the

will be that the young hounds will be left behind, or ridden over, and, moreover, they will pick up all sorts of bad habits, which will cling to them through their career. As the autumn advances, however, and when October comes in, and it is necessary to visit and disturb the litters of cubs in the smaller coverts, the entry will in all probability be handy enough, from the drilling they will have received in the woodland, to justify the master in letting them go.

An occasional gallop in the open after a cub will not only be an enjoyable relaxation after all the hard work endured in covert,



THE MEET.

huntsman and assist him in his endeavour to maintain silence. It will be well to select a good scenting covert, where there is known to be a strong litter of cubs, for the first morning; it should be a fair-sized wood, say of 80 or 100 acres, and, if there is no ride in it, so much the better. The hounds should not be allowed to go away, and if, after a good morning's work, a cub or a brace of cubs can be brought to hand, the young entry will go home victorious, and they will not easily forget their first impressions. During the month of September, at least, the scene of operations should be confined to the big woods, and young hounds should never be allowed to run over the open country until they have learned how to use their noses. If this precaution is not rigidly adhered to, and if the young master is not sufficiently strong-minded to resist the temptation of following a fox over a nice line of country, the result

but it will also afford an opportunity to the huntsman of seeing how they run together. Great care should be taken to avoid killing in a small covert; if this unfortunately happens, it will not hold again until after Christmas, and, indeed, it is often a moot point whether or not the pet places, which are very small, but yet favourite resorts, should be drawn at all during the cubhunting season. If a fox should be unluckily killed in one, the chances are there will be no find in it for three or four months afterwards; and yet, if a strong litter of cubs should have made it their headquarters, it is a pity they should not be roused and taught to fly.¹

¹ These observations were confirmed by the experience of many years at the time they were written; but, as the numbers of foxes in different countries have increased enormously of late years, it would seem that their habits have changed, and that foxes are not so wild by nature as they used to be.

To the master who is fond of hounds, cubhunting is the most enjoyable part of the season. In the fresh morning air he revels in the glorious crash of melody when hounds run for the first ten minutes, as they



GOING TO DRAW.

only can run at this time of year; he watches the entry with the keenest interest, and sees bewilderment gradually giving place to the dash and drive which are the conspicuous attributes of a foxhound.

The writer has always preferred a dry cubhunting season to a wet one, when the coverts are dank and soaked by heavy rain, for in such conditions there is seldom much scent. Dry seasons are an indication of settled weather, which is usually favourable for scent in covert and outside. It is an unsatisfactory thing to break off cubhunting for a spell, which huntsmen often think they are compelled to do, when the ground becomes hard from continued drought; it is better to keep steadily on, confining hounds as much as possible to covert, or the entry will forget what they have learned. Colonel Cook, writing in 1826, says that he always considered the cubhunting season the time when a master of hounds never ought to be absent, whether he hunts them himself or not; and to a real sportsman it is a great pleasure to see his young hounds enter. "At all events," he says, in addressing a young master, "you should never leave your hounds from the first day of cubhunting until the end of the season. . . . Cubhunting is very necessary for many reasons; you will gain by it a thorough knowledge of your pack; and they will know you, obey you, and, when you want them, will also carry you through many difficulties they otherwise would not." This is excel-

lent doctrine, which will commend itself to all those who have been privileged to fill the post of master of foxhounds.

The Master.—The master of foxhounds should be chosen, if possible, from the residents in the country in which the pack is established, for obvious reasons. Owners and occupiers of land will give their support more readily to one who lives in their midst than to a stranger; and as we know that hunting depends on the sufferance of these great men, and entirely upon their goodwill for its maintenance, it is necessary to conform to their wishes. "To hunt a country and make the most of it, so as to give general satisfaction, requires some consideration. Supposing you have a thorough knowledge of it, use your own judgment and never be led by others, for you will find they most commonly have some selfish motives, and will often mislead you." These words of Colonel Cook will be generally endorsed.

The master should make himself thoroughly acquainted with the country he is taking over, and he should endeavour to obtain accurate information with regard to old customs and hunting rights—where these exist. Perhaps there are coverts which are neutral with another hunt, and in that case great care should be exercised in ascertaining the correct usage of them.



DRAWING THE COVERT.

For the summer months it will be a congenial task to ride about the country with the hounds at exercise in the morning, and obtain local knowledge. In this way the master will be enabled to make friends with

the farmers and keepers, and discover any little details which may be useful when the regular season begins. He will find out where there are litters of cubs, and keep a record of any matter of importance which may strike him during his rides. When the time arrives for sending out the fixtures, these should be made judiciously and without favour or affection. The good and bad parts of the country should be hunted fairly and in their turn, and it will be found that this arrangement will also be the most conducive to sport. If you are continually call-

farmers, and in this endeavour he will be loyally assisted by all true sportsmen.

The Huntsman.—There is no better class of servant to be found in England than the huntsman to a pack of foxhounds; and the explanation of this assertion, with which it is not improbable that we shall most of us agree, is not very difficult to find. He has undoubtedly been selected for the post because he possesses qualities which would adorn the character of a man in almost any station of life. He should be well-conducted, sober, of strict integrity and even



TAKING HOUNDS TO THE LINE.

ing upon small coverts in the best part of the country, foxes will be difficult to find, and they will lie at earth. The master will keep a diary, which will contain a record of each day's sport, meet, coverts drawn, finds, and any incident likely to prove of interest. In most countries keepers receive a remuneration of 10s. for each find, and as they regard this gift as a perquisite, it is very necessary that a strict account should be kept. Colonel Cook dwells upon the advantage which is often taken of a master's good nature by followers of his pack to persuade him to draw some particular covert which may happen to suit their convenience, and recommends him to rely upon his own judgment in such cases.

The master will find plenty of work, in undertaking the management of a four days a week country, to occupy his attention both in the summer and winter months. If he should hunt his own pack, it will be found necessary to appoint a field master, who will maintain the discipline which is essential to success, and who will restrain the unruly spirits, a few of whom are to be found in every hunt, from spoiling their own sport and that of others by heading foxes and pressing upon hounds in their work. He will do his best to prevent injury to the

temper, and, it is needless to say, a good rider to hounds; moreover, as he is placed in a position of responsibility and trust, and is often obliged to act upon emergencies and to take upon himself to decide matters the consideration of which would more properly devolve upon his master, were he present, he should be possessed of intelligence and sagacity above the common order of mankind. Beckford, in describing the characteristics of an ideal huntsman, says: "He should have an eye so quick as to perceive which of his hounds carries the scent when all are running, and should have so excellent an ear as to always be able to distinguish the foremost hounds when he does not see them; he should be quiet, patient, and without conceit." It may be added to this description of essential qualifications that he should be impervious to criticism, doing his duty and handling his hounds in the way which seems best to himself and his master, to whom alone he is responsible. The writer lays stress upon the fact that he must be impervious to criticism, because the veriest tiro who comes out hunting thinks himself capable of passing judgment on a cast.

In the words of Mr. Jorrocks, "a fish-fag's ware isn't more perishable than a

huntsman's fame; his skill is within the judgment of every one—cleverest fellow alive—biggest fool going." And again, "a huntsman's fame rises and falls with the sport he shows." Tom Smith, a late master of the Craven Hounds, thus hits off the character of an ideal huntsman: "To be perfect a huntsman should possess the following qualifications: health, memory, decision, temper and patience, voice and sight, courage and spirits, perseverance, activity, and with these he will soon make a bad pack a good one. If quick, he will make a slow pack quick; if slow, he will make a quick pack slow."

All this is very sensible doctrine which must commend itself to every one, and, if a master can obtain the services of one who has all these gifts of excellence, he is a fortunate man. To my mind the conclusion

to a minimum. To keep hounds healthy, it is necessary that they should have the best food of its kind which it is possible to procure, and authorities agree that oatmeal of good quality is not only the best food for a foxhound, but also the most suitable for sustaining him in the long days and hard work he has to perform in all sorts of weathers and in all sorts of countries. Barley meal is heating, and meat or fish biscuits, in the opinion of experts, are generally considered unwholesome, for no one can say what they are composed of. When biscuits are used for a change in the summer season, ship biscuits are decidedly the best and most wholesome. Exercise, and plenty of it, is essential to the good health of a pack of hounds, and there is no greater mistake than to allow hounds in the summer to put on too much flesh.



HOUNDS IN FULL CRY.

of the whole matter, and the keynote of success in the field, is well summed up by Beckford thus: "He should let his hounds alone whilst they can hunt, and he should have genius to assist them when they cannot." The management of the kennel is perhaps the most important duty the huntsman has to perform; for if hounds are not brought out thoroughly fit to go, in good condition and steady, the chances of sport and a successful season are indeed reduced

Of the huntsman's duties in the field a more categorical description will be given later, and it will only be necessary at this point to state that in choosing a huntsman it will be well to ascertain if he has been brought up in a good school, and if he has been learning his business under a capable mentor. He should be a reliable servant who is willing to allow his hounds to do their share of the work without obtruding himself upon every opportunity. Nothing

can be more distressing to a sportsman than to find himself associated with a huntsman who is always interfering with his hounds, who rides in front instead of behind them, and who, in short, wants to do all the work himself. Such a one will soon ruin any hounds, and convert them into a slack, disheartened, and unenterprising pack. "It is

side; more especially was he beloved by the Oxford undergraduates, to many of whom he supplied lessons, inculcated by the observation of his practice in the field, which have never been forgotten. He was a good man to hounds in his particular way, going through rather than over a country, but he had a great aversion to jumping water,



HOUNDS WORKING OUT THE LINE.

always great impertinence of a huntsman," says Beckford, "to pretend to make a cast himself before the hounds have made theirs." There is a depth of wisdom in this doctrine, which all sportsmen will at once acknowledge; and this good piece of advice is worthy of being printed, framed, and hung up in every boiling-house. The writer's first impressions of a huntsman were derived from observation of the methods and practice of two remarkable men in their line, who inspired the veneration conceived by youth for those who have distinguished themselves in the world of sport. Jem Hills and Harry Ayris, then in their prime, carried the horn in the Heythrop and Berkeley countries, and each of these well-known men had acquired a reputation for showing sport, handling hounds, and accounting for a fox, which was not confined alone to the country in which his operations were conducted. Jem Hills was huntsman of the Heythrop hounds, but he was a native of Surrey, and came of a family well known in the fox-hunting world, since it has turned out many capable huntsmen in days gone by. He was above the middle height, with a fine intelligent countenance and pleasant manner, and he possessed a fund of anecdotes which made him a favourite with all the country

which often caused him to make some divergence from the line, though he always turned up as if by magic when it was supposed by the thrusters that they had left him far behind. His knowledge of the country and the run of the foxes stood him in good stead, and enabled him to take liberties with his hounds by lifting them in a failing scent. The art of doing this successfully seemed peculiar to him, though the writer has often seen others attempt to carry out the system, but nearly always with unsatisfactory results. When the fox appeared to have run us out of scent altogether, when there was no friendly holloa to guide and no beacon to steer for, and when it really seemed that there was nothing for it but to go home in the dumps, old Jem would catch hold of his hounds with his cheery "here-a-way, here-a-way," gallop off for a mile or so, when he would suddenly stop. "Yere-lert," down would go their noses; as if by magic they would hit the line, with a thrill of delight at the pleasure of once more getting on terms. Jem had the rare gift of being able to do all this without exciting hounds or getting their heads up. On the contrary, when he stopped, they would drop their noses at once, and settle to the line as if nothing out of the ordinary course had happened.

But then it must be borne in mind that he always went with his hounds; he didn't gallop, screeching or blowing his horn half a field ahead, with the whippers-in rating and putting them on to him, but he kept his head, and so the hounds kept theirs.

Harry Ayris, who was huntsman to Lord Fitzhardinge, was an excellent servant, a capital rider, and one who was always ready to seize upon any advantage during the chase. Both of these celebrities hunted in a partly stone wall country, which certainly gives a huntsman a splendid opportunity of estimating the value of his hounds. In the first place he has an uninterrupted view of their work; whilst the chance of detecting skirthers, mute hounds, babblers, unsteady ones given to riot, and those which cannot

a foxhound dislikes nothing so much as to be left behind; and if the huntsman has not the full confidence of his hounds, they will become uneasy and shirk their work in covert. Some huntsmen will occasionally touch the horn whilst drawing, with the view, I suppose, of rousing the fox; but I cannot think this at all a necessary practice, for in my opinion the horn should be used as little as possible, and then only on occasions when it is really needed. But hark! old "*Traveller*" challenges. "*Have at him, Traveller!*" Every hound strains his very best to reach the veteran; the fox is unkenelled—we know that a fox well found is half killed—the glorious crash of music which follows fills the huntsman with ecstatic delight; he keeps as near to his



TAKING HOUNDS TO A VIEW.

run up, becomes a certainty in the open country. Some of the faults enumerated in the above list may, and very often will, escape notice in a woodland country for a considerable time.

Let us follow a huntsman who knows his business into the field on a hunting morning. Let us suppose that he has received orders to draw first a wood of some sixty or eighty acres with a thick undergrowth of blackthorn. He will first consider from which quarter he may best approach this covert so as to give his hounds the wind. When he is about a hundred yards off, he will give his hounds a signal, and they will spread out like a fan, seeking meuses through the wood hedge; he will then himself proceed down the nearest ride, encouraging his hounds to draw with his voice. He will do this in leisurely fashion, taking care to keep behind rather than in front of his hounds whilst they are drawing. If he were to hurry them at all now, they would certainly slip out into the rides, for

hounds as the rides will permit, whilst they force the fox through the cover in such a determined fashion as will make him "fly or die." They are nearing the outside fence, in another second they pour over it like a cataract, and forcing his horse through a blind gap, our huntsman is behind them in the twinkling of an eye. A peculiar note of his horn, well known to "Dick" and "Joe," one screech, and, sitting down in his saddle, he runs his eye over the pack and gets a count. They are all there; and with a mind at ease he has time to look about him, and speculate on the probable point for which the fox is making. Hounds are meanwhile running over old pasture land, carrying a great head in the mute ecstasy of pace, and the huntsman riding behind them—a place of distinction which the master and he alone of all the field are privileged to hold. After twenty minutes, hounds check for the first time; and the huntsman, pulling up short, sits motionless like a statue, following them with rapt atten-

tion as they swing round and make their own cast, as it turns out unsuccessfully. Then, having done all they could without avail, they come back cheerfully to the huntsman to seek his aid. The cause of the trouble is easily perceived. Hounds have been revelling in the glorious scent peculiar to old grazing grounds, and they have now to work their way over the arable in the shape of a field of roots recently fed off by sheep. . Naturally enough they cannot understand the difference in the scent, and they are disinclined to trouble themselves to work it out. The huntsman quietly holds them over the field, encouraging them to try; an old hound drops his nose; he shows a line; his companions follow his lead; soon they understand and settle to changed conditions, and, though they cannot trust themselves to race, they gradually surmount the difficulty, clustering like bees round old "Traveller," with their noses glued to the ground. Soon they come to grass again, and heads up and sterns down is once more the order of the day. A big woodland appears in view, and this is the point for which the fox has been making. He has entered it; but, to the intense joy of the huntsman, soon slips out into a ride, for, distressed as he is, he cannot make headway through the thick blackthorn covert. So the fox runs the rides, which is a certain indication that he has had enough, and the only fear is that a fresh one, disturbed from his kennel, should cross the line. There is but little chance of such a catastrophe, for there is no cry except a whimper or so as the leading hound snatches for the scent at the corners, and the huntsman knows better than to make any noise himself. By many signs he is well aware that the fox is close in front: the jays are blackguarding him, and show the way he goes. Now he slips out of cover and runs up the hedge side. Hounds catch a view, and, straining their hardest, bowl him over with a snap and a worry. Fifty minutes, and every hound up. *Finis coronat opus.*

Whipper-in. — The first whipper-in should be a light-weight, must be a good horseman, and, if he is to be a success, must make up his mind from the beginning to support the huntsman constantly and loyally. He must stop hounds and turn them to the huntsman's horn, even when he feels convinced they are right. In short, he must never attempt to take a leading part unless exceptional circumstances—such as an accident to the huntsman—should arise. Too much value should not be attached to the viewing of foxes in the early part of the chase; on the contrary,

the whipper-in should rather be in attendance on the huntsman, ready to assist him as occasion requires; but when a fox has been on foot for forty minutes, and is beginning to run short, then is the time for the whipper-in to exercise his genius by getting forward for a view, stopping the fox from running his foil in cover, and taking care that no fresh fox should allure hounds from the line. He should count his hounds upon every opportunity. The second



BREAKING UP THE FOX.

whipper-in must also be a light-weight, and it is his duty to bring on any tail hounds, and to stop such as may have divided from the pack. He also should count hounds on every opportunity. In going to covert, the place of the first whipper-in is in front of the hounds, and that of the second some distance behind the huntsman; and he should take care to give hounds plenty of room to pick their way through muddy lanes and bridle-roads. When hounds are running riot, the whipper-in should get to the head of hounds before rating or attempting to stop them. Then the stinging lash should be applied to the ringleader, and he should be rated by name. In the case of hardened offenders, they may be taken up and flogged; but if it is found necessary to inflict this punishment it should be done at the time, and not, as is sometimes the case, on the return of the hounds

to the pack after a considerable interval of time has elapsed.

After all, hounds can only be made steady by constantly exercising them amidst du and riot of all kinds, and by judicious handling on the part of the huntsman. In windy weather hounds are often wild, and Vyner tells a story of a pack which one day broke away and commenced running the crows, which often skim along close to the ground in windy weather; and the old kennelman gave it as his opinion that they never would have been stopped at all if, "by the blessing of God, they had not changed to a jackass." Beckford thus recapitulates the qualifications of a whipper-in: "If your whipper-in be bold and active, be a good and careful horseman, have a good ear and a clear voice—if, as I said, he be a very Mungo, here, there, and everywhere, having at the same time judgment to distinguish where he can be of most use; if, joined to these, he be above the foolish conceit of killing a fox without the huntsman, but, on the contrary, be disposed to assist him all he can, he then is a perfect whipper-in."

The necessity of counting hounds whenever it is possible to do so has been insisted on, and as an illustration of the value of the practice, the following anecdote may be related. The writer, when he hunted the Croome country, found a fox in a large covert called Tiddesley Wood, and hounds were not long in getting away. As they left I was able to count the pack, and discovered we were short of a hound. After a capital run the fox was killed the other side of Spetchley in the Worcestershire country, and, on running them over, it appeared they still wanted a hound, and that hound was "Rambler." "Rambler" was never away before, and the writer, remembering that a hound was wanting when they left Tiddesley Wood, told Fred, the second whipper-in, to ride back to that covert, many miles off, and see if he could hear anything of him. Fred accordingly rode through the boggy rides in the wood calling the hound's name, and just as he was coming out in despair and giving it up as a bad job he heard a whimper. So getting off his horse and fighting his way through the blackthorn, he found poor old "Rambler" fast in a wire, set no doubt by some poacher for a fox, since it was almost strong enough to hold a man. If the master had not been able to count the hounds away from Tiddesley, old "Rambler" would undoubtedly have perished miserably.

The Earth Stopper.—In old times the

"earth stopper" used to be part and parcel of a hunting establishment, and, mounted on a rough pony, with a spade over his shoulder, and carrying a lantern, it was his duty to proceed to the earths situated in the country which was to be drawn the following day, and carefully to stop them with earth or faggots about the hour of midnight. The fox, who feeds at night, upon returning at dawn, finds the access to his quarters barred, and so makes a kennel for himself in some snug place in the neighbouring covert. Now, however, it is generally left to the gamekeepers to undertake this duty in their respective beats, and it is questionable if they all of them perform this part of their work conscientiously and at the proper hour of night; many will content themselves by "putting to" the earths in the morning; but, where a country is frequently disturbed, foxes are shy and repair to their earths to lie with the first dawn of day, and so a blank draw is often the consequence of a piece of laziness on the part of the keeper. At the end of the season it is customary for the master to give an "earth stoppers'" feast, which is much looked forward to by those who are entitled to an invitation, and are accustomed to draw the pay which they are to receive. At this entertainment the tables are usually presided over by the huntsman, and a jolly evening is spent. These gatherings do much to encourage goodwill and promote the popularity of foxhunting.

Kennels.—All who have studied the questions involved in selecting the site of kennels, and who may therefore be regarded as authorities, agree that their position should be high and dry,—

Its courts, wide opening to receive
The sun's all-cheering beams when mild he shines
And gilds the mountain tops,
Upon some little eminence erect,
And fronting to the ruddy dawn.

And when we reflect that our sport depends in so great a measure upon the health and condition of the hounds, it is not surprising that the construction and convenience of kennels is considered as a matter of the very first importance. The most essential qualification of a kennel is that it should be dry; for, if it is damp or insufficiently drained, or cold, you will always have lame hounds. Beckford's observations upon these points are so excellent that they should be followed in every particular; and, while he recommends economy, and condemns in sensible language the useless extravagance one sometimes finds in the architecture or building of kennels, he strongly advises that they should be of sufficient dimensions in the

first place, for the simple reason that it is always difficult to make alterations when once the building has been completed.¹

The floors of the lodging-rooms should be bricked and sloped on both sides, so as to carry off the water from the centre, and the yards which are attached to the lodging-rooms should be similarly constructed. The posts of the doors through which the hounds pass should always be rounded, otherwise these will be constantly causing injury to

tions, it is hardly necessary when the building is on sound and high ground and not overshadowed by trees. Warm lodging, however, is absolutely indispensable for the comfort and well-doing of the pack, and must be secured at any cost, and, where dampness is found to exist, the floor should be taken up and a layer of ashes and finely-broken stones put underneath. But, even with all these precautions, there will be occasional cases of rheumatic lameness in



WHOO-HOO!

their stifles. The sleeping benches should be made of deal, and these should be open—that is, there should be a space of at least an inch between them, for reasons which are obvious—whilst they should be attached to the wall of the lodging-room by hinges, so that they may be folded up when the kennel is cleaned out. The benches should be low, in order that hounds may be prevented from creeping underneath, and also to enable them to jump upon them easily when they have come in tired from a long day's hunting. In some kennels the walls are heated by flues, and though this may be desirable enough in low and damp situa-

¹ It is said that the construction of the kennels at Goodwood cost £19,000.

most kennels. Kennel lameness is, indeed, a dreadful calamity, which causes more uneasiness in the minds of huntsmen than any other affliction, because it is the most difficult to treat successfully. The only cure, as far as my experience goes, is to be found in a change of quarters. When a hound belonging to the writer was struck down with this scourge he was accustomed to send him to the kennels of a good friend who lived at some distance off, and he was invariably sent back sound in the course of a few weeks. Still, hounds which have once been troubled with it are, as a rule, always liable to a return of the malady, and are never to be depended upon. An old friend of mine, who was a master of fox-

hounds of considerable standing, used to say laughingly that in his belief the real origin of kennel lameness proceeded from bad shoulders, and it is certainly true that the disease is more frequently to be found

kennel there should be attached a large walled-in yard, some three or four acres in extent, in which the young hounds just brought in from quarters should be allowed to exercise themselves during the greater



RETURNING HOME.

in hounds with this defect than with those of perfect conformation.

The boiling-house is usually placed at the back of the building, with well-seasoned elm boards fastened to the wall to receive the pudding when it is taken out of the boiler. There should be two boilers made of cast iron, one for cooking flesh and the other for meal. The water-tanks in the yard should be made of slate, which is more readily kept clean than iron or wooden troughs, and care should be taken to enforce the regular cleaning and filling of them. It is unnecessary to add that there should always be an unfailing supply of pure water, since a very large quantity of this fluid is required for washing down the courts and dormitories. Nothing can equal good old Irish or Scotch oatmeal as food for foxhounds, and it is better always to have at least six months' supply in hand, for not only does it improve with age, but it also goes further by keeping. Great care should be taken to secure good meal, for in this, as in other food, there is often a considerable amount of adulteration. The flesh-house should be at some distance, since the smell which proceeds from it is neither pleasant nor conducive to health. To every

part of the day. The number of hounds to be kept will regulate the size of the kennel, which need not be a very expensive structure.

Distemper is a disease which almost invariably attacks young hounds on coming into kennel, and which carries off a large proportion of the sufferers. It often appears in a variety of forms, which are all difficult to treat; but, when the yellows, or jaundice, accompanies distemper, the combination in ninety-nine cases out of a hundred proves fatal.

Distemper, for the most part, affects hounds in the same way as the visitation of influenza in human beings; for it generally attacks the head and is accompanied by a virulent discharge from the eyes and nostrils. The disease is felt in the brain and back, and it often happens that, when young hounds appear to have recovered, a twitching of the limbs remains behind; and when they are afflicted in this way, it is better to knock them on the head at once, for they will never prove capable of service in the field. When hounds come in from quarters where they have been well done and are full of flesh, the disease will generally attack the lungs and liver, and calomel

is the best remedy which can be employed. Every huntsman has a nostrum of his own, which he thinks a specific cure for the malady; but, in spite of all this knowledge, the disease carries off large numbers of young hounds every year, and, of course, the weather has great influence in retarding the cure if it be wet or cold. Warm and dry quarters, with generous living, when the virulence of the disease is passing away, are the best remedies which can be employed. Some use Turkish baths, and this treatment is discussed in the paragraph which deals with jaundice.

Yellows, a disease corresponding with jaundice in the human frame, is often produced by excessively good feeding, and, at the same time, insufficient exercise. The sufferer must be kept in a warm place; but the complaint is very seldom successfully treated, and never when it is allied with distemper. A friend of the writer attached great value to the curative properties of the Turkish bath in cases of yellows; and he was accustomed to put his sick hounds in the bath, at the same time giving

sonal experience of the application of the remedy.

The Rounding of young hounds, which should not be performed till they are well over the distemper, is a painful operation, but one which it is supposed will save hounds from suffering from the wounds and laceration inflicted by drawing strong blackthorn coverts, if the ears are allowed to retain their long tips. A butcher's block with a smooth surface must be obtained, and upon this the ear is stretched, then a half-moon iron, laid on the tip, is struck with a mallet, and the operation is completed. A little oil will soon heal the sores, and in a very few days hounds will be able to go out. In several kennels the operation of rounding has been abolished.

Great stress should be laid upon the order that rounding should not be performed until young hounds are over distemper and have quite recovered their strength and spirits, for, if they are at all lower in condition, the loss of blood consequent upon the operation will pull them back and perhaps cause them



TRENCHING.

them as much water as they would lap, which he declared expelled the bile from the system; but, as I have never seen this treatment employed, I cannot speak of it with the confidence engendered by per-

to miss a part of the early education of cub-hunting.

Drafts of old and young hounds are made annually from every kennel, and the reasons for which the old ones are drafted are un-

soundness in limb or constitution; for being rogues, that is wide runners, or skirthers; for running mute; or for being noisy, that is babbling or speaking where no fox has been; for throwing their tongue when going to cry, or hanging on the line: because all of these vicious propensities would be likely to contaminate by their evil example the rest of the pack; then young hounds are got rid of because they are not "sorty"—



THE TERRIER MAN.

that is, that they will not match the others in size or colour, or because they do not appear to have robust constitutions. Drafts were formerly considered to be the perquisite of the huntsman, but of late years gentlemen have found it desirable to take the management in this direction entirely in their own hands. The price for the old and young draft is usually fixed at three guineas a couple; but for the second draft of young hounds, which is often not made until just before the season for cubhunting commences, five guineas a couple is not uncommonly demanded.

Coverts.—The biggest woods will always hold the best foxes; big woods are the real preserves for good foxes; those found in gorse and stick coverts are often short runners. Foxes prefer natural coverts, which lie high; if these are warm and thick at the bottom, with plenty of shelter from the different quarters of the wind, they will seldom be drawn blank. The large woods and blackthorn brakes will prove a favourite resort, and, if the foxes are let alone, will always hold. We must, however, occasionally make artificial coverts; but these, like artificial earths, are seldom satisfactory, and

if great care is not taken to make the latter in a dry situation, it is not at all improbable that they will be the means of introducing mange into the country. However, it is often desirable to plant coverts in certain portions of a country where none exist, and also to establish a connecting link between woodlands and the more open portions of the country. The subject of making these coverts must be carefully considered, and only those planted which are likely to flourish, and suit the soil in which they are found. Thus in a strong, heavy, clay district gorse will never really succeed; and it will be much better to plant blackthorn, than which nothing in this description of land is more likely to grow kindly. Moreover, it is no joke to attempt to force your way through a strong blackthorn covert; and for this reason alone it may be cultivated, for it will be more likely to lie quiet. After all, the great secret of attraction to foxes is complete tranquillity. But in certain countries gorse is indigenous to the soil, and then there can be no better covert. If it is decided to plant a gorse, a piece of sound ground should be chosen and drained if necessary, and the land should be summer fallowed, well cleaned, and manured as if for swedes. About three pounds of seed to the acre should be drilled in the month of April, and this should be treated in every respect the same as a crop of swedes, and well hoed until the gorse has outgrown the weeds. Rabbits are very fond of gorse, and they must be kept down in the earlier stages of its growth. Every fifth year a patch of the gorse, which by this time will probably have become hollow and weak, should be cut or burnt, and perhaps the latter plan is the better of the two. Privet, rhododendrons, and laurels are sometimes planted, but they can never make such satisfactory covers as gorse or blackthorn, but the writer has known Jerusalem artichokes a certain find. Osier beds are a favourite resort for foxes, partly because they are grown on land which has been thrown up, and which is, in consequence of this treatment, high and dry, and partly because they are usually grown near brooks or rivers, where the water-rats are a great attraction. The writer recollects a small covert belonging to a staunch sportsman, which was drawn by hounds on an average once every three weeks during the season. It was not more than three or four acres in extent, and yet it never failed to produce a fox, and even if one was killed from it after a run, another one took his place and was always forthcoming when the hounds came. Some supposed that the old sportsman had

some method of attracting the foxes, and the neighbours used to say that he was accustomed to trail a rat as a drag from several points to the copse, in which he always took care there should be a plentiful supply of dead rats. When you want to make some coverts which will hold at once, stick covers and faggot covers are often found to produce the desired result. A quantity of long ash poles should be felled, and should rest upon some forks stuck firmly in the ground, about two feet high. These should be roofed as it were with the loppings of young fir-trees, and hedge trimmings thrown all over, and if these small places, which need not be more than a couple of acres in extent, are securely fenced round and in quiet, foxes will soon lie in them; or you can fence a certain quantity of land and set up ordinary faggots not very far apart, and in the course of a summer's growth brambles, thorns, and long grass will twine themselves over the interstices, and make an impenetrable covert.

Scent.—That no uncertainty in the world is greater than that of scent is the conclusion I have arrived at after close observation extending over more than forty years; and I should be sorry to take upon myself to lay down any rule with regard to it, knowing, as I do, that it has always been a puzzle to the best recognised authorities in many generations. Mr. Jorrocks remarks that scent is a "weary, incomprehensible, uncontrollable phenomenon, constant only in its inconstancy"; and he adds that "nothing is so queer as scent except a woman." Somerville believed scent to depend upon the air alone.

Then on the air
Depend the hunter's hopes.

But in this conjecture we know he was wrong, since we are all aware that some varieties of soil carry scent better than others; that when the land picks up, as it will do when a white frost yields to the influence of the sun, hounds can scarcely carry on the line over the sticky fallows; and, when the leaf falls in October, we know there will be no scent in cover until it is rotted by the heavy rains of November. These reasons are sufficient, in my opinion, to dispel the accuracy of Somerville's theory that scent is in the air only. Beckford says that scent depends chiefly on two things, "the condition the ground is in, and the temperature of the air," and I am inclined to think a better definition cannot be found, and that when this happy combination occurs the prospects of sport are almost reduced to a certainty. "Scrutator" believed that there were two kinds of scent,

one proceeding or exuding from the body and breath of the animal when in motion, and the other that left by the foot or pad. There are certain mystical signs or symbols indicative of the probabilities of a good scent or otherwise which must not be despised. Thus when hounds roll upon the



A FOX CUB DUG OUT.

grass, when they eat grass going to the meet, when they lash their sterns in drawing so as to stain them with blood, when gossamer floats, and cobwebs lie on the grass, when hurtling storms sweep over, and when the barometer falls and rainbows are seen in the sky¹—all these may be taken as indications of a bad scent; yet, as no one can possibly affirm it will be so, a sportsman will never give way to despair nor relax his efforts to show sport even in such untoward circumstances. Most huntsmen have their own ideas on the prospects of the day. Jem Hills could never "abear them nasty blue mists"; Harry Ayris held "a cold wind from the south" in equal abhorrence; whilst of Will Todd it is said that he was accustomed to remark on a propitious morning, "He must fly or die to-day, gentlemen."

When hounds exhibit unusual keenness on their road to the meet, when they smell strong coming out of kennel, when paving-

¹ When the dew hangs on the thorn,
The huntsman may put up his horn.

stones sweat, when the barometer rises, when the atmosphere is so clear that you can almost count the thorns upon the hedges—all these are favourable signs which are often found to denote a scent. Wind is always regarded as being most antagonistic to sport, and Beckford says, "Never take out your hounds on a windy day." There, are, however, exceptions to every rule, and I can well remember a capital run in very windy weather. In February, 1867, the North Cotswold Hounds, of which the writer was then master, met at the Fish Inn. It blew a gale when we started, which increased in force until it was a regular hurricane when we left the meet. We drew Armley Bank, and it was dangerous work to ride in covert, for the wind snapped off some of the larch trees half-way up, and they were falling about in all directions. We found a fox, however, and killed him after a good run at Stanway, a capital point, and it is worthy of remark that the fox *ran up-wind all the way*. In healthy countries in certain conditions there is a good scent; on a large tract of common land, known as Defford Common, in the Croome country, hounds will run hard even if a fox is half an hour or more ahead of them, because the fox brushes against the ant-hills, &c., with which it is covered. When hounds, getting well away with their fox, drive him up the wind at a rattling pace for fifteen or twenty minutes, if he turns down the wind, as he is almost certain to do, he is not unfrequently lost, for the reason that the hounds, all aglow with dash and fire after revelling in a burning scent, are most unwilling to stoop and hunt a colder line. It is at this critical juncture that the science and skill of a clever huntsman are called forth. Sitting like a statue on his horse, and motioning the field to do the same, he will encourage his hounds to drop their noses; he knows full well that any movement of his may upset their mercurial temperament and make them still more unwilling to descend to the drudgery of working out the line after the splendid fling in which they have been indulged; and his patience is indeed well and amply rewarded when old "Prudence," pushing her way through the pack, which with heads up are standing around uncertain and unsettled after the excitement of the burst, shows the line at a canter down the furrow, and, with a note sweeter to the ear of the huntsman than the most entrancing music, rings the knell of the doomed fox. Getting together and clustering round her, hounds settle like bees upon the line, which they will now never leave until the varmint is

accounted for. When a fox runs the road it is often a long time before hounds will drop their noses and work out the line; but in every pack there is always one old road-hunter to be depended on, which comes to the rescue on these occasions, and when once he shows the way others take up the line with a determination and a pace which leads one to wonder why on earth there ever should have been the slightest difficulty in hitting it off at once. A huntsman cannot give hounds too much time in reason upon a road, and he must be careful also to give them plenty of room and see that his followers do the same. When a frost is in the air and coming on at night, hounds will almost always run with a burning scent.

When sheep cross the line of the fox during chase, a check invariably ensues, but no description of stock foils the scent so badly as colts. On these occasions the judgment and patience of the huntsman are called into requisition, and the services of a line hunter to guide the pack through their temporary difficulties are of inestimable value; for, when hounds have been running hard and are settled to the line, it is a great mistake, in my opinion, to take them off their noses and rely upon lifting, unless there is no help for such a proceeding. In these circumstances patience is needed and a huntsman who knows his hounds will make them hunt the line, however indisposed they may have been in the first instance to work it out. In making a cast a huntsman should always have at least three-fourths of the pack in front of his horse.

Hounds.—A hundred and fifty years ago there were two tribes of hounds, namely, the Southern and Northern. The former variety was chiefly used by those who were accustomed to follow the chase on foot; but the Northern breed possessed pace, and dash, and drive, so that their pursuers were obliged to ride to keep up with them. Gradually, however, these distinctive breeds disappeared, and, early in the last century, it would seem that a fixed type of merit was settled, and speed, beauty, stoutness, and nose became the ruling characteristics of the more modern breed. A foxhound should be $23\frac{1}{2}$ inches high; his legs should be straight, his bone well carried down, his feet round, his neck clean, his shoulders well placed, and sufficiently strong and deep; his back broad, his stern not coarse, but set on so that he carries it well; his thighs muscular, his head rather large than small, and his conformation symmetrical throughout. When hounds stand

over at the knee and are out of elbows, their shoulders will not always bear a strict scrutiny, and when they are light below the knee, and back at the knees, it sometimes happens that they are flat-sided, and generally wanting in muscle.

To form and establish a pack of hounds is a serious consideration indeed, and one who achieves success in an undertaking of the kind must be possessed of knowledge, energy, and judgment. A young master will do well if he can see his way to buy a pack which has been together for some

kept, and the puppies should be named before they are sent out to walk, and also branded on the side with a letter, denoting the name of the owner or country.

A great many sportsmen are prejudiced in regard to the colour of their hounds, and the Belvoir tan is generally admired and preferred to any other. No doubt uniformity in this respect makes the pack much more sorty, and adds to the beauty of their appearance. No sensible breeder will, however, use a stallion hound only because he excels in beauty of colour and conforma-



GONE TO GROUND.

years; otherwise the task of formation must be accomplished by purchasing drafts from the best kennels. Having these, he will be unlucky if he cannot add supplementary assistance in the shape of some few couple of reliable working hounds, which he may have been able to beg or buy in the course of the summer. It will be advisable to put on a strong lot of young hounds in the first season, and with care and attention, in three or four years' time he should be able to get together a respectable pack of hounds. In breeding, the best kennels should be resorted to, and the best stallion hounds used. If good walks are plentiful, advantage should be taken of this piece of good fortune to breed as largely as possible, which is the certain road to obtain a good pack. The bitches should litter in the spring; that is to say, in the months of February, March, and April. Late puppies seldom thrive. The pedigrees will, of course, be strictly

tion, and he will, in the first place, require to know from some trustworthy source whether the hound bears a good character in his work before he decides to avail himself of his services. It is the dash and high courage of a foxhound which is his chief distinguishing merit, and, if his eagerness should lead him to overrun the line with a twisting fox, yet this impetuosity is atoned for by the brilliant way in which he will do his work when scent serves.

The speed of hounds appears to have been a matter which excited great interest among sportsmen of the past, and we read that Mr. Meynell and Mr. Smith-Barry made a match for 500 guineas to run each a couple of hounds over the Beacon Course at Newmarket—4 miles 1 furlong and 177 yards. Mr. Barry's hounds were Bluecap, four years, and Wanton, three years; and Will Crane commenced training them on August 1st, teaching them to run keenly on

a drag, and feeding them on oatmeal and milk and sheep's trotters. It is stated that Mr. Meynell's hounds were fed during the time of training with legs of mutton. The match was run on September 30th, 1762, and the drag from the Rubbing House on the Old Cambridgeshire Course, Newmarket Town End, to the Rubbing House at the starting post of the Beacon Course. The hounds were laid on the scent, and accomplished the distance in a few seconds more than eight minutes. Mr. Barry's Bluecap came in first, his Wauton (very close to Bluecap) second. Mr. Meynell's Richmond was beaten by 100 yards, and his bitch, the second string, never came in at all. The betting was seven to four on Mr. Meynell's hounds. Threescore horses started with the hounds, but of these twelve only were up at the finish, and the mare which carried Cooper, Mr. Barry's huntsman, who was first up, became quite blind. Merlin, a bitch bred by Col. Thornhill, was very speedy, and it is recorded of her that she ran a trial of four miles in seven minutes and half a second. This bitch, we read, was eventually sold for four hogsheds of claret, and the seller to have two couples of her whelps. The horses appear to have cut a poor figure in the trial over the Beacon Course, and this probably led to the frequent discussions which took place with regard to the relative speed of hounds and horses.

About 1860, if the writer's memory is correct, a match was made between the Duke of Beaufort and Lord Glasgow, in which the former undertook to run his hounds against horses named by the latter over the Beacon Course at Newmarket. The match gave rise to a good deal of speculation at the time, and each side had its champions, but for some reason or other it was abandoned. The general opinion at the time was in favour of the horses, and considerable odds were betted that they would prove victorious.

Great Runs.—We are all familiar with historical runs such as the Waterloo and Great Wood days, which will always be quoted as runs of exceptional merit; still, there have been other remarkable performances, which may not have attained the same notoriety, partly because these may not have been recorded at the time, and partly because they may have happened in comparatively unfashionable countries. The writer often looks back to a run when he hunted the North Cotswold country, which he thinks will always be acknowledged as a day to be remembered. It was on the last day of the year 1868, and the hounds met at the Lygon Arms, Broadway, where an

unusually large field assembled at a hunt breakfast. The morning commenced inauspiciously, for several favourite covers were drawn blank, and it was past two o'clock when the first fox was found in Leazow brakes. Hounds got away on his back, and for twenty-five minutes were scarcely ever out of the same field with their fox, running into him in the open within a hundred yards of Buckland Wood. When he had been broken up, hounds proceeded to draw this cover, and struck a line at once. They carried the line slowly through the large wood and out at the bottom of the cover, but the second whip, who had been there ten minutes at least, was not in time to view the fox, so it was never known what start he really got. Hounds soon began to settle to their work, but it was not until they got to the summit of Middle Hill that they began to run hard. Then they carried a great head until they killed in the open close to the town of Stow-in-the-Wold. The distance was thirteen miles from point to point, fifteen as hounds ran. There was no check, and the time was 1 hr. and 22 min.—a day never to be forgotten.

Hound Shows.—Hound shows, which were held at Yarm, York, Cheltenham, and other places, have finally found a resting place at Peterborough, where they are annually held in the month of July.

The advantages of comparison are generally acknowledged, and without doubt these shows have done much to improve the breed and awake fresh interest in the noble science. No one would think of sending a crooked hound for exhibition; and masters and huntsmen from north and south and friends of the chase make a point of being present; for the meeting at Peterborough is a sort of hunting parliament where changes are discussed and views ascertained and given on intricate cases, where any difference of opinion exists.

Mr. Vyner, writing in 1841 in *Notitia Venatica*, foreshadowed the good work of hound shows, and remarked that nothing would be more likely to improve the breed of foxhounds. He pointed out that the awarding of prizes to the best breeders and feeders of cattle has been attended with the most beneficial results, and he could see no reason why improvement in the breed of the foxhound should not be promoted by the same means; and he further observed that, a few years before, three celebrated masters of hounds—Mr. Hodgson, Mr. Wickstead, and Mr. Foljambe—made a practice of showing a few couples of their new entry for a prize, which was most

appropriate—namely, a piece of scarlet cloth to be made up into hunting-coats.

COVENTRY.

FOXHUNTING ON FOOT.—Hare-hunting on foot, with packs of harriers or beagles, is familiar to most people who take an interest in sport. Hunting the fox on foot is, however, much less well known, the reason being that this form of chase takes place for the most part in wild and

pality. John Peel, the hero of the immortal song, was, it is true, not entirely a foot-hunter. He rode when he could, but as often as not his fox carried him into regions where no horse could follow, and he had to pursue his quarry afoot. Many another tough Lakeland huntsman, whose name and memory have not had the good fortune to be perpetuated in lyrics by some enthusiastic admirer, has shown just as good sport on foot alone, and has delighted the hearts of



IN FULL CRY ALONG A FELL BREAST.

[Photo. by C. Woodley.]

remote parts of the country, where fields are small and only the inhabitants of the surrounding district take a hand. Yet, at the present time, there are at least a dozen packs of hounds which are hunted on foot and pursue the fox in the mountainous parts of England and Wales; not only do these packs show excellent sport, but they render essential service to the neighbouring sheep-farmers, and are therefore particularly encouraged by all classes in the districts in which they carry on their operations. To the country people inhabiting the wild hill country of Lakeland and of Wales, the chase of the fox with hound and horn naturally appeals. It is a pleasant thing to hear the deep notes of hounds ringing and echoing about the rocks and scours of these high regions, and for generations foxhunting on foot has been regularly pursued in Cumberland, Westmorland, and the Princi-

palities just as many followers as did old John Peel himself.

The packs of hounds hunting the hill country in the Lake district and in Wales are naturally much more modest in their proportions and turn-out than are the richer and more luxurious establishments in other parts of Britain. Subscriptions are small, fields are scanty, and sport is carried on in very plain yet exceedingly workmanlike fashion. For the most part, ten or twelve couples of hounds are maintained. These are usually of an old-fashioned type, having fine deep voices, which are requisite when hunting such a wild and severe country on foot. They are extraordinarily staunch, have grand scenting powers, and get over the tremendous country in which they work in marvellous fashion. The foxes of all this fell region are wild, hardy, greyhound-like customers, which yield tremendous

runs, and demand very high qualities from the hounds that have to pursue them. Yet in the season of 1903-4 the Blencathra, one of the old-established Cumberland packs,



[Photo. by C. Woodley.

BOLTING A FOX WITH TERRIERS. THE FOX HAS GONE TO GROUND IN THE SCREES.

brought to hand no less than eighty-four foxes during the season. The Blencathra are an old-established pack, which were for many years in the Crozier family. Mr. John Crozier mastered them from 1839 till his death in 1903, and his father had them before that date. The country is wild and mountainous, and for the most part has to be hunted on foot. The best centres are Keswick and Penrith, whence meets of the Cumberland and Ullswater packs can also be reached.

The Coniston, another Lakeland pack, which number twelve couples, are kennelled at Greenbank, Ambleside, near Windermere. They hunt a most beautiful fell and moorland country, taking the field three days a week. For many years they were mastered by the Rev. E. M. Reynolds, who died in 1908. This hunt, which has always shown good sport, dates from 1825, when it was founded as a trencher-fed pack to hunt fox, hare, and marten. Martens are still occasionally found, hunted, and even killed by hounds in the Lake country.

The Eskdale and Emmerdale is another ancient fell pack, which has been hunted in the neighbourhood of Whitehaven, Barrow, and Coniston for many generations. Mr. Thomas Dobson, of Eskdale, who died in 1910, himself owned the hounds for no less than forty-three years. The country hunted lies in Cumberland, Westmorland, and Lancashire; it is nearly all wild mountain land, and the best centres for reaching the pack are Eskdale, Wastdale, and Langdale. The pack are hunted entirely on foot.

The Mellbrake is another foot-hunting Cumberland pack, having an ancient history of its own, and pursuing fox in the country between the Derwent and Emmerdale, and from Bassenthwaite Lake to Branthwaite. The pack number twelve couples, with kennels at High Park, Lowswater, and hunt two days a week. The country hunted over is chiefly rough mountain land, but here and there sport lies in lower ground, amid pasture, plough, and woodland. The best centres to hunt from are Scale Hill, Cockermouth, and Lowswater.

The Ullswater are a very workmanlike foot-pack of thirteen couples, which are kennelled at Patterdale, and show excellent sport two days a week over a wide extent of mountain country in Cumberland and Westmorland, in the neighbourhood of Penrith, Appleby, and Troutbeck. The best centres for these hounds are Penrith and Kendal, but Patterdale is also a good place to stop at. The Bewcastle and the West Cumberland foxhounds, although classed among the mounted packs of England, are in their hill country much more readily to be followed on foot than on horseback; in fact, the Cumberland and Westmorland hills are not often negotiable by mounted folk.

Going further south as far as Wales, we come to the Gelligaer, a small pack of 12½ couples, which hunt fox in the hill country of Glamorganshire and Brecon, and are hunted to Welsh cries. Nominally, a man can get about the country on a Welsh cob or hill pony, but here, as in the Lake country, the sportsman on foot sees as much fun as his mounted brethren. The Llangammarch pack, which hunt in Brecon, Carmarthen, and Radnorshire, are again nominally ridden to with cobs; but with them, as with other Welsh hill packs, the man on foot sees most of the sport. The Llangeinor, a trencher-fed pack of sixteen couples, may be placed in the same category. These hounds, which are also hunted to Welsh cries, are accessible from

Bridge End and Maesteg. Of the Plas Machynlleth, a pack of ten couples, hunting in Montgomeryshire and Cardiganshire, much the same thing may be said, as also of the Penmaen farmers' pack, which hunts in the adjacent country. The Tynewydd, hunting from Treherbert, South Wales, is

effect, a stirring and most exciting pastime, demanding from its followers good lungs, a sound heart, abounding energy, some self-denial, and a certain amount of athletic training. These hill countries of Cumberland, Westmorland, and Wales, with their tough and sport-loving inhabitants, are, in



ESKDALE HOUNDS KILL ON GREAT BANK.

[Photo. by C. Woodley.]

yet another. The Ynysfor, a sturdy Carnarvonshire and Merioneth pack of ten couples, hunt in a mountainous district, which includes within its limits Snowdon and other great heights, and can of necessity be hunted and followed only on foot. These hounds show great sport, in one of the roughest and wildest countries in the kingdom. This is an old pack, and has been hunted by the same family since the year 1765. The hounds are of the old Welsh breed, some of them rough-coated, and many of them black and tan in colour. They hunt otter in summer.

Foxhunting on foot, although it may not seem a desirable form of sport to the rich man with a long string of horses, is, in

fact, splendid nurseries for turning out hardy and vigorous specimens of mankind. We have far too much luxury and softness among us in these later days. But so long as the foot foxhunter pursues his quarry over the fells of Cumberland and the mountains of Wales, so long will there be a hardy remnant of Britons to set a good example to the rest of their race. The sport is undeniable, and the hill foxes of these countries are the finest specimens in Britain. They take a great deal of catching, and afford some extraordinarily long and exciting chases.

H. A. BRYDEN.

[See also DOGS, FOX, and HOUND BREEDING.]

A LIST OF PACKS HUNTING IN 1910.

| | | |
|--------------|-----------------------|-------------------|
| ENGLAND. | Berkeley, Old (West). | Blackmore Vale. |
| Afonwy. | Berkshire, Old. | Blankney. |
| Albrighton. | Berks, South. | Blencathra. |
| Allen's, Mr. | Bicester and Warden | Border. |
| Atherstone. | Hill. | Braes of Derwent. |
| Badsworth. | Berkeley, Old (East). | Bramham Moor. |

ENGLAND (*continued*).

| | | | |
|-------------------------------------|----------------------------------|---------------------------|--------------------------|
| Brecon. | Fitzwilliam's, Earl (The Grove). | Pembrokeshire. | Whaddon Chase. |
| Browne's, Mr. | Fitzwilliam's, Earl (Wentworth). | Percy. | Wheatland. |
| Browne's, Mr. Scott. | Flint and Denbigh. | Plas Machynlleth. | Wilton. |
| Burstow. | Four Burrow. | Portman's, Viscount. | Wilts, South and West. |
| Burton. | Garth. | Puckeridge. | Worcestershire. |
| Cambridgeshire. | Gelligaer. | Pytchley. | Wynn's, Sir Watkin W. |
| Carmarthenshire. | Glamorgan. | Pytchley, Woodland. | Yarborough's, Earl of. |
| Cattistock. | Goathland. | Quorn. | Ynysfor. |
| Cheshire. | Gogerddan. | Radnor and West Hereford. | York and Ainsty. |
| Chiddingfold. | Grafton. | Rufford. | Ystrad and Pentyrch. |
| Cleveland. | H.H. (Hampshire). | Sedbergh. | Zetland's, Marquis of. |
| Coniston. | Hambleton. | Shropshire, North. | SCOTLAND. |
| Coquetdale. | Harrington's, Lord. | Shropshire, South. | Berwickshire. |
| Cornwall, East. | Haydon. | Silverton. | Buceleuch's, Duke of. |
| Cotswold. | Herefordshire, North. | Sinington. | Dumfriesshire. |
| Cotswold, North. | Herefordshire, South. | Smith Bosanquet's, Mr. | Eglington's, Earl of. |
| Cottesmore. | Hertfordshire. | Somerset, West. | Eskdail. |
| Craven. | Heythrop. | Southdown. | Fife. |
| Craven's, Lady. | Holderness. | Southwold. | Jed Forest. |
| Crawley and Horsham. | Hursley. | Staffordshire, North. | Lanark and Renfrew. |
| Croome. | Hurt's, Mr. | Staffordshire, South. | Lauderdale. |
| Cumberland. | Hurworth. | Stainton Dale. | Liddesdale. |
| Cumberland (West). | Isle of Wight. | Stevenstone. | Linlithgow and Stirling. |
| Curre's, Mr. | Kent, East. | Suffolk. | IRELAND. |
| Curwen's, Mr. A. D. | Kent, West. | Surrey, Old. | Carbery. |
| Dartmoor. | Lamerton. | Surrey Union. | Carlow. |
| Davies's, Mr. D. | Leconfield's, Lord. | Sussex, East. | Coollatin. |
| Devon, East. | Ledbury. | Taunton Vale. | Coshmore and Coshbride. |
| Devon, Mid. | Ledbury, North. | Tedworth. | Duhallo. |
| Devon, South. | Llangammarch. | Teme Valley. | Galway County. |
| Devonshire's, Duke of (Eastbourne). | Llangeinor. | Tetcott. | Galway, East. |
| Dorset, South. | Llangibby. | Tickham. | Island. |
| Dulverton. | Ludlow. | Tiverton. | Kildare. |
| Durham, North. | Mellbrake. | Tivyside. | Kilkenny. |
| Durham, South. | Meynell. | Tredegar's, Viscount. | Kilkenny, East. |
| Eggesford. | Middleton's, Lord. | Tynedale. | King's County. |
| Eridge. | Monmouthshire. | Tyne, North. | Limerick. |
| Eskdale and Ennerdale. | Morpeth. | Tynewydd. | Louth. |
| Essex. | Neuaddfawr. | Ullswater. | Meath. |
| Essex, East. | N.F.H. (New Forest). | United Pack. | Muskerry. |
| Essex and Suffolk. | Newmarket and Thurlow. | V.W.H. (Mr. Fuller's). | Queen's County. |
| Essex Union. | Norfolk, West. | V.W.H. (Earl Bathurst's). | South Union. |
| Exeter, Marquis of. | Northumberland, North. | Vane, Hon. H. | Tipperary. |
| Exmoor. | Oakley. | Vine. | United Hunt Club. |
| Farndale. | Oxfordshire, South. | Warwickshire. | Waterford. |
| Fernie's, Mr. | Partridge's, Mr. | Warwickshire, North. | Westmeath. |
| Fitzhardinge's, Lord. | | Western. | Wexford. |
| Fitzwilliam, The | | | |

HARE.—Let it be granted that a harrier is a hound that hunts the hare chiefly by scent, and we need waste neither time nor space in endeavouring to ascertain *unde derivatur*, for indeed it is of little importance what the harrier formerly was, whether he was descended from the talbot or southern hound, or whether his remote ancestors were those "Castoreans," or hybrids between hare- and fox-hounds, which Xenophon declared to be the only two sorts used for this purpose. What really concerns the modern sportsman is to understand how and with what equipage one of the most ancient and fascinating of pursuits is now conducted.

Packs.—There are at the present moment, according to the latest *Field* "List of Hounds" (excluding 8 packs of foot-harriers), 100 packs of harriers in England,

none in Scotland, and 41 in Ireland, making a total of 141 for the United Kingdom. In 1895 there were 119 packs in England, 2 in Scotland, and 28 in Ireland, while in 1880 there were 99 packs in England, none in Scotland, and 44 in Ireland. Thus the number of harrier packs to-day has practically receded to the point reached in 1880, there being one more in England, and three less in Ireland, Scotland remaining a blank. On the other hand, the number of beagle packs has increased from 20 in 1880 and 48 in 1895 to over 100 in 1910, with a few packs of foot-harriers and basset-hounds in addition, and many of these are hunting countries formerly in the possession of harrier packs.

Sir W. Harcourt's Act "For the better protection of occupiers of land against injury to their crops from ground game," or,

to give the well-known short title, "The Hares and Rabbits Bill," was passed in 1880; and everybody knows the enormous destruction of hares which took place as soon as that Act came into operation; in many places, indeed, they became practically extinct, and it would naturally be inferred that the effect of such destruction would have been to diminish the number of packs of harriers. It is indeed a fact that several packs were given up during the eighties on account of the number of blank days they experienced; but as there are practically as

over two or three feet of ground is considered of vital importance by the whole pack. They literally lay their heads together over it, coming back to this particular spot time after time, as their one reliable point of departure, and it is easy to see that on such occasions the less jostling there is the better.

To say that ten or twelve couple should be taken out, of course means that a larger number must be kept. Harriers are almost always worked in mixed packs, and as bitches go to heat usually at the most incon-



GOING TO THE MEET.

many harrier establishments now as there were in 1880, we must conclude that the disappearance of the hare in some places was counterbalanced by his diminution in others to such reasonable quantity that it became possible to hunt where before it was out of the question on account of the constant changing, which is a greater annoyance to the huntsman and does far more injury to his pack than an occasional blank day.

Formation of Pack.—The number of hounds wherewith to take the field must needs vary according to the fancy or pocket of the Master. There is no reason why five or six couple of real good-nosed ones should not kill a hare, but they would take a long time about it, not being enough to cover sufficient ground in their casts. On the other hand, more than eighteen couple at the very outside get in each other's way, and tumble over and distract each other, for there frequently occur moments in every chase when the problem of a hare's passage

venient periods of the season, allowance must be made for their seclusion as well as for absence on sick leave from accidents and other causes. But if a man has twenty-five couple of good working hounds in his kennel—and he ought to keep no other—he need never fear being unable to bring to the meet a sufficient pack for all purposes of true sport. How to get together that number of trustworthy harriers is a matter which will occupy his most serious attention, unless he is one of those to whom money is of no object. In that case, the best thing he can do is to wait till some real good pack comes into the market; it is seldom that a year passes by without such being the case, and the prospective Master may well occupy some months in going about studying the manners and customs of hare hunters in various parts of the country. He will learn something everywhere, and be all the better equipped with knowledge by the time he makes his own start. If

he can tempt the owner of any pack which specially pleases him to part with it privately, he had better not haggle overmuch about terms—it is impossible to lay down any rule as to what the cost should be, but, speaking very broadly, about £100 will often buy the lot if he takes them old and young *en bloc*. Many and many a right-down good old established pack has been thus sold for £25. In the case of the aspirant preferring to buy at auction, he must of course take his chance in that notoriously uncertain market. But five or six guineas a couple is a very high price, though instances do occur where they run into really large figures. *e.g.*, Major Wickham, who sold a celebrated and beautiful pack in the spring of 1897, realised in several instances as much as thirty-five guineas a couple, and a total of 500 guineas. Though a Master of Harriers must lay his foundation on purchased hounds, whether he buys a ready-made pack, or goes through the misery of making one for himself out of drafts picked up at random all over the country, the sooner he begins to breed for himself the better—no small part of the amusement of keeping hounds consists in watching the development of the young ones born and reared at home, and noting how far they emulate the virtues and vices of their parents; the latter will probably predominate, since it is far easier to reproduce evil than good; all the greater on that account is the pleasure when, as is not infrequently the case, the offspring is even straighter, truer, and stauncher than sire or dam. And once the Master has started breeding on his own account, let him, except in case of dire necessity, such as an outbreak of hydrophobia in the kennel, or his pack being over-ridden by a railway train, at once and for ever abjure having anything to do with drafts, beyond selling his own if his good luck or repute should bring him a customer. It is a true saying that the only certainty about a draft is that it consists of animals of which the owner, doubtless for some good reason, is anxious to be rid, and as the only reason which at all commends itself to the buyer is that of size, it is always because they are too big or too small that they are weeded. With puppies this may be a valid excuse, and puppies are the safest to buy, if buy you must. A present of a hound should never be even considered. Why should a man give away what is good? Or why should another accept what is bad? Even in the case of stallion hounds it is better to decline a gift. If an owner breeds, as nowadays most people do, from pure foxhounds, there is no difficulty in getting a choice of small

doghounds, and the fee, if anything is charged beyond a tip to the kennel huntsman, is but trifling. As the less is, or can be, contained in the greater, a brief sketch of an establishment where things are really done in first-class style, without unnecessary display or profusion, may be useful to those whose ambition soars somewhat higher than the possession of a scratch pack—a mere agglomeration of dogs such as one often sees working under the name of harriers. Be it remembered too that in many respects it is quite as cheap to have things smartly as slovenly done, for instance in the matter of cleanliness. If a man is kept to sweep and wash the kennel and prepare the food, he will require just as much pay for being careless, dirty, and unpunctual, as he will for having everything in apple-pie order and ready to the minute. See, therefore, that he earns his wages.

Accommodation.—Let us suppose, then, that our Master has got a pack together strong enough to hunt three days a week, and that, having obtained a roving commission to pursue the hare over a wide tract of country, he must lay his account to have now and then long distances to come home, besides an occasional 15 miles to covert. For this purpose he will have provided at least 25 couple, standing as nearly as possible 21 inches; that is, if he hunts a mixed pack, as most likely will be his choice. If, however, he chooses to divide the dogs and bitches, he will take the latter at 19 to 20 inches average, and run anything over that standard with the dog pack. For the accommodation of this number of hounds, he will require two yards with sleeping rooms attached, each yard to be about 22 by 18 feet, paved according to the fancy of the proprietor. (We are supposing always that our M.H. is starting everything *ab ovo*, and can have what he wants in the way of building.) There is nothing better than asphalt, scored and slightly inclined so as to facilitate washing; it wears far better than flag-stones, which are sometimes very difficult to procure, is cheaper than brick, and is easy to patch and mend when chipped. The lodging-houses should be thatched with straw inside, by far the best way of keeping a good mean temperature in summer and winter; and, if the sides are tiled half-way up, the rooms not only look more cheerful, but are easier to clean. The beds should be raised a foot or so from the floor, and there is no need for much space per hound; they like to lie close and keep each other warm in cold weather; when it is very hot, the door may be left open and they can go outside. It is well

also to have a third smaller yard where sick hounds and bitches at heat can be left, but it is evident that the farther the latter are removed from their comrades the better. Where there is no lack of elbow-room, it may be a good plan to have in addition a good-sized gravel yard, where occasionally the whole pack can run together, but when forces are thus joined, it is highly advisable for the feeder or someone whom they know to be within hearing, as a quarrel may arise at any moment amongst hounds. In fact,

work, and how much pleasure they apparently find in the employment.

The water supply will have to depend on the possibilities of the place. Anyhow, fresh water must be kept in troughs both in the yards and lodging-houses; the ideal plan, of course, is to have a stream constantly running through them, that being the only way of preventing hounds fouling the water; it makes, moreover, the sluicing down of the kennels a matter of ease and therefore of tolerable certainty; but there



THE MEET.

it takes very few to get up a wrangle, which, if not promptly suppressed, nearly always results in serious mischief, when the best hounds are usually the victims, perhaps because the real good ones are often a little bit queer in their tempers. One of the best ways of preventing these outbreaks is absolutely to forbid the presence of terriers within the kennel walls on any pretext whatever; they are the very dragon's teeth of discord.

A boiler house for cooking the food will be required, and as this will open into its own small yard, there is no necessity for a feeding-room unless such be the whim of the paymaster.

The whole of these buildings should be surrounded with a high wall with coping stones projecting on the inside. Iron railed doors and gates are best; if wood is used, they must be covered with iron or zinc as far as hounds can reach. It is astonishing how soon they can gnaw through wood-

is not always a water company or a reservoir within reach, so the best must be made of the existing situation—always insisting that drinking water shall be accessible, and the place kept scrupulously clean.

Feeding.—The food for such a pack will be the same as if they were engaged in their birthright pursuit of the fox. The best oatmeal and clean horseflesh must be their portion, with greenstuff boiled up occasionally, especially in the spring months. It is true that up to a certain point harriers will work well on Indian meal, which costs far less than oatmeal, and is indeed as cheap a feeding stuff as can be found; but the certain point means that they must be given neither long days nor long distances. You could hardly get a maize-fed pack home at all if they had an 18 mile trot at the end of the day's work, whereas those nourished on oatmeal would jog along round the huntsman's horse with their sterns over their backs.

Spratt's fish biscuits make a capital change from flesh during the non-hunting season, and are perhaps to be preferred in hot weather, but a pack of harriers which

summer, after horse exercise, they should never be fed till evening, no matter how long they have to wait; they sleep better after the late meal.



DRAWING A FALLOW.

—not being dependent on the casual attentions of servants with other occupations—is properly exercised in and out of season, can stand a very liberal diet. As to time of feeding, the system may slightly vary in different kennels, but it may be laid down as a good general rule never to feed till one hour after returning from the chase. Hounds eat better then than if given their food at once, and the interval may be occu-

The hounds that have hunted should always lodge together, those that have not been out are restless, jealous, quarrelsome, and apt in consequence to disturb the rest of their tired companions. There is no reason why dogs and bitches should not sleep together, if care is taken that none of the latter are at heat or near it.

Staff.—Presuming always that the Master hunts his own hounds, or at any



HOUNDS TAKING THE LINE ACROSS THE PLOUGH

ried by having them sluiced over with warm water, and then sprinkled with good broth; as is well known, hounds soon lick each other clean when this has been done. In

rate that there is a gentleman-huntsman, the staff for such a pack need consist only of two men—a whipper-in and kennelman. The latter will never go hunting; he will

find plenty to do looking after the hounds left at home, and having all ready for the return of the day's workers. The whipper-in will take the pack to covert, assisted by

and dependent. "Where are your hounds?" said a fond Master to his colleague-huntsman whom he met in company with but a few couples. "Those that are not eating



MAKING A CAST.

the groom, who takes on the Master's hunter, and who can remain out with hack or cart to help on the home journey should the M.H. be disinclined for the job. It takes a very short time to make hounds acquiesce in being thus handed over to the servants by the beloved provider of sport; indeed, I am not sure that they do not go home all the more steadily for such a signal that the business of the day is concluded.

sausages are looking for the van," was the reply, the moral of which is that to do real work a pack should never be petted or spoilt like children.

Cost of Establishment.—The following is a rough estimate of what such an establishment as has been here described would cost. The figures are supplied by a gentleman who has quite lately given up the cares of Mastership, and may therefore be taken



HOUNDS THROW UP AND SPREAD OUT.

With a pack of this standard, in good condition, there will never be any necessity for vanning, always an expensive and inconvenient process which makes hounds lazy

as up-to-date. He puts whipper-in's book at £250. This included the man's wages, those of the feeder and flesh. Meal and biscuit bill, £140; rent of house for head

man £16; keep of horse and a half £80 at least; liveries £20; dinner to farmers who walked puppies £20; in fact he arrives at a total of between £600 and £700 a year, and does not think that anyone could keep twenty-five couples of hounds properly for less—an estimate which would surely frighten away the majority of aspirants, unless they bear in mind that the establishment above described is one conducted on the best and most liberal style consistent with absence of pomp or swagger, and that it is quite possible to have an immense deal of sport two days a week (three is an unusual number for harriers), at a third or even less of this outlay. Otherwise there would be very little hare-hunting in England in these days of general retrenchment in the agricultural counties.

A man may get together a cry of dogs for a comparatively moderate sum, more especially if he goes in for that most doubtfully bred animal called the genuine harrier. He will get some queer-shaped and some very rough-coated ones—two defects which even by careful breeding he may never be able to eliminate, the mixed ancestry being wont to reassert itself; but with perseverance he will get plenty of nose, plenty of music, and quite pace enough for the sort of horse best suited for his purpose. Great jumping power rather than speed in his mount is the hare-hunter's requisite; he will kill a lot of hares by steady hunting, and show much sport to his field in the process. Fifteen or sixteen couples will suffice for this modest turn-out, and of these, with fair luck, an average of twelve couples should be able to show at the meet. Nineteen inches is, in the opinion of many good judges, a sufficient maximum height, and they are content with bitches on a smaller scale. It is certain that in countries where foxhounds are kept, harriers of this standard are much less likely to kill an outlying fox even on a good scenting day—and friction between the red and green coats is thus avoided. A small pack again naturally eats less than a large one, and though, as already stated, harriers cannot do hard work and long distances without oatmeal, yet the Indian meal may well be used where six or eight miles is an outside distance to covert, and the day's hunting does not last more than four or five hours. It is better to have two servants for the kennel, but the work can be, and often is, done by one man, for whom, however, some assistant *must* be found to help take the pack to covert; otherwise they soon find out their attendant's helplessness, are all over the place, and perhaps have had a run

and a kill before arriving at the fixture. A smart boy can easily be drilled into performing this service on foot if the master rides his hunter on.

The combined whipper-in and feeder will have the evening meal prepared before starting, and will only have to warm up on his return. The hounds left at home must look after themselves, which, as they will be but few, they can do very well. The M.H. must either come home with hounds himself, or get one of his field to do so. One horse will be quite sufficient for the whipper-in if he rides quietly; if he does not, he should be dismissed. Harriers will stand very little rating and less whipping-in. Some further economy may be practised in the kennel. It is evident from the figures quoted that in our ideal establishment the hides and bones were the perquisite of the servants; the former at least the Master may well claim as his own. He will give about £1 for each horse that comes for slaughter, and the skin will fetch nearly that sum. No dead animal should ever be accepted at the kennel unless it has died from the effect of some accident, and the history of the death is satisfactory and well authenticated; otherwise poisonous carrion will find its way to the larder—dangerous to the hounds that eat it, and still more so to the men who have to cut up and handle it. Servants are terribly careless in such matters, and unless there is absolute prohibition of foul flesh they will run insane risks of blood-poisoning.

The whipper-in's wages will be £1 to 25s. a week—clothes when necessary—not a regular allowance of livery, which often leads to a more or less dishonest arrangement between the man and the tailor, and his cottage must be given, unless there happen to be spare rooms at the stables which he can occupy.

For the summer horse exercise, which is most important, he can have the assistance of a groom, while, if his hounds are fond of him, as they certainly will be if he is worth keeping, he should be able to walk them about by himself in some paddock where they can roll and eat grass—the oftener he does this the better. By doing things in this comparatively humble style, it will be seen that great saving may be effected on the previous estimate.

For most of the many years during which I kept harriers their food cost me about a penny a day per hound, but their solitary attendant was a curious old-fashioned retainer with unusual notions of thrift. A second horseman whipped in, and a horse had to be reserved for this express purpose.

For the sake of illustration I have taken the accounts for 1888, 1889, 1890, when 15½ couples cost £114 10s. per annum. This sum was made up as follows: Keep of hounds, kennelman's wages, medicine, and other incidental expenses, £83. The keep of horse for 21 weeks (he was only debited to the pack during the hunting season) at one guinea per week, £22 1s. The allocated portion of groom's wages for same time at 9s. per week, £9 9s. This was the lad who whipped in.

things if properly handled, and though he who pays the piper has every right to call the tune, and each M.H. may hunt hares after his own fashion, yet there is a right and a wrong way of doing everything. A few remarks, therefore, as to field management may be of use to beginners.

The system of our forefathers of rising at cockerow and hunting up to the hare in her form has been long and wisely abandoned; it must have been a slow process, and they were as likely to spend an hour in



OLD-FASHIONED HARRIERS IN FULL CRÏ.

Things were roughly, perhaps very roughly, done, but we had capital fun for all that.

Sending puppies out to walk is just as necessary with harriers as with foxhounds, and I have here made no allowance for expense on that score. The farmers on my estate, or on that of my colleague, Colonel Estcourt, were most obliging in the matter, as indeed they are in all countries, and rarely, if ever, sent in a bill for damages. Sometimes, when puppies become intolerable to the farmer's wife, they are returned to kennel rather sooner than wanted, in which case the only thing to be done is to give them as much liberty as possible at home.

Field Management.—Harriers housed, fed, and exercised, on the lines above laid down, should be capable of doing great

puzzling out the line of a fox as of their proper quarry. Half-past eleven or mid-day is now the favourite hour for the green-coats to assemble; even in the short days they have thus plenty of time for their purpose, and if hares are not too scarce and adopt their usual circular tactics, the farmers of the locality may have had rather more than enough of trespass on their land. Their permission will, as a matter of course, have been first obtained, and their convenience consulted as to the day of fixture. The immense majority of them are most good-natured and liberal in this respect, and very many are exceedingly fond of a day with the hare dogs, but all are annoyed and disgusted if a heedless Master announces his meet on the day of a neighbouring market. He must never forget, too, that as every farmer has the right of shooting hares on

his own holding, leave to hunt them is a very material concession.

Harriers should be allowed to spread about at will in drawing. Hares are often very difficult to move, and a hound who will take trouble in looking for his game is of much value. Their usual indifference to this part of the business may be attributable to the fact that they appear unable either to wind or see a squatting hare. Hares are well aware of this, and when beaten will let hounds run over them. It often requires a prod from a stick or the flick of a whip to stir them up. If the boys of the village school are about, they will start a hare if there is one in the country—but their ceaseless yelling, as long as the

he had never seen one before. It is invariably the hunted hare, too, even though the fresh form is steaming under their eyes. It is far easier to get harriers' heads up than to get them down again—indeed, it is no exaggeration to say that were it possible to collect a field exclusively composed of the dumb, hardly a single hare would escape a decent pack on days when there was an atom of scent.

The huntsman must of course carry a horn, and so must the Master where one man does not double the parts; it is the best and quietest means of signalling to each other and to the pack, who, moreover, are not so excited by its sound as by the voice, and become perfectly indifferent to it when blown with the unnecessary frequency of a beginner. On the whole there is not much harm done with the horn. The same cannot be said of the whip, which is a most potent instrument of evil in bad hands. To most whippers-in the word "Put 'em to me," is the signal for a frantic charge, cutting and slashing at every poor animal within reach. The Master will do well to forbid his servant ever to strike a hound at all, the whirling and crack of the lash is quite sufficient; even pure-bred foxhounds will sometimes sulk under punishment, but the so-called true harrier, *i.e.*, one descended from several generations of ancestors exclusively employed in hare hunting, is likely enough to fly to the heels of the huntsman's horse for protection, and there remain for the rest of the day. Sometimes he may go home, which is neither seemly nor conducive to sport. It is therefore obvious that volunteer whipping-in should be as much as possible discouraged, though, as it is often well and kindly meant, it is not easy or wise too sharply to rebuke the offenders. Any usurpation of the huntsman's authority, however, must at all risk be put down with the high hand at once.

"Let 'em alone" is the maxim by which, with a good many exceptions, the huntsman will be guided, and on all occasions he must leave the pack to make their own casts on coming to a check before he takes them in hand, when he must trust to luck, which he may call good guidance, in the event of hitting off the line. It is impossible to say what a hare may or may not have done, so manifold are her wiles, and to the true hare-hunter the chief pleasure of the game is to watch his hounds unravel a knotty problem and then dash off in the delight of a well-substantiated scent, or in view of their prey at last aroused from her lurking place.

Old hounds often get very cunning know-



"LET THEM ALONE."

pack is within sight or hearing, more than counteracts the advantage of a quick find.

It is impossible to say where a hare may not be lying; they are not particularly fond of hedgerows when the leaf is falling, but it is hardly safe to assume they may not be sitting there. They like dry ground beneath them, but are very indifferent as to shelter; it is a common thing to see a hare squatting on the side of a hill with the wind blowing into her fur. In this respect she is far less luxurious than the fox. If she jumps up in view of the pack, they must and will race after her, but when she is moved out of their sight the less said the better.

It is idle to hope that the viewer will hold up his hat and hold his tongue, but in the rare cases when he does so, and the huntsman is allowed to draw his hounds quietly across the line, a much better beginning will be made than with a view. Hounds will have their noses down at once, and keep them there unless interfered with. Harriers soon get to look out for holloas; there is so much of it, as somebody is always seeing a hare and shrieking as if

ledge of whether a hare has squatted or "clapt" as it is often called. They have an indescribable way about them which says as plainly as possible to an expert "In our opinion she is down." Then, as in cases where a fox is supposed to have gone to ground, the huntsman may make his all-round cast at once, and return if it fails, to search for the recumbent one—but he should leave someone to watch lest she should sneak away unseen, as she will probably try to do when she thinks all backs are turned.

On account of the hare's many twists and doublings, it is even worse to press on harriers than on foxhounds. Moreover, what is called the true harrier will not stand being ridden over. He can easily be driven two or three fields beyond the line, and when "harked back" is apt to be wild and unsteady, and will not settle down to work again till too late. For this, amongst other reasons, it is important that, if the Master is huntsman, he should have an accredited deputy to keep his field in order, not only when hounds are running, but also when drawing or casting—for he must do his utmost to prevent unnecessary damage to the land; otherwise, as the same ground may be traversed a dozen times in the course of the day, the nuisance will become more than the most sporting farmers can bear, and those who merely tolerate the amusement will be apt to send curt requests that they may be troubled no more with the hare dogs.

Unless the pack is a subscription one, there is no need to advertise. Cards can be sent to those who ought to know—plenty of those whose room is preferable to their company will be sure to find out—but a good deal may be done with care to limit the number of followers.

Of all the devices adopted by the hare to baffle her pursuers, running the roads is perhaps the most effective. She will go a couple of miles along the macadam if she meets nothing. There is seldom any scent, and hounds get flashy and jealous, trying to pick it up in the straight conducting line. The huntsman is then at his wits' end to know what to do; and, unless he possesses that pearl of great price, a hound with a road nose, he more often than not loses his hare. The only thing he *can* do is to trot very slowly along, and try every gateway and likely-looking spot where she may have turned off or lain down, but it is a mere matter of luck unless he has the real road hunter.

Not on the hard high road, but on the old fosse way which runs as straight as an

arrow for miles through part of Wiltshire and Gloucestershire I was once witness of an absurd spectacle.

A hare which we had hunted for some time jumped up in full view and at once betook herself to the fosse, along which she went as hard as tired legs would let her. In a very short time there was a long tail; the leading hounds were never far from her, but she took advantage of a dip in the ground to jump on one side and squat in the ditch. On went the leaders full of confidence and dash, but some slow old hounds, toiling along in the rear, poked her up, and she actually overtook and raced past the foremost pursuers, who, once more seeing her, were very much confirmed in their good opinion of themselves, though, of course, they deserved to lose her.

Provided always that the walls are fairly negotiable, a stone-wall country is first-rate harrier ground, until it gets dry in the early spring. In those large open fields one would suppose that a hare might fall a readier prey than elsewhere, but she is fully equal to the occasion, and, to the manner born, baffles her enemies quite as often here as in the fenced enclosures. It is said, and I quite believe it, that she will run the tops of the walls for considerable distances and squat on them, but I have never actually seen her do this, though I have often lost her in a mysterious manner that suggested some such method of escape.

It is a great, though not uncommon, mistake to suppose that hares have a dislike to water. Those at any rate who have been bred near the banks of a river take to it like otters, nor do they care how often they cross and recross, and the advantage of pure foxhound blood is very apparent on such occasions. The hounds dash across while the more plebeian harrier is thinking about it; indeed, it is not uncommon for some of the latter to stay lamenting their hard fate on the hither bank with unseemly outcries; when this happens, the hangers back should be kicked or thrown into the stream without loss of time. I can only remember two instances of hares drowning, and in each case they were dead beat.

Harriers require blood, now and again, at least; it is difficult to imagine how Sir Roger de Coverley's pack could have continued to take any interest in what to them must have been a most insipid occupation; anyhow, the modern hound would become slack were he never allowed to kill, but, though huntsmen do not like to be beaten and at times become very bloodthirsty, the impartial observer must fain confess that the kill is the worst part of the performance.

One cannot help feeling that "poor is the triumph o'er the timid hare"—so pitiful is her appearance in her last moments. Nevertheless, it is fair to remember that even the shyest of birds and beasts, which are always on the alert and ready to fly in apparently abject terror on the most groundless alarm, cannot possibly suffer the agonies of fear with which we are wont to credit them; or, instead of waxing fat and hearty, enjoying life as they obviously do, they would be shrunken abject creatures destitute alike of health and beauty.

When the "who-whoop" has sounded, the paunch will be sufficient reward for the pack, except on very great occasions after an unusually severe run. They will moreover often enough secure for themselves the whole carcase by tearing it before it can be rescued. The disembowelling process has, of course, to be performed by the whipper-in, and a very disagreeable duty it is; the quicker he is about it the better: hounds should never be kept baying and waiting; give them what they have earned and be off, whether it be for home or a fresh draw. The ears of the hare must be retained for a trophy to nail up in kennel or stable, and the body should be the perquisite of the farmer on whose ground it was originally found.

If it be decided to draw again, try to get on to "pastures new" for the farmer's sake as well as for the greater chance of sport on unfoiled land. It is, however, nonsense to suppose that a hare can be prevented from running in the direction she pleases. "Start her with her head towards the good country" is often the request of the ignorant when she is seen sitting. You might as well place before her a chart of the line she is required to take. She will have her own way in the most literal sense of the term, and it is but rarely that she is so hustled up that she loses her head, and gets out of her knowledge. When this does happen the run that sometimes ensues would do credit to a dog-fox.

One of these red-letter days may also occur now and then in pursuit of an old Jack in March, when hares are scarce, with the difference that he knows what he is about and is returning to the home he quitted when on pleasure bent, and he will very likely get there with a whole skin, especially if he can bring a fallow or two into his line.

Save for the chance of a good point, March is certainly the worst of the hare-hunting months, and February is generally reckoned the best. Some people prefer November and December, but hares then

are usually weaker than they are later on in the season.

Those who care to play at cubhunting do so by going out early in September and October, though it is difficult to see the advantage of the proceeding; they can hardly want to kill leverets, and the puppies, if they have been properly exercised during the summer, will know their comrades and pack readily enough when business begins in November, though of course only a portion of the new entry will go out each day; the presence of a few neophytes is good-naturedly tolerated by the old hounds, who yet are amazed and disgusted by the vagaries of too many of the rising generation.

As to the manner in which a man shall ride to his own harriers, purposely but little has been said. He must please himself, and there is certainly as much scope for individual taste in that respect as in the more arduous pursuit of the fox. For him who likes being perpetually in the air, unrivalled opportunities are afforded by a hare-hunt in any enclosed country. He may be led into more queer corners and find himself negotiating more lonely places in the course of a couple of hours after a stout cunning old hare, than might come in his way during the greater part of a season of the "Nobler Science"; he will also in all probability have the advantage of testing the feasibility of these fences from either side. The most perfectly trained hunter that can be found is the mount on which to follow a sharp pack of harriers, though it does not in the least signify if he is somewhat deficient in speed. On the other hand, should a man restrict himself entirely to gates as a means of access from field to field, he will unquestionably be able to see a very large proportion of the sport. He will even see an immense deal if he chooses to sit still and "wait till they come round again."

At the same time, though the "let 'em alone" system cannot be too highly commended, there is no doubt that the huntsman, whether on foot or horseback (for this remark applies quite as much to beagles as to harriers), ought to be in a position to see exactly when and where his hounds throw up, unless he has a trusty companion on the accuracy of whose observation he can implicitly rely. When obliged to make a cast it is as well to have some data on which to act.

Whether a man ride hard or little, or not at all, if he is really fond of hunting for hunting's sake—and no other should encumber himself with the cares of an M.H.—he will find the chase of the hare a most

fascinating sport, and in these days of enormous fields with foxhounds, when it is impossible without doing mischief to obtain much insight into their or their huntsman's work and tactics, there are no better lessons in the science of Venery than those afforded by the "Merry Harriers."

SUFFOLK AND BERKSHIRE.

Old English harriers, ranging from 19 to 22 inches in height—as with the Stannington; or they are merely a small variety of the Stud Book harrier of from 17 to 20 inches high. In both cases they are selected for the reason that they are slow enough to be hunted and followed on foot, while possessing qualities of nose and patience en-



A KILL WITH THE BADLESMERE HARRIERS.

FOOT HARRIERS, BEAGLES, AND BASSET-HOUNDS.—**Foot Harriers.**—Several packs are still maintained in various parts of England to pursue the hare with harriers hunted and followed on foot. The hounds employed for this purpose are of a very different type from the fast and flashy modern harrier or dwarf fox-hound used with the harrier packs hunted to be ridden to. Either they are large, old-fashioned Southern hounds ranging from 23 to 27 inches in height—as with the Badlesmere and the Hailsham—or what are known as

abling them to account for their hares in a thoroughly sportsmanlike manner. They are usually deep-voiced, nearly as much so as the bloodhound and otter-hound; and in colour often blue-mottled, black and tan, or other old-fashioned combination. Their place in the scheme of hare-hunting existence is that of being used to hunt the hare in countries where, owing to high walls, wide dykes, or other topographical features, beagles would be beaten; while, of course, they can be kept for less than ordinary harriers, though not so cheaply as beagles.

LIST OF PACKS.

HARRIERS—ENGLAND.

| | | | |
|-------------------------|------------------------|---------------------|----------------------|
| Aldenham. | Crickhowell. | High Peak. | Q.H. (Quarme). |
| Amory's, Sir John. | Cumberland Brampton. | Holcombe. | Ripley and Knaphill. |
| Anglesey. | Cury. | Holmfirth, Honley. | Rochdale. |
| Ashford Valley. | Darlington. | Isle of Wight. | Rockwood. |
| Aspull. | Dart Vale. | Kent, West. | Romney Marsh. |
| Axe Vale. | Dove Valley. | Kirkham. | Ross. |
| Badlesmere. | Downham. | Lethbridge's, Mr. | Rossendale. |
| Bath and County. | Dunston. | Lloyd-Price's, Mr. | Roundway. |
| Bexhill. | Eamont. | McCowen's, Mr. M. | Royal Artillery. |
| Biggleswade. | Epping Forest. | Minchhead. | St. Columb and New- |
| Boddington. | Fordcombe. | Modbury. | quay. |
| Brighton and Brookside. | Fowey. | Montgomeryshire, N. | Sandhurst. |
| Bucks, North. | Gifford's, Lady. | Nettlecombe. | Seavington. |
| Cambs. | Glaisdale. | Norfolk, North. | Sheffield. |
| Carpenter's, Mr. E. O. | Hadlow. | Oakley Park. | Silverton. |
| Clifton Foot. | Hailsham. | Pendle Forest. | Slade's, Lady. |
| Colne Valley. | Haldon. | Penistone. | South Molton. |
| Cotley. | Hallam and Eccleshall. | Peppard Farmers'. | South Pool. |
| Craven. | Hambleden Vale. | Plasgeler. | Sparkford Vale. |
| Craven's, Evelyn | Hawkins's, Mr. H. | Plas Machynljet. | Sperling. |
| Countess of. | Henham. | Pryse-Rice's, Mrs. | Stannington. |

HARRIERS—ENGLAND (*continued*).

Suffolk's, Earl of.
Suffolk, East.
Swaledale.
Tanat-side.

Taunton Vale.
Taylor and Gosling's,
Messrs.
Thanet and Herne.

Trethill.
Tyne, North.
Vale of Lune.
Wells Subscription.

Weston.
West Street.
Windermere.
Wirral.

HARRIERS—IRELAND.

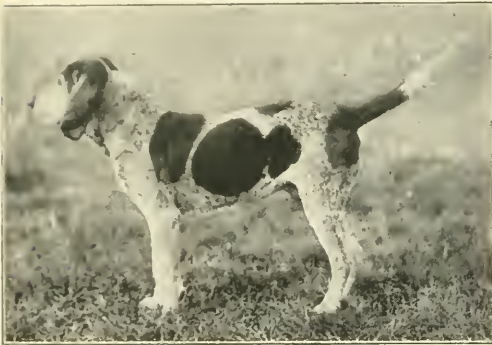
Ballymacad.
Bray.
Bree.
Brisco's, Captain.
Brooke's, Sir G.
Cahir.
Caledon.
Clare.
Clonmel.
Derry.
Down, East.

Down, North.
Drewstown.
Dundalk.
Edenderry and District.
Fermanagh.
Fingal.
Funcheon Vale.
Glanmire.
Iveagh.
Kildare.
Kildare, North.

Killinick.
Killultagh.
Littlegrange.
Mayo, North.
Monaghan.
Moore's, Mr.
Newry.
O'Hara's, Mr.
Rockingham.
Roscommon.
Roscommon, Mid.

Route.
Screen.
Seafield.
Seskinore.
Tara.
Tynan and Armagh.
Waterford and Tra-
more.
Westmeath.

Beagles.—The beagle, whose origin is unknown, is a small hound ranging from 12 to 16 inches in height, which, save in



BADLESMERE "MOUNTAIN," BY STANNINGTON "BLUCHER" OUT OF "DAISY."

straightness of legs, depth of body through the heart, and well-sprung ribs, should not resemble a foxhound in miniature. The beagle head, with its fairly full eye and large ears, and a tendency to throatiness which gives voice—the most essential quality



ROUGH BASSET HOUND. CAPT. T. B. OLIVE'S "ARTFUL" (SOLOMON—HOLDFAST).

in hounds hunted on foot—is unmistakable, if difficult to describe. During the last ten years much has been done to improve the

breed, and the kennels of the Halstead Place, Thorpe-Satchville, Stoke Place, and Chawston packs contain some of the finest modern specimens. Beagles have now a special day at the annual Peterborough Hound Show, and are also regularly benched at Reigate, while their Masters possess an Association and a Stud Book in conjunction with Masters of Harriers. Packs of beagles should be level, and their size must be regulated to the nature of the particular country they have to hunt. Small beagles can catch



OFF TO DRAW.

hares in a grass country with open fences or low, thin hedges, but it requires a larger type of hound up to 14 or 15 inches to kill in a country where the dykes and walls are large. Over 16 inches, any beagles are too big to run up to in any country, and the old slow southern harrier is indicated for foot-hunting in stone-wall countries, or in marshes intersected by ditches and runners. Beagles are of all hound colours, the old blue-mottled, with hare- and badger-pied and black-and-tan being, perhaps, the

best. The so-called Irish "beagles" are not beagles at all, but there are Welsh beagles, rough-haired, resembling large wire-haired fox-terriers with pendulous ears.

The Basset Hound is a foreign importation, and is of several sorts, both rough and smooth-coated, and also with straight, crooked, and half-crooked legs. It is, of course, a hound of the old foxhound type, artificially dwarfed as to legs, to enable it to be followed on foot. Only seven packs, numbering about eighty couples, are kept in the United Kingdom for the purpose of hunting hares, and the percentage of hares killed to hares found is very much smaller than with beagles. They are, however, easily kept up with on foot, and in some

refrain from shooting the hares, in order to start with a clear sheet under favouring auspices. The sportsman who aspires to start a pack of bassets or beagles in a country where he does not own or occupy land, or perhaps only a small acreage, will find himself faced by a slightly more difficult task. In the first place, he will have to ask the permission of the Masters of any other packs of hounds hunting over the proposed country. From these—unless in exceptional cases—he should not encounter opposition. Provided his fixtures do not "clash," no Master of Staghounds will object, and any Master of Foxhounds who really knows his business will welcome the establishment of a pack of beagles in his country—provided, of course, they do not



DRAWING THE PLOUGH.

open countries, where there are no dykes or hedges, serve their purpose, the pleasure of following them being enhanced by their wonderful "music."

Forming a Pack.—Beagling has become so popular a sport during the past ten years, and—despite the fact that the number of packs hunting in the United Kingdom has increased to over 100—there is still so much scope for the formation of yet other packs in various parts of the country that a few hints upon the formation of a pack to the would-be Master of Foot Beagles may not be unacceptable. To the owner of large estates, sufficiently stocked with hares, the matter is comparatively a simple one, especially if he exercise the sporting rights himself and has any considerable proportion of the agricultural land "in hand." He has only to purchase and kennel his hounds, and express to his tenants a wish that they shall

go out on the same days as the fox-hounds—for the simple reason that they assist the more important sport by disturbing outlying foxes in hedgerows and roots, and scaring them back to the coverts, where they are more properly to be sought. Indeed, I have heard one of the most competent Masters of Foxhounds of the present day declare that if no beagles hunted over his country, or if he should take a country where none existed, his first step would be to establish a pack of the little "foot dogs" himself. Where hares are scarce, a Master of an established pack of harriers may reasonably object; but where hares are in sufficient numbers, beagles will help him by teaching his hares how to run without appreciably diminishing their numbers. Where hares are numerous enough for coursing, they are, as a rule, much too numerous to allow of sport being shown by beagles or basset

hounds; and the would-be Master were well-advised to abandon his project. The distribution of hares is, however, curiously local, and probably within a few miles one way or another he may find a country quite well suited to his purpose. Where there are no hares it is comparatively simple to stock a country. Live hares are easily and cheaply procured by legitimate methods, and, being very prolific, a small number of jacks and does judiciously turned down in the early spring will provide a sufficient hunting stock by the following October, if the landowners, farmers, and shooting tenants will agree to refrain from shooting or snaring them

from entering coverts and disturbing foxes and game. The idea has, however, been proved to be fallacious, and in practice no foot beagles should be so fast that they cannot—except in the rarest instances—be kept within the control of the huntsman and his whippers-in.

Having obtained the requisite permission, and being presumably supported by a number of keen hunting folk in the shape of men and women willing to subscribe a guinea or two annually towards the expenses of the pack, or to be "capped" a modest half-crown each time they go out, the prospective Master will have to select



IN FULL CRY.

during the summer. Having secured permission from his brother Masters of Hounds, he will need to approach the owners and occupiers of land for their leave. Most of these will welcome him, since the damage done to fences and crops should be infinitesimal, and they can enjoy at no expense an hour or two of exhilarating sport brought to their own doors. The presence of mounted followers at meets of beagles and basset hounds must be rigorously prohibited, and even landowners and occupiers on their own property should be dissuaded from riding. Where one man rides, others are sure to follow suit, with the two-fold result that damage is done, and that hounds are insensibly pressed forward beyond control of their huntsman, and so eventually spoiled for their proper business. It was at one time advocated that one hunt official should be mounted, with the idea that he could get forward quickly to stop hounds

his staff. The hon. secretary should be someone well known and liked locally, with influence and tact, and leisure to enable him to attend all the meets. The whippers-in should be keen and athletic young amateurs, able to run up to hounds, with a good working knowledge of their country, and practically untirable. If the new Master will take the trouble to explain quite simply what he expects his respective whippers-in to do towards backing him up in the field, he will usually have no difficulty in getting them to do it. In addition, there may be a paid hand in the shape of a kennel-huntsman or kennel-whipper-in, or—in unpretentious establishments—merely a lad or boy to "muck-out," help bring hounds to the meet, and take them home, and carry a crop and couples.

Hunt Uniform.—All these officials should wear the recognised uniform of foot beagles—light velvet hunting-caps, white stocks,

green coats, white drill breeches, and green stockings. In many packs distinctively coloured coat-collars or waistcoats are worn, and a proper hunt button is usual, as this may be worn by the subscribing members of the field (who will, of course, be in mufti) as an identifying badge—whether in the shape of brooch, scarf-pin, hat-pin, or button-hole. The day when the officials of a pack of foot beagles could go hunting in any old clothes has, happily, long since gone by, and a uniform that lends dignity to the chase is now *de rigueur*. As beagling is at times a breathless business, the huntsman will be well advised if he use a Köhler reed horn in place of an ordinary one.

Kennels for foot beagles or bassets are very inexpensive affairs. Even if some out-building cannot be adapted at small cost, complete beagle-kennels are to be had ready-made from any of several well-known firms, such as Boulton and Paul, of Norwich, at prices as low as £30. The chief thing to attend to is efficient drainage and a good dry floor, if the curse of many beagle packs—kennel lameness—is to be avoided.

Hounds may be purchased occasionally as a pack, or in the shape of drafts from well-known kennels. If economy be an object in the first instance, beagles of sorts may be bought cheaply from various dealers at very low prices, and subsequently weeded out as experience sets a higher standard of efficiency and an increasing subscription list provides the means of improving the pack. £2 a couple is about the lowest sum for which any sort of "working hounds" can be purchased. It is not a bad plan to have a terrier running with the pack, especially in a hedgerow country, as he will often put out a beaten hare that, with a failing scent, has jumped aside into a furze-bush or ditch, when hounds are finally at fault, and she would otherwise have to be given up. People who bring out pet dogs with beagles—as far too many women do, incredible as it seems—should be politely requested to take them home, and farmers and shepherds should be asked to lead their dogs whenever hounds are drawing or running. Numberless hunts with beagles and bassets are spoiled by the presence of loose "cur-dogs" in the fields and on the adjacent roads.

Before advertising his meets, the new Master should have a series of bye-days, meeting early in the morning—at six or seven o'clock—in September, accompanied only by his staff and the local farmers, in order to drill hounds and staff alike and perfect them in their work so as to take the field on the opening day with confidence and some chance of success. Beagling, un-

like fox-hunting, is not an all-day pursuit; indeed, many packs, supported largely by keen sportsmen whom unkind fate has perchance condemned to stools in the public offices, do not meet until afternoon. Also it is a very arduous exercise and takes a lot out of both hounds and the followers who habitually run up to them. Three or four hours' hunting in one day is quite as



A KILL.

much as is good for either, and the Master whose pack, meeting at eleven and finding at once, enjoys a couple of good spins of perhaps an hour and a half's duration apiece, will be better advised to knock off at two o'clock than to go on drawing and perhaps find a strong hare that will keep them at it till dusk.

Hare-hunting with foot harriers, beagles, or bassets is conducted on precisely similar lines. Hounds draw for their hare, the field spreading itself in a line behind the Master and whippers-in, beating the tussocks, bushes, and hedges with sticks, and cracking the thongs of their crops to rouse the quarry. When puss is moved, a single loud "See ho!" should be given to compel her to get well into her stride, when, if hounds have not caught a view, they should be taken quietly but quickly to the first gap through which she goes, and laid on the line. A good "cry" of beagles with a useful scent should then be able to do their work unaided, sticking closely to their hunted hare, despite others getting up, casting themselves, and puzzling out the "work" of puss until they draw up to her and put her up again. When the hare is getting beaten and her scent begins to fail, it will be time for the Master to take hounds in hand, and, if necessary to lift them to a holloa in order to consummate the day's run, if possible, with a kill. Blood is more necessary to beagles than to other hounds, and the Master of Foot Beagles should never give up a beaten hare until he

is obliged. No one who has not studied the natural habits of the hare over a series of years can hope to become a really efficient Master of Beagles, for it is only the accumulated results of this systematic course of study that will help him to judge where his quarry is when he and the hounds have lost her.

If he be lucky, there may be some old hare-hunter among his supporters, who,

famous amateur huntsmen of fox-hounds have—like the late Colonel Anstruther-Thomson—learned the elements of their sport as Masters of Foot Beagles. Its popularity is also due in part to its inexpensive character, which places it within the reach of practically anybody with five shillings in his pocket. The cost of keeping beagles is comparatively small, and a good many packs that show the best of sport are



BREAKING HER UP.

without trying to run up, yet comes out to see what sport he may from the vantage-point of hill or rising ground. To such the Master should present a whistle with the request that, should he see the hunted hare—for which he will never mistake a fresh one—when hounds are silent, he will blow it and so advertise her whereabouts. The Master will not necessarily lift hounds to the whistle each time he hears it sounded, but it will be a useful guide to him in getting hounds forward on the line of the quarry.

The popularity of foot beagling is due partly to the fact that it is a genuine sport, calling for the exercise of the true science of hunting, and being noticeably fair to the hunted beast. Indeed, many of our most

maintained on an expenditure of little over £50 a year.

L. C. R. CAMERON.

STOAT-HUNTING WITH BEAGLES.—Some few packs of beagles are employed during the summer months in the pursuit of the stoat, a sport that might well be developed, though not every hare-hunting country is adapted to it. A fairly open, stone-wall country with small coverts, and not much arable land, is best suited to stoat-hunting. Where most of the land is under crops, or where winged game is heavily preserved—though there the stoat is most numerous—the “Master of Stoat Hounds” will hardly be welcomed, although, were he

to hunt in April, May, and early June, he could do but little damage either to young birds or growing grass or corn, and might usefully destroy a fair head of these vicious little vermin, as during these months stoats travel in "trips" or family parties, and cover extraordinary distances in a night. Four or five couples of hounds and a terrier or so are sufficient to take out at a time, and the method of procedure is similar to that employed in otter-hunting, or in the now almost forgotten sport of marten-hunting, formerly pursued in Cumberland and elsewhere. The pack goes out early, and, picking up the drag of the stoat, trails him to the stone wall, clitter of rocks, or other refuge in which he has laid himself up for

the day. When hounds "mark," they are held up at a little distance while the quarry is dislodged, either by the removal of some stones, or, better, by the introduction of a few puffs of tobacco smoke. The stoat will go off at his best pace, and, being given a little law, will often afford a smart run of from two to four miles before being overtaken. The Bellmount Beagles in County Cork are the only hounds that advertise meets for stoat-hunting; but other packs pursue the sport unostentatiously, while at least one sportsman maintains a small cry of ten- to eleven-inch beagles expressly for stoat-hunting, and accounts for thirty or forty head annually in a short season.

L. C. R. CAMERON.

LIST OF PACKS.

| BEAGLES—ENGLAND. | | SCOTLAND. | |
|------------------------|-------------------------|---------------------|---------------------|
| Airedale. | Forest and District. | New Forest. | Ayrshire. |
| Aldershot. | Furness and District. | Pantycendy. | East Lothian. |
| Allott's, Mr. | Gogerddan. | Parkin's, Miss. | Edinburgh. |
| Beresford Dale. | Gosport and Fareham. | Pen-y-Ghent. | Eskdale. |
| Berkhamsted. | Greaves, Mr. | Price's, Mr. | |
| Berwick, Foot. | Halstead Place. | Royal Agricul. Col. | IRELAND. |
| Brighton. | Hinton. | Royal Rock. | Bellmount. |
| Britannia. | Holliday's, Mr. | St. Bees. | Duleek. |
| Bronwydd. | Horsell. | Spring Hill. | Moorhall. |
| Buckland. | Hulton. | Sproughton. | Moynalty. |
| Bushey Heath. | Instow. | Stockton (Foot). | Newbridge. |
| Butcher's, Mr. | Inwood. | Stoke Place. | Scarteen. |
| Chawston. | Leigh Park. | Surrey, West. | |
| Cheshire. | Lichfield Garrison. | Thorpe Satchville. | BASSET-HOUNDS. |
| Christ Church (Oxon). | Linton. | Trinity (Cambs.). | Fairforth. |
| Cockermouth. | Longdendale. | Trowbridge. | Greywell Hill. |
| Constable's, Mr. | Malden's, Lord. | Warwick. | North's, Lord. |
| Durham. | Marland. | Witherdon. | Olive's, Captain. |
| Exeter College (Oxon). | Maryport. | Wooddale. | Riversfield Basset. |
| | Newcastle and District. | Woodland. | Stainrigg Basset. |
| | New College and Mag- | Wood's, Mr. F. | Walhampton. |
| | dalen. | Worcester Park. | |

STAG.—By staghunting we here imply the chase of the deer with a pack of hounds on horseback, or, as it was formerly called, "hunting at force," as distinguished from the earlier form of sport, in which the horse and hound were used only as subsidiary to the hunter's main object, which was either the killing of the deer with a weapon—a form of staghunting which dates back into the mists of Egyptian history—or, to quote a mediæval writer, one Christopher Ware, gentleman, "the forestalling him with nets and engines."

History of the Hunt.—There is no doubt that hunting at force existed at a very early period in Britain, and it is difficult to trace its exact origin or account for its partial desuetude in the fifteenth and sixteenth centuries. William of Malmesbury states of Edward the Confessor that he delighted "to follow a pack of swift hounds in pursuit of game, and to cheer them with his voice"; upon the other hand, Mr. Hore, in his *History of the Buckhounds*, gives Edward III. the credit of being the first Plantagenet

who rode to his hounds and thus hunted at force.

As the history of the royal hounds is to some extent the history of staghunting in this country, Mr. Burrows' interesting introduction to my own book may here be cited. From this we learn that the earliest record of a regular establishment of the buckhounds is the grant to Hamon le Venour in 1216 of certain lands in Rockingham Forest known under the Edwards as "Hunters' Manor," to which for many centuries the hereditary mastership of the royal buckhounds was attached. The traces of this establishment, broken up on the permanent establishment of the Court at Windsor, are to be found in local names and ruins still existing in the woodland Pytchley country. These lands were held by the Lovels and De Borhundes in consideration of their office, by the conditions of which they were bound to keep up a certain number (varying from fifteen to twenty-four) of "canes currentes" (buckhounds), two "berners" (keepers), a "veutrer" or

huntsman, and whippers-in, partly at their own and partly at the royal expense. Towards the end of the fourteenth century, by the marriage of Sir Bernard Brocas with Mary De Borlunte, the hereditary mastership came into the Brocas family, who held it until 1633.

Under Henry VIII. a new institution—the privy Buckhounds—had arisen, more suited than the old feudal system to the ideas of that liberal age, of which the mastership was to be held during the king's pleasure. The first master of the privy

though deer may have been carted about previously to this for the royal chase, from that time onwards the deer cart may be said to have become the centre and pivot of modern staghunting.

A few words may be said here upon the causes which led to the introduction of the deer cart.

George III. at his own pace and convenience hunted the Berkshire side of the Thames and the Hampshire heathland very much in the same way as it is hunted now. He liked long runs, strong deer, the open



IN THE PADDOCKS.

pack was the ill-fated George Boleyn, Viscount Rochford, who thus heads the *rôle* of Masters of the Buckhounds as we understand the office in these days. The two packs were jealous rivals; but eventually the hereditary mastership was sold by Sir L. Watson, a ruined cavalier, and the office became obsolete. So much for the past, now for the present.

The Deer Cart.—Until evolution or some other process demolishes the proposition that the greater includes the less, precedence justly belongs to the deer cart. Without a deer cart there could clearly be no staghunting; but this solid engine of the chase claims our early attention upon higher grounds, inasmuch as the popular character of modern staghunting—in the widest sense of the word “popular”; witness, for instance, a turn-out at Salt Hill or Maidenhead Thicket—may largely be ascribed to its exciting influence.

In the course of my reading I have not been able to establish the date of the first deer cart, or discover its talented inventor. George III., however, acquired the freehold of Swinley paddocks in 1782, and started the hunting herd there about that time. Al-

country as against Windsor Great Park, and a field as against a court.

The deer cart and artificially conditioned deer were the only means to these ends. But the new system, as a system, was an innovation, not a revolution. Owing partly to the countless Enclosure Acts of the two previous reigns, the spread of agriculture, and the growing taste for high farming and reclamation, the area of staghunting in the environs of Windsor and all over the country was rapidly disappearing. As a matter of fact the red deer had long ceased to be the first “beast of venery” in England.

We should have to go back several hundred years to find in this country any such “astonishing extent” of forest as Colonel Thornton remarks upon in his sporting tour to France in 1805. Parks and fallow deer abounded in the year 1530. According to Manwood there were upwards of a hundred parks in the counties of Essex and Kent alone; and the best French writers upon venery of the sixteenth and early seventeenth centuries (an Augustan period of this sort of literature) held English staghunters in doubtful esteem, because their

experience was limited to parks, and to fallow buck hunting as against stag-hunting.

In short, by the end of the last century, setting aside the gaunt and unvisited Highlands of Scotland, wild herds of red deer were only to be found upon Exmoor and Dartmoor, in the New Forest and in Wolmer Forest.¹

It is true that a Swinley deer is recorded as having afforded a record run into Oxfordshire to the Duke of York and his suite, but I question whether this was a wild deer in the Exmoor sense of the word "wild." The red deer, saving the stately remnant who still enjoy the high privileges and ancient distinction of their race on Exmoor, has no such abiding city in England as he appears to hold and to keep in France. But perhaps whatever the "tall deer" may have lost in prescription he has gained in popularity. Upon the "greatest happiness" principle the carted deer may be congratulated upon rendering services to his generations which would have delighted Bentham, and upon playing a part, especially in the Ascot and Windsor districts, which merits the attention of the economist and the gratitude of the Inland Revenue.

The deer cart used at the royal kennels, which, as the result of a century's experience, may be taken as typical of the species, consists of a rectangular wooden van on four wheels, giving the interior dimensions of 5 feet 9 inches by 3 feet 4 inches and 4 feet 1 inch high. A longitudinal division made in two parts and to slide, divides the cart into two compartments, each compartment having a door. When the deer are carted in the morning, this sliding partition is so arranged as to allow the first deer to enter on the left and turn past the inner end of the partition into the right-hand compartment. The deer thus faces the right-hand wing of the double door in readiness for the turn-out. The second deer remains in the left-hand compartment in case the first does not afford a good run. The floor of the deer cart should be 3 feet 3 inches from the ground, and battened to prevent slipping; it should never be scrubbed, but merely brushed out, leaving some manure in order to improve the scent for hunting. The double doors are ventilated in the upper part on the Venetian blind principle, with two windows near the top that the deer may not be dazzled when first freed. The interior walls are padded and covered with strong cocoanut matting. Under the driving box is a place for lame

hounds, 2 feet 2 inches by 3 feet 4 inches by 2 feet 6 inches. A deer cart of this type, and all of the best, costs about £120.

The best is the cheapest, for a deer cart has to stand exposure to much wind and weather and the wear and tear of all sorts of country roads. Initial solidity is an essential, and unfortunately solidity means weight. The approximate weight of the Ascot van, which has been in use since 1874, with its freight of two men and two deer, is about 23 cwts., which involves a strain of something like 16 cwts. upon the horses.



THE DEER CART.

In these resourceful days it seems strange that something less cumbersome has not been discovered: pending the invention of a motor deer van, any suggestion for lightening the burden should be welcome. Mr. Kemsley, of the Royal Hotel, Ascot, who has horsed and driven the deer cart by contract for some years past, to whom I am indebted for the foregoing particulars, advises as an improvement the use of a cranked axle, which would lower the body six inches and render the van more practical for loading; and he would add higher front wheels and closer couplings, and make the body six inches shorter. This would materially decrease the weight. It has always seemed to me that a further lightening might possibly be effected by the substitution of a strong wicker roof, instead of the present wooden one, made waterproof by a covering of strong tarpaulin, on the principle and in the style of that important factor in every day life, the lady's travelling dress trunk.

Mr. Kemsley tells me that he reckons the average day's journey at forty miles. I know, speaking from my own experience, that this is within the mark. But an instance occurred last season when seventy miles had to be covered by the deer cart, which got back to the paddocks at about three in

¹ *Vide Rural Sports*, Rev. J. Daniel (1805); and for a description of the Wolmer deer, White's *Selborne*.

the morning. Mr. Kemsley reserves four horses solely for this work, each pair doing one journey a week. He likes a short-legged horse with plenty of bone, not over 15'3 and not under seven years. They must be well seasoned and fairly bred, in order to stand the long miles and face the weight.

The master of a pack of staghounds is exempt from the cares of earth stopping, but the efficiency and staunchness of the deer cart are heavy items in his budget and serious considerations.

Let us glance for a moment at some of these considerations: a well-horsed deer cart can even on woolly roads manage a steady six or seven miles an hour. As most staghounds do not meet till twelve, a very early start is seldom necessary. At the meet the deer van attracts as much attention as the Trojan horse might; upon its being driven into the field selected for the turn-out, popular enthusiasm knows no bounds, the excitement being kept up by conflicting suggestions as to the position it should occupy and several elaborate changes of front. But after the uncarting, the deer cart repairs to some central point. Among free-born Englishmen this always means a public-house—and here we come to a question of morals. The well-ordered number of these bulwarks of civilisation, coupled with long hours, stress of weather, agreeable company and personal popularity, mean that the driver and his comrade must unite the self-discipline of a St. Simeon Stylites to the hardihood of a Nansen.

“They also serve who only stand and wait”—in the circumstances a difficult thing to do without a glass of beer; but it is not all waiting. Possibly the first deer is taken or disgraces himself in half an hour, and the second deer is quickly wanted. A messenger arrives on the spur, and the deer van is expected to exhibit all the dash and alacrity of a London fire engine in getting to the scene of action. If, on the other hand, no orders have arrived by the time agreed upon, the whole caravan gets under its ponderous way, and follows to the best of its ability the line of hounds: depending upon the reckless information of passers-by or the vague accounts of discouraged sportsmen who have lost a shoe, lamed their horses, or had enough of it. This may go on for hours, and it will be admitted that a good deer cart driver is a valuable servant. The safe carting of the deer, its comfort in transit, and the soundness and welfare of the horses depend upon his care and competence. In a well-managed establishment the driver should always have a man with

him who should be a good stableman, and if possible accustomed to the ways of deer.

Unless your men, your horses, and your deer cart are all of the best, recognise their responsibilities, and work harmoniously together, your troubles will not be to seek.

It may here be remarked that the van-driver and his comrade should be suitably but not too soberly dressed. The green plush coats and gold lace of the Royal Hunt give the deer cart a very classical appearance. In Utopia, I think, these officials would wear heavily furred white beavers, and a gaily attired postillion might be added. But in any case the rather prison-van-like appearance of the conveyance should be relieved somehow by colour and character.

The Carted Deer.—The managing partner of a stag-hunting company next claims my attention.

Successful stag-hunting, by which a stag-hunter means a good run, in which little or nothing is seen of the deer until he is taken safely and artistically, depends upon several things.

There is the mood and temperament of the deer; there is the weather, for though deer run well in under bright skies and a hot spring sun, I have seldom seen them run up to their form in muggy, hazy weather; there is the country, that is the line taken by the deer, a matter of prime importance in such a riding pastime as stag-hunting. But, with the exception of the weather, all these largely depend upon the deer's condition—condition in the sense we mean when we speak of a Persimmon or a Slavin being trained to a day. In the case of a deer this training is the test and result of the paddock management. It will be good or bad in the same ratio as this is good or bad.

The number of deer in the paddocks depends upon purse, space, and the number of days a week the pack hunts. The hardest running deer are always the soundest, and very seldom get themselves into any trouble. Thus a crack deer will come out six or seven times in an open season; but three days a season is the most you can reckon upon with an average animal, and to hunt a two-days-a-week country properly, *i.e.*, assuming two deer are taken out daily, this may be taken as the basis of calculation.

At Swinley, the Royal Deer Paddocks, things were done on a liberal scale, but it is much better to have rather too many than rather too few deer. Deer easily get stale; like human beings, they have their days, and to my mind it is both foolish and wrong to hunt a weak or unwilling deer.

The whole *raison d'être* of stag-hunting is the run. Thus a deer should not and must not be hunted as we hunt a fox. To press home even legitimate advantages with a deer involves the risk of bewildering him or even killing him. In the former case your run is spoiled and your field is disappointed. In the latter you are guilty of the cardinal sin of stag-hunting. Thus the most difficult thing for persons in authority out stag-hunting is to determine when to stop hounds and when to press a deer. It is a matter of intuition, with a dash of luck.

As the Swinley Paddocks are the oldest existing establishment of their kind, I

extra manuring and manual labour are necessary, in order to prevent the herbage going back, for deer are wasteful feeders, and will only graze the very best herbage, leaving the rougher parts untouched. If anything, the Swinley Paddocks are a little over shut in by trees, but shade and water are essential. At Swinley the latter is supplied from a stream flowing out of a neighbouring pond, small bays being made for its reception and storage.

The present Swinley herd consists of stags, hinds, and havers, and one or two polled havers. As the difference between a havier and a polled havier is not always



MEET OF LORD ROTHSCHILD'S HOUNDS.

cannot do better than give the following details of their disposition, for which I am indebted to Mr. F. Simmonds, of the Woods and Forests Department.

The Swinley Paddocks occupy an area of about 12 acres, divided into five separate paddocks, averaging rather over 2 acres each. The whole is fenced with an oak fence standing 8 feet out of the ground, of which the upper 3 feet are open palisade, and the rest close paling; at the point where these two parts meet, an iron sheet about 3 inches wide is laid along the fence; and at the bottom of the fence an iron ground sheet is let about 9 inches into the ground; the average cost of this (including banking) is £3 12s. 6d. per rod. The paddocks are treated as permanent pasture and never meadowed, a certain acreage being manured, harrowed, and rolled every year, and the deer are shifted about from one paddock to another, according to circumstances. This

understood even by stag-hunters, it may here be pointed out that a polled havier never throws any horns, having been castrated very soon after he is dropped—whereas a havier is a stag castrated when full grown and at his best—that is, from four to seven years old. A havier's horns will grow again almost as usual the first spring after the operation. They are then taken off again, and after that velvet will grow on the brow antlers, but a havier never grows a head again. The hunting career of a stag should not begin before he is four years old.

A deer taken up into paddocks, say in September, if wanted for that season, should be at least four years old, and should not be hunted much before Christmas.

It is difficult to say whether stags, havers, or hinds afford the best sport. The great long-distance runs on record have almost invariably been after stags or havers; but

towards the end of the season, when the country dries up, hinds run the roads less than stags or havers. One of the best deer I had in my time with the Queen's Hounds was a lop-eared polled havier.

The deer selected for hunting should be taken up into a deer stable on the afternoon of the preceding day, and should fare lightly. As soon as possible after he is taken he should be given some forage and water. The food of paddock deer of course



LIBERATING THE STAG.

largely depends on the time of year. During the summer they can and should live almost entirely upon grass. In the autumn and winter the average diet for a single deer may be taken as about a quart of the very best old beans and about one-fifth of a truss of second-crop clover hay daily, according to the weather and their keep in the paddocks. This menu is varied occasionally with carrots and pulped swedes or turnips, to the amount of, say, one-third of a bushel per day. Care should be taken to secure the best quality of forage. Given plenty of space and favourable conditions of every day life, there seems no reason why deer should not be bred in the paddocks for hunting purposes, but it has never been tried on any large scale to my knowledge. If at all lame, owing to road work and flints, the feet of a hunted deer require careful attention, and an experienced deer-keeper will have a liniment of his own, prepared from some recipe which wild horses would not induce him to divulge. It takes about

four men to throw and examine a deer safely.

As a rule a deer tells you all about himself the first time you hunt him in an open country; but as stag-hunting is a pursuit peculiarly uncongenial to rules and formulas, he should always be given a second or even a third chance of winning the affection of the establishment and the esteem of the public. I have known instances of capital runs after very poor and even ridiculous starts. You never know what deer are going to do; they will run up and down the first fence, stand in the corner of a field looking at you, trot back down a road to meet the pack, or even pursue its quick retreat, and then all of a sudden settle down to run you out of daylight, or into the next county but one.

The best deer run to points, and I think concern themselves little about wind, although they are said to prefer to run on a side wind; but it is as well to uncar them with their heads up wind, and give them plenty of time to make up their mind. In some well-managed packs of staghounds it is customary for the first whip to ride the deer for a few hundred yards, with the object of edging him into the right country.

This was the plan of the celebrated Charles Davis, who held it desirable to point his deer on turning him out towards a conspicuous hill. As an example of this habit of running to points, the "Druid" relates of the Miller, a noted stag in Davis' time, that if he got two or three hundred yards out of his old line, he would take the greatest pains to right himself, and would then set-to in earnest. In one instance in my recollection the polled havier I have just commended was left out after a 12-mile point. He was harboured in a big wood of Lord Downshire's; we found him a fortnight later, and he ran the last six or seven miles almost gap for gap on his old line the reverse way, being taken in an outhouse in the next field to the one in which he had been originally turned out.

The "Take."—It is related of the fifth Duke of Richmond that he was quite afraid to meet a certain butcher when he had not killed his fox. The butcher would never accept any excuses or admit the possibility of a good run without blood. But it is just the other way stag-hunting. A master of staghounds who has killed his deer keeps it to himself, if he does not wish to advertise his incompetence. In this connection it was remarked with justice by an apologist of the last century that whereas in every other kind of hunting everybody strives to be in

at the death, out stag-hunting the exertion of all is to save the deer's life. This then is the grand test of a huntsman's skill and success: season after season old names and old friends in the paddocks.

To my mind the artificial conditions and high feeding of paddock life are not alone sufficient to put a deer in wind for the deep and holding country over which he is often hunted. Deer should therefore be exercised. As an example of how this may be

Country.—I spoke just now of country as a condition of successful stag-hunting. In my opinion the prime requisites are extent and variety. From the riding point of view—a very material one—nothing can be imagined better than the Elysian fields of the Aylesbury Vale and the emerald provinces of the Ward Union. At the same time, if only some magician could do away with the wire, restore the Harrow country, obliterate many villas and an occasional



STAGHOUNDS IN FULL CRY.

done, I may say that in the Swinley Paddocks we formerly had a bob-tailed lurcher to whom this duty was confided. He performed it admirably. The deer and he thoroughly understood each other, and nothing would have induced him to turn into earnest the play which both parties thoroughly enjoyed. It is only fair to say, however, that the contrary opinion is held by many who are conversant with the subject as to the desirableness of this artificial exercise.

The "Druid" in one of his books endeavours to point a distinction between the hunting aptitudes of different breeds of deer, the Woburn deer, for instance, being superior to the Chillingham, and so on. In my opinion, the question is not so much one of strain, which has little bearing on the question of a deer running well or ill, as of local antecedent conditions. It is a great point that the deer destined for hunting should have been bred in large, rough parks, where they have had plenty of range and wild life.

village, and, perhaps, whilst he was in the humour, abolish the Thames, the Queen's county would be an ideal stag-hunting county. There is country of all kinds, and, above all, lots of room, and the value of the bold sweep of forest and heath lands cannot be over-rated. Staghounds should not meet in a systematically wired country, and they should always be stopped in water meadows or low-lying riverside lands. The best mounted and most resolute hunt servants cannot be counted upon to keep with hounds in these circumstances.

"The Lord of the Valley stands proudly to bay."

Like every other line of Whyte Melville's appreciative verses, this is absolutely true. Besides, habit is ten times nature, and the pack are so accustomed to bay round their deer in a lusty "Freischütz" chorus, but at a respectful distance, that so long as he is on his legs, it does not occur to them to do anything else. But the carrier of a water meadow, or the ooze of a withy bed,

has a fatal attraction for deer, which they seem powerless to resist; they seem to abandon themselves to a sort of Nirvana. With the loss of the advantage of ground, there is the more serious loss of prestige—and then it is soon all over.

The Staghound.—The Rev. J. Daniel and other writers of authority in the first years of this century speak with disparagement of the slowness and heavy outline of the royal staghound. But a very few years after the publication of Mr. Daniel's *Rural Sports* in 1806, the old staghound type was extinct, at all events in the royal kennel. Both George IV.'s and Lord Derby's staghounds were pure bred foxhounds, and the good ground gained in the first quarter of the century has been more than held.

Nothing could be more different from the old Georgian staghound or the Massy buckhounds—a celebrated pack of curiously bred Talbots in Tipperary—than the type a Master of the Buckhounds or of the Ward Union sets before him and works up to to-day. Horses and men want to go faster and faster, and so must the hounds. Moreover, nothing is to be gained by the majestic size and massive bulk still honourably associated with these *Vieille Roche* aristocrats. A racing foxhound pack of the highest breeding—24 ins. at the very outside, 23 ins., in my opinion, is better—with the Blankney necks and shoulders, above all with the tirelessness which Lord Henry Bentinck and Mr. Tom Smith set such store by, are what the present conceptions of hunting and of riding to hounds require. To some extent, too, a staghound's is a thankless service; *bon sang ne peut mentir*, and only a foxhound of high degree will go on doing his very best in the face of the moral, and often practical, rebuffs which are his only meed when once it becomes a question of a deer's safety.

As the tendency of staghounds is to string, and as the drive and speed of your hounds are the first things to think about, a pack should be drafted hard up to high standards of pace and dash. In a pack of twelve couple—quite enough, in my opinion, to have out with a large field of eager and courageous horsemen—every hound should be fast enough to get to the front and determined enough to do his utmost to stay there. Nose is hardly the first consideration in a staghound, for, as Charles Davis used to say, the scent of a deer lies so high and sweet. It may be an impossible ideal, but a master of staghounds should not rest content till, in Beckford's phrase, he sees his hounds topping their fences "like the horses of the sun, all abreast," or, to quote another

high authority, "spreading like a rocket," in a difficulty.

It is difficult to establish the exact origin of the old staghound, bred, as he was, with care and patience for the express purpose of stag-hunting. Perhaps the old Devon and Somerset pack, rather than George III.'s hounds, may be taken as the best of the sort. In height they ran from 26 to 28 ins.; in colour they were hare and badger pied, yellow and white, and black and white with long ears, colossal throats, deep chests, and slab sides. Even when running hard, these hounds gave plenty of sonorous music; comparative silence is the price we have had to pay for pace. But a modern stag-hunter on a grass-country horse, with the Vale of Aylesbury unfolding itself in front of him, will cheerfully bear the loss of the melodious operations of the past.

Horses.—Little need be said with regard to horses. The best is not too good for stag-hunting; "thoroughbred horses make the best hunters; I never heard of a great thing yet but it was done by a thoroughbred horse," said Dick Christian. I believe he was quite right, especially for stag-hunting. Dick Christian goes on to say that he likes them with lots of action and to see all four feet at once. It is not very clear what this means, though it gives one an almost uncomfortable idea of action; but in buying a stag-hunter bear in mind that road work, and fast road work, is inevitable, and that a noisy hackney-actioned horse knocks his legs to pieces in no time. Send him a quarter of a mile away, listen to him gallop down a road towards you, and if he recalls to you Virgil's hexameter, don't buy him. Of course, a stag-hunter must go fast. A slow or underbred horse, if not outpaced by staghounds, soon gets blown by the persistence of the pace; for if the deer is really in the humour, a horse has few opportunities for getting his wind, and it is but seldom his rider can save him by riding cunning and getting a nick. In view of the long hours and the ever lengthening miles home, which stout deer usually mean, it is an economy to send out two horses for all the hunt servants; thus you want more horses than you would in a fox-hunting stable. Unfortunately, too, the second horses do not often mean any great saving to the first. They can seldom get to points or make short cuts, and, when they do arrive, have had to come along a pretty good pace and jump a few fences. Three days a fortnight is quite as much as a hunt horse can manage, and even then he must be seasoned, full of condition, and fairly ridden. But, given these desiderata and a capable stud

groom, the effect of the most severe day's stag-hunting soon passes off.

It may here be remarked that the whippers-in should be quite as well mounted as the huntsmen, and on really bold horses. They should be "emergency" horsemen; by this I mean men who will jump a really big place at a critical moment.

The Past and Present of Stag-hunting.

—Since 1857, the first year the *Field* published its annual list of hunting establishments in the United Kingdom, the number of stag-hunting packs has steadily increased from six to sixteen in 1897, the highest

lacks much of the uncertainty which certainly distinguishes fox- and hare-hunting; but this very feature is in itself from some aspects commendable. To begin with, unless the deer cart has got lost, you are sure to find; and there is always scent enough to hunt a deer when hounds could not own to a fox. Then there are conditions attached to stag-hunting which make it an eminently suitable amusement and exercise for busy men who like a ride. Several of the most notable staghound packs are, thanks to our benevolent railways, within easy reach of London. In a good country, with a fast



THE HUNTED STAG TAKES TO THE WATER.

figure recorded in this period. I have not got the figures for Ireland. But it is not an industry which has suffered from over-production, and this increase bears no proportion to the remarkable increase of fox-hunting establishments. As exhibited and practised by the Queen's, the Surrey, Lord Rothschild's, and other well-known packs, stag-hunting has never been more popular than at present; yet it continues to be, as it always has been, a localised form of the chase. For all but a century there have been staghounds in the home counties, in Hampshire and in Norfolk; but, as far as I know, this sport has never taken root in the midland and northern counties; and whilst there are several packs of high reputation in Ireland, stag-hunting has made no way either in Scotland or in Wales.

As a good deal has been urged at one time or another to the depreciation of stag-hunting as compared with fox-hunting, I may be excused for briefly noticing here some of the advantages which our good-humoured and democratic pastime affords. It is claimed, for example, that stag-hunting

pack and a straight deer, a run of an hour, or at the most an hour and a half, should satisfy most people. Staghounds meet late, and nine times out of ten the best of the run is over early. Then we trouble ourselves less about conventions than fox-hunters. If anything, stag-hunting is too liberal a school of morals; there are no canons of dress, and very few of behaviour. Lastly, from a master's point of view, our profession is absolved from many of the anxieties which take up a good deal of the time of a master of foxhounds. Your master of staghounds is spared, for example, all heart searchings as to the soundness of Mr. Jones' views on foxes; he need not upset all his arrangements owing to Lord Hawkeye's big shoot, or answer letters about massacres of poultry and game. If only he can keep his field in order—who are as a rule not good judges of seeds and meadow land—the damage done to land by staghounds should compare favourably with that caused by foxhounds in a fashionable country; a good deer runs over a long stretch of country, he runs straight, and

does not, if he is worth his salt, dodge and twist about, like a bad fox on a poor scenting day, dragging a large and impatient field backwards and forwards over a few hundred acres of affectionately farmed land. If he does, a wise master leaves him to his own devices, and sends for the deer cart and the second deer.

Ethics naturally bring us to a freely debated aspect of stag-hunting, the humanitarian. A discussion of the "cruelty" question would be outside the scope of this article; besides, I have said all I have to say in the chapter on this subject in my *Staghunting Recollections*. Perhaps a



THE RIBBLESDALE BUCKHOUNDS.

rather closer acquaintance with our manners and customs may mitigate the asperities of our opponents; and if my book should have any such effect I should indeed be pleased; but on the broad issue I would recommend to their notice the discussion between Mr. Fox and Mr. Wakefield (the editor of *Lucretius*), given in Lord John Russell's *Memorials and Correspondence of Charles*

James Fox (Vol. IV.), and in the words of Mr. Wakefield, "I wish that any dispute of the kind would terminate as amicably and after such gentle litigation" as theirs did.

Literature.—The literature of carted deer hunting, though adequate, is not large: Mr. Beckford declined to include us in his *Thoughts*, Mr. Daniel only just admits it to his *Rural Sports*. "Nimrod" touches upon our pastime with occasional condescension, but his heart is far from us. In Scott and Sebright the "Druid" devotes a vivid chapter to the stag-hunting of his own and the preceding generation. Then we can see a fine run with the Baron in the pages of *Satanella*, and laugh at ourselves with the late Mr. Higgins in the Harrow country (*Wild Sports of Middlesex*), or with Mr. Surtees and John Leech when the Benicia Boy electrifies Miss Birch's establishment. Starting from Edward III., Mr. Hore in his *History of the Royal Buckhounds* traces the fortunes and investigates the budgets of the royal pack under successive sovereigns. Of my own book I will only say that its facts, experiences, and recollections are the result of three years' close association with deer, staghounds, and staghunting. RIBBLESDALE.

The latest addition to the list of the stag-hunting packs is the Ribblesdale Hunt, which was founded by Lord Ribblesdale, who was at one time master of the Queen's Buckhounds, and Mr. Peter Ormrod. This pack hunts wild Sika deer in the Ribblesdale country. It was formed in 1906, and as at that time stag-hunting was not known in that part of the country, its formation was met with great opposition, both on account of the cruelty alleged, and the amount of damage that the farmers imagined would accrue to their property. However, owing to the energy and tact of the joint masters, this opposition was overcome, and the hunt now enjoys great popularity, meeting, as it does, twice a week.

LIST OF PACKS.

| | | | |
|--|---|---|--|
| 1857. Her Majesty's. East Berks. Cheltenham. Devon and Somerset. Heathcote's. Baron Rothschild's. | 1865. Her Majesty's. Sir C. Constable's (Yorks). Devon and Somerset. Mr. Heathcote's (now the Surrey). Mr. Nevill's (Winchester, given up). Hon. F. Petre's (now the Essex). Baron Rothschild's. | dropped out; but two new names appeared —the Easingwold in Yorks and the Berk- hamsted in Herts. | Surrey. Mr. Farnell Watson's. Waveney (Norfolk). Lord Wolverton's (Dorset). |
| 1862. Her Majesty's. Burton Constable. Devon and Somerset. Mr. Heathcote's. Hon. F. Petre's. Baron Rothschild's. | 1871. Same as above, except Sir C. Constable | 1875. Her Majesty's. Mr. Angerstein's. Berkhamsted. Colchester. Devon and Somerset. Easingwold. Mr. Nevill's. Hon. F. Petre's. Baron Rothschild's. | 1880. Her Majesty's. Berkhamsted. Lord Carrington's. Colline Dale. (He bought Lord Wol- verton's and Mr. Nevill's.) Devon and Somerset. Mid Kent. |

LIST OF PACKS—*continua.*

Norfolk and Suffolk.
Hon. F. Petre's.
Sir N. de Rothschild's.
Surrey.
Mr. Farnell Watson's.

1885.

Her Majesty's.
Berkhamsted.
Devon and Somerset.
Lady Meux's (Wilts).
Mid Kent.
New Forest.
Hon. F. Petre's.
Sir N. de Rothschild's.
Surrey.
Warnham.
4th Hussars.

1891.

Her Majesty's.
Berkhamsted.

Devon and Somerset.
Enfield Chase.
Essex (late Petre's).
Mr. Giles's (Herefordshire).
Mr. Greene's (Suffolk).
Mid Kent.
New Forest.
Lord Rothschild's.
Surrey.
Surrey Farmers'.
Warnham.
8th Hussars. This is a regimental pack at Norwich, and the hunt is transferred from regiment to regiment.

1895.

Her Majesty's.
Berkhamsted.

Devon and Somerset.
Enfield Chase.
Essex.
Mr. Gerard.
Mr. Greene's.
Mid Kent.
New.
Oxenholme.
Lord Rothschild's.
Savernake.
Surrey.
West Surrey
(Farmers').
Warnham.
7th Dragoon Guards.

1910.

Sir John Amory's.
Berkhamsted.

Berks and Bucks.
Mr. Burton's.
Devon and Somerset.
Enfield Chase.
Essex.
Mr. Gerard's.
Mid Kent.
New Forest.
Norwich.
Oxenholme.
Ribblesdale.
Lord Rothschild's.
Surrey.
Warnham.

IRELAND.

Antrim, East.
County Down
Ward Union.

WILD RED DEER ON EXMOOR.—If any one branch of hunting can be said to be especially popular with the readers of

a private gentleman. From that time to 1818 the hunt was prosperously carried on by various magnates of the district; then



MEET OF THE DEVON AND SOMERSET STAGHOUNDS.

sporting magazines and other periodicals of the present day, surely that department of sport with which the Devon and Somerset Staghounds are associated may lay undisputed claim to the distinction. Yet the hunt has had its days of adversity, and many staunch supporters thereof can well remember the days when the future of the chase of the wild red deer seemed more than doubtful.

Turning first to the **History of the Hunt**, it seems probable that deer were first hunted by the rangers of the forest of Exmoor from a very early date, apparently the thirteenth century, but it was not until 1775 that a pack of hounds was hunted there by

until 1825 the sport would seem to have languished, and from Vol. XV. of the *Sporting Magazine*, published in that year, it is obvious that the "North Devon" Stag Hunt was in a moribund state. In the volume above referred to is included a lengthy article by "Nimrod," which appeared in the November number, 1826, and describes the experiences of the author on a sporting tour in the West. His description of the hound is of interest. "The North Devon hounds appear to be, with one or two exceptions, thoroughbred staghounds, having all the peculiarities of the breed. They are heavy—or perhaps I should say strong—in their shoulders; short

in their necks; slack in their loins; rather deep-flewed; heads long; ears fine and pendulous; noses somewhat flat and wide; tongues deep and sonorous; very good legs and feet; and from 24 to 26 inches high. The prevailing colours are yellow, badger, and harepie—not one black and white hound among them. They carry their heads high with a good scent, but will stoop to a low one; and are all line-hunters—a flinging stag-hound being seldom met with.”

Nimrod, however, does not seem to have seen any sport on the occasion of his visit, and the heavy rains which prevailed were little to his taste.

In the February number, 1825, there is a piteous letter on the subject of the decline of the hunt, which, the writer avers, had received its death-warrant; and, in fact, at the end of that season the hounds were sold by auction in London to a German baron.

From 1825 to 1855 there was more than one interregnum, but in the latter year began a new era, on Mr. Fenwick Bisset coming forward as Master of the pack. How that gentleman faced difficulties of every kind unflinchingly, and how, thanks to his efforts, the sport has prospered, all

Literature of the Sport.—Following this brief summary of the history of the “Devon and Somerset Stag-hounds,” allusion must be made to two works, in which the seeker for information on this subject will find ample matter of interest; though it must be mentioned that both books are comparatively rare. The first of these is Dr. C. P. Collyns’ *Notes on the Chase of the Wild Red Deer*, published in 1862. It deals very fully with the sport which the writer loved so well, and consists of eight chapters, besides an appendix of upwards of 80 pages “descriptive of remarkable runs and incidents connected with the Chase from the year 1780 to the year 1860.” The book is, moreover, profusely illustrated and contains a map of the district.

The second work is entitled *Records of Stag-Hunting on Exmoor*, by the Hon. John Fortescue, published in 1887, and contains many illustrations, besides a map of the stag-hunting country, the extent of which is described in the opening chapter. Three appendices are subjoined, in which are to be found a “Record of the most notable Chases from 1855 to 1885,” and a “Tabulated History of the North Devon and Somerset Stag-hounds,” which is followed



SORTING OUT THE TUFTERS AND COUPLING-UP THE REST OF THE PACK.

interested in the annals of the Chase must know. He retired from the Mastership after twenty-six seasons of good sport, and his successors have all maintained the standard of excellence to which the management of the Hunt had been brought.

by a list of the ear-marked stags killed between 1855 and 1885.

Though the above two volumes stand out as those in which the best of information is given by writers well qualified for their task, there was published in 1840 a book

entitled *Exmoor; or the Footsteps of St. Hubert in the West*, by Herbert Byng Hall, Esq., with illustrations which, however, can hardly be said to deal entirely with sporting subjects, nor indeed is the book itself confined to Exmoor. Mr. Hall's work is not easily obtained, but there are accounts in it of several runs which are of interest.

passed; it is a topic on which unanimity of opinion cannot always be expected, but the age of the stag can, as a rule, be distinguished up to a certain point, when the stag's head is said to be "going back" or—as Dr. Collyns called a deer in such a state—a "bater" or "backer." The deer in the Devon and Somerset country do not



TAKING THE TUFTERS TO DRAW.

As for the Red Deer, in Dr. Collyns' book the noble beast of the forest is fully described in Chapters II. and III.: the author cites Manwood to show cause why the hart and the hind are both mentioned as beasts of forest in the book *Antiquitatis Britannicæ*, which dates from before the Conquest. Even at that early date "the hart hath his season in summer, and the season of the hart doth end." The render is then inducted into the distinguishing names of deer at different ages; since Dr. Collyns' day some of the more purely technical terms of distinction have fallen out of use; *e.g.*, one does not hear a deer in his third year called a "spire or pricket," or a four year old a "staggart"—nowadays they are generally called "three" or "four year olds," whilst a "knobber, or knobler, or brocket" is called a "male deer" simply. Similarly, the term of "hearst" for a hind in a second year is seldom used. To continue observations on Chapter II. of Dr. Collyns' book, his notes on the size and character of stags' horns at various ages are not to be sur-

differ from the Scotch deer in any respect; the size of "beam" is generally a question of the quality of food accessible.

The author of the *Chase of the Wild Red Deer* is, in the matter of enthusiasm for the noble beast of venerie, hard pressed by one Richard Blome, to whom we are indebted for the *Gentleman's Recreation*, published in 1686, in which the modern sportsman will find much instruction and not a little amusement. The book was intended, it appears, to be a general storehouse of sporting knowledge in its widest sense. Amongst "Profits and Advantages of the Stag," one learns that "the Horns are said to be Antidotes against Poyson, being little inferior to those of the Unicorn, if there be any such Beast." But the sportsman and lover of Nature will read, perhaps, with greatest pleasure Richard Jefferies' *Red Deer*, the first edition of which work was published in 1884. Though a born naturalist, the author, when he first visited Exmoor, knew little or nothing about hunting, but it must

be admitted that, during the short time that he was collecting materials for this book, he learnt his woodcraft with marvellous



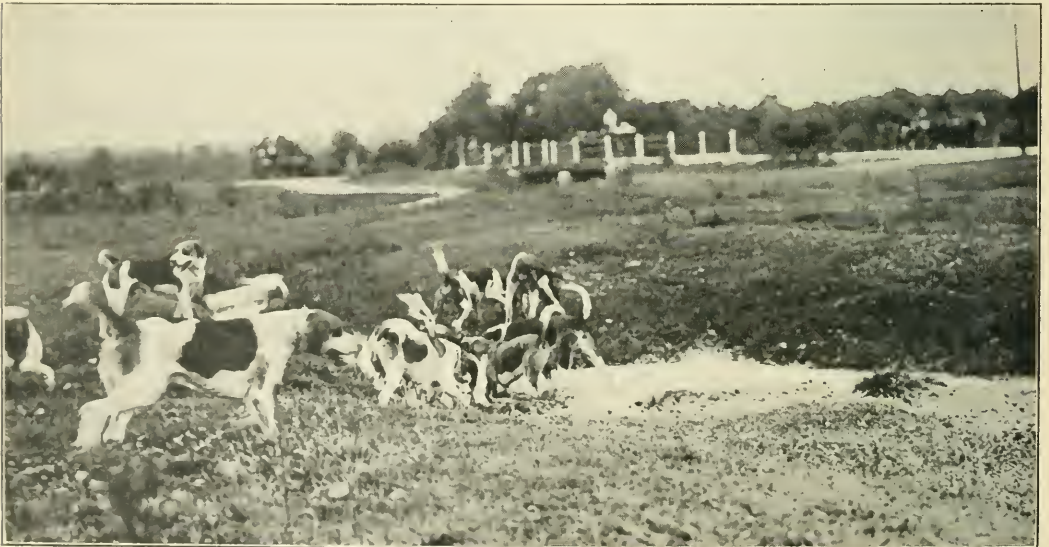
TAKING THE PACK TO WHERE THE STAG HAS BEEN LOCATED.

thoroughness. If Dr. Collyns' book is hard to obtain, this cannot be said of Jefferies' *Red Deer*, for an excellent edition of it is obtainable at a small price. In its ten chapters there are many passages descriptive of the beauties of red-deer land, whilst

probably so familiar (in print) nowadays that it seems almost superfluous to write down that it is the duty of the "harbourer" to report at the meet of the stagholds where a "warrantable" stag, *i.e.*, one over four years old, has made his bed or lair. To ascertain this, the "harbourer's" movements are guided by the "slot" or footprint, which varies with the age of the deer in size, length, and shape; the greatest care being exercised by the harbourer during his investigations not to disturb the deer, who are particularly shy in the early hours.

Hunting.—Arrived at the meet, the Master directs the huntsman to kennel the pack in any farm buildings, &c., that may be convenient, and the huntsman forthwith starts off with a few hounds (the number varying according to the place where the stag is reported to be lying) to rouse the deer. These hounds or "tufters" seldom exceed in number four couples; that they should have good tongue is most necessary, though, if a stag is lying out on the moor, a couple or so of particularly fast hounds may be selected. This tufting is frequently a long process; the deer may have moved after the harbourer has duly satisfied himself as to his work being done, and many untoward accidents may bring this about.

Then, with the deer fairly found by the tufters, hinds, or young deer, may distract hounds' attention; indeed, a cunning old stag



A CHECK AT A STREAM.

from a sporting point of view Chapter VI., on "Tracking Deer by Slot" or "Harbouring," is most instructive.

Harbouring.—This branch of venerie is

will do his best to put up other deer. But as a rule the patience and experience of his pursuers will be too much for him in the end, and he is forced to fly. The first

opportunity is seized for stopping the tufters, and the field, most of which is waiting at the farm where the pack is kennelled, is set in commotion by the sound of the horn, giving the signal that the time has come for the "lay on." Though it may be half an hour or more before the pack is brought to the spot where the tufters have been stopped, the scent of the deer generally serves well enough, and to the lover of

bay, and jump into a road full of horses, the riders lose no time in dispersing, for he would stop at nothing in his desperate case. In some streams it is occasionally a matter of considerable difficulty to give the stag the *coup de grâce*, and he will run up and down the water until he can be lassoed, or seized by the horns from behind. It is not often that a stag is killed on dry land, though a notable case was that of the gallant



ON A HOT SCENT.

hounds at work perhaps laying on the pack is the prettiest sight of the day's hunting, for there is a crash of music and hounds "drive" along. This drive does not often last for long; the deer leaves behind so good a scent that hounds do not fling for it as they would after a fox, and they settle in their places, striding along at a good pace nevertheless. So the chase goes on; if the deer is a very heavy one, and he has been found near the sea, it will not take long to drive him down the cliffs, and he will swim out into the Bristol Channel; thence to be brought back by boatmen, and despatched on the beach. It is more often in the rivers and streams that abound in the district that the finish of the run takes place, the stag standing to bay in the water; when once he has been brought to bay, he fights for his life, and should a beaten stag break from

stag killed on October 9th, 1889; he was found in the Bratton coverts sixteen miles from Luckham, where the kill took place, but instead of being brought to bay in the Horner Water, he still ran on, and finally jumped the high wall that surrounds the rectory garden, hounds rolling him over on the lawn. Cases such as this are dangerous; and this is evidently the opinion of the aforesaid Richard Blome, whose advice "as to the Land Bay" is "If the Hart be frayed and burnished then the place is well to be considered of; for if it be in a Hedge side or thicket, then whilst he is staring on the Hounds you may come covertly amongst the bushes behind him and so kill him, but if you miss and he turn Head upon you it is convenient to take refuge behind some tree."

The excellence of this advice is beyond

dispute; other words of counsel from the same source of authority, perhaps more rarely acted upon, tell us that "it hapneth very often that through some accident or other the Hart escapeth. Now for the recovering of the Chase the next day let there be some Mark set where the Chase is left off."

The Deer Country.—As to the nature of the country over which the red deer are suffered to roam unmolested save by hounds, their territory is bounded on the north by the Bristol Channel, fringed with steep cliffs and strong woodlands for the most part as far as Minehead; east of this, the country lies lower and consequently is more enclosed until the range of the Quantock Hills is reached. These heather-clad hills, and the large coverts that surround them, abound in deer, and, as this district lies wide of the Exford kennels, the hounds are kennelled at Bagborough for a week or

ing instincts of the inhabitants led to an auxiliary pack being formed to hunt the deer south of the line. Close to Dulverton the river Exe is joined by the Barle, and both these rivers, the latter especially, run for miles down deeply wooded valleys. The part of the country in this district that is free from woods is strongly enclosed, though on Winsford Hill and its environing commons good galloping ground is frequently to be met with. West again of the Barle valley, Anstey and Molland Commons stretch away to the Molland Woods, whilst some distance further west come the Bray coverts; the latter, with the Bratton Woods, though immediately surrounded by a rather impracticable country, are generally reckoned as most likely to provide a good deer that will boldly face the moor. When Yard Down is the meet, a stag will often set his head straight for Moles Chamber and the Forest, perhaps not touching



THE STAG AT BAY.

fortnight at a time when the Quantocks are to be hunted. Some distance west of this are the Brendon Hills and the Haddon Woods, which afford shelter to deer galore. To the south of Haddon Hill and Skilgate Common runs the Devon and Somerset Railway, beyond which the territory of the staghounds does not extend, though in 1896 the liberality of a gentleman and the sport-

another covert until the Horner woodlands, on the north-eastern extremity of the moor, are reached. Similarly, from a fixture at Friendship Inn, a Bratton deer worthy of the name climbs the ascent to Chapman's Barrows, and affords a fine run to the same fastnesses, should he have strength to reach them. Exmoor forest itself, *i.e.*, the Simonsbath side of the moor, is almost free

from heather; sedge grass here prevails, and in many parts the moor is intersected with narrow drains, which, being covered with thick grass in the stag-hunting season, are responsible for many an empty saddle. The commons of Brendon, Badgworthy, and

interval was usual between the stag-hunting and the hind-hunting, but nowadays the vast area over which the large herd of deer are hunted makes any prolonged cessation of duty on the part of the Devon and Somerset Hunt establishment impossible. Thus the



THE STAG TAKEN IN THE WATER.

practically all the moors east of the Badgworthy Water, are covered thickly with heather: over these moors the riding is good enough. On the Forest side the going is soft, in places very much so, and the dictum of a well-known deer preserver and follower of hounds that there is no such thing on Exmoor as a bog has not met with universal assent.

Season.—The stag-hunting season begins about August 10th, Cloutsham being always the fixture, followed a few days later by Hawkcombe Head; both these meets are in the Porlock or northern district. For the former meet, the Horner Woods, composed principally of oak scrub, may be relied upon to furnish a warrantable deer; Hawkcombe Head is more likely to mean a moorland gallop, though with so many coverts adjoining the rendezvous the starting point of the run from this fixture depends on circumstances.

The stag-hunting season usually comes to an end about the 10th of October, after which the hind-hunting season commences, and is continued until the end of April, that is, when the deer are plentiful, as is now the case. Towards the end of September a visible change comes over the male deer, for the rutting season is approaching; the stags' necks begin to swell, and they "bell" in search of the hinds. In the old days an

season for hounds and horses is a long one. Hind-hunting is productive of more hard days than the chase of the stag, for a hind will generally stand before hounds for three hours or more, and much trouble is caused if the pack gets among a herd of deer. The hind-hunting meets are not often very largely attended.

Hounds.—The Devon and Somerset hounds are out, as a rule, three days a week, and the arduous nature and duration of their work are a severe strain on them; perhaps what tries hounds more than anything is the work that they have to do in the water; and hounds drafted from the Exford kennels often turn out to be valuable otter hounds. The pack is entirely composed of dog-hounds, and the average height is 25 inches; owing to the wear and tear of the kennel being heavy, a large entry is annually put on, consisting of hounds drafted from fox-hound kennels owing to their height. The very best blood is to be found—and those to whom a good-looking hound is an attraction much appreciate an inspection of the Devon and Somerset kennels.

The hunting experiences of Dr. Johnson are reported to have led him to aver that "the dogs had less sagacity than he could have prevailed upon himself to suppose," and "that it was very strange and very melan-

choly that the paucity of human pleasures should persuade us to call hunting one of them."

But as we gather from the biographer who mentions these *obiter dicta* that the great man's observations on the chase were solely derived from the Brighton Downs, it may be suggested that after a few days with the Devon and Somerset Staghounds he might have qualified these aspersions on the sport of kings.

L. J. BATHURST.

OTTER HUNTING.—Otter hunting has been termed "The Queen of Summer Sports," and is, indeed, the only form of the chase, or pursuit of a quarry by means of a pack of hounds hunting by scent, that may be followed during the months that intervene between the killing of a May fox by some late-hunting packs of foxhounds, and the opening of the next cub-hunting season or the commencement of stag hunting upon Exmoor in the following August. With the exception of angling and hawking, it is, in fact, the only field sport, as distinguished from pastimes and games, which may be enjoyed during the heat of summer. To the sportsman who has been properly entered to otter hunting, it will ever appear

because he is pursued during the best days of the year, when nature and the weather are to be found at their finest, and during the best time of the day, in the early morning, when the dew still lies damply on the grass and flowers of the water meadows, the birds are in full song, and a majority of the world's inhabitants—all, in fact, but the keenest sportsmen and sportswomen—are still a-bed and asleep.

Otter hunting can boast an antiquity, as an organised sport, which it does not share with any other field sport save only with coursing and the chase of the "tall deer." It was a "Royal" sport, and the first recorded M.O.H. was King Henry II., the first huntsman of otterhounds having been Roger Follo, who acted as such to that monarch. Other Royal masters were John, Henry VIII., Queen Elizabeth, and King James VI. and I., the latter of whom prohibited under substantial penalties the killing of otters other than by hunting them with hounds, and compelled all millers to stop their mills and to raise or lower their water, as might be required, during the progress of a hunt. In some places—notably at Norwich—corporate bodies were compelled to contribute to the maintenance of packs of otterhounds, and to hunt otters



TRUE OTTER HOUNDS.

as being the finest form of hunting: not only because the quarry is a genuine wild animal to be sought and found with difficulty in haunts of his own choosing, and to be hunted in an element native to him but foreign to hounds, so that the odds are always very largely in favour of the otter; but also

on certain specified rivers so many days in a season. Formerly, the season opened at Shrove Tide, and was continued until Midsummer; now the season commences in April, and lasts until October, varying a little between the north and the west. In the former a beginning is sometimes delayed

by "snow-broth" rendering the water too cold for hounds, but hunting can often be continued into October. In the south and west, though an earlier start may be made, hounds have to be stopped for a month or more during the time when the grass is growing. The actual period of hunting for

killing the otter being left entirely to the hounds and terriers as handled by the huntsman, who is also usually and advisedly the Master. Human assistance is practically confined to the watching of the water by the hunt officials and the members of the field, so that they may "gaze" the otter



A MIXED PACK TRYING A LIKELY ROOT.

packs in either part is about the same—five months; and in a wet season all packs are equally liable to be stopped by floods.

Anciently, the method of hunting otters was very different from that now employed. Our ancestors, judging from contemporary prints chiefly, employed very few hounds, two or three couples only, and that merely to find and put down the quarry. Once this was done, the otter hunter's business was to dispatch him in mid-water by harpooning or transfixing him with a barbed, single-, or two-pronged spear. This system of hunting otters required skill and endurance, and was akin to the sport of pig-sticking in India to-day. Nets were also used to prevent the otter from getting into deep water or to catch him when forcing a shallow. When the spear and the net were abandoned, "tailing" or catching a beaten otter by the rudder, and forming "stickles" by placing sportsmen leg to leg across the bed of a river, were resorted to instead. Nowadays even these adventitious methods are passing out of vogue, the work of trailing, marking, putting down, swimming, and

when he comes to the surface to "vent," and may "tally" him for the information of hounds and huntsman when they do so. Under special circumstances stickles and tailing are still in some countries justifiable and occasionally even necessary.

Otter Hounds and Terriers.—Several species of hound have been and are still employed for hunting otters. The true otterhound, however, is undoubtedly that best suited in every way for the sport, and probably only his scarcity at the time when many of the modern packs were regularly established is responsible for the use of draft staghounds, foxhounds, and even harriers in some hunts. Welsh broken-haired foxhounds and harriers, as well as bloodhounds, and hounds cross-bred between the otterhound and the foxhound, and even otterhounds with a remote cross of the wolf (*Canis lupus*), are all used to-day for the pursuit of this quarry. The advantage formerly claimed for the foxhound was that, standing higher than the true otterhound, he was able to wade in water in which the latter was compelled to

swim, and did not, therefore, tire so soon. Now, however, that, thanks to the energy and science of Mr. Wilson Davidson, for more than twenty years honorary huntsman to the famous Dumfriesshire pack, otterhounds have been bred up to twenty-six inches and even more, this argument no longer applies. With packs like the Wharfedale and the Bucks, as well as in a lesser degree the Dartmoor and the Culmstock, and several private breeders producing otterhounds of a fine type and good working qualities, the output is rapidly increasing, and the need for employing hounds

should be dense, hard, and of a fair length. Otterhounds are of several colours, brown-tan and grizzled being the commonest seen; but grizzled-pied, cream, white and cream, black and white, black, buff, brown, and cream-tan are all found. Height for dogs, not less than twenty-five inches, and for bitches not less than twenty-three. Many otterhounds are still too small to work properly and effectively on a long day without becoming fatigued.

The terriers are a very important section of a kennel of otterhounds. Various breeds are employed, wire-haired fox terriers and some smooth-haired being most frequently seen. But Sealyhams, Border terriers, white West Highland, and pure Highland—a sort hard to come by—have figured and do figure in many packs. Terriers must be small, or they cannot negotiate the drains and roots frequented by otters. They must be hard enough to tackle an otter in his holt if he cannot be got to move otherwise; but, as in badger-digging, not foolhardy enough to go in to an otter until they have tried whether “speaking” to him will not prove equally effective, as is usually the case. Terriers, in countries where otters are plentiful, and where it is not suspected that young cubs are about, should be allowed to run and work with the pack. They will often find an otter that hounds racing on a hot drag have passed. Where there is any chance of their getting into a couch and killing small cubs, however, they should be kept on leads at a distance from the river-side where they cannot see what is going forward nor tire themselves by straining at their collars and whining themselves hoarse throughout the day. The theory that otters bolt better to white terriers than to those of any other colour cannot hold water, since all terriers must be much the same colour in a dark drain, and when coated with mud and blood.

The Various Hunts and their “Countries.”—There are now no less than thirteen established packs of otterhounds in England, with seven in Wales (three of which hunt also in England) one in Scotland, and one in Ireland. At least two of the English and Welsh packs pay Irish waters an annual visit, following an old-established precedent. These are—when one remembers that otters are equally distributed throughout the rivers of the United Kingdom, and where least suspected are often most numerous—somewhat curiously grouped. In the south of Scotland and north of England there are no fewer than seven packs. In Wales and the Marches there is a similar number. In the



HOUNDS MARKING.

of other breeds may be confidently expected to disappear.

The origin of the otterhound is unknown, and beyond helping us to the conclusion that the breed contains a great deal of bloodhound blood conjecture can do little towards settling the question. The points for which an otterhound should be bred are: a head resembling that of a bloodhound, but flatter and harder, with a long narrow forehead, dark eyes, large, but sunken, and showing the haw, black nostrils, and rough-haired muzzle, with full hanging lips and large, thin, pendulous ears, well coated with coarse hair, but with no tendency to feather. The neck should be throaty, the chest deep rather than wide, the back strong, long, and straight, and the ribs deep, rather loose, but strong. Powerful sloping shoulders, elbows well let down, perfectly straight legs, and muscular thighs are indispensable. Formerly the feet were large and well-webbed, with, of course, firm, hard soles, but of late years otterhounds have been bred with the cat-foot of fox-hounds. The stern should be carried in a sloping position, and be well coated with hair and tapering. The coat

south-west five hunts cover five counties, three of them with kennels in Devonshire. The rest of England, nearly one-half of the kingdom, is claimed by three hunts, one of which nominally covers nearly a dozen counties. It is obviously impossible for any one pack in any one season to hunt effectively such an extent of territory. But the one blot on the escutcheon of the otter-hunter has always been the petty jealousy that has operated to prevent the foundation of fresh packs to hunt waters never visited by the hounds whose masters claim entirely

and between them kill fewer otters in a season than many single hunts.

Facts such as these speak for themselves, and unless there is a change, and many other packs are established in "countries," now only nominally hunted, otters will be trapped and shot, subscriptions will fall off, and the sport will presently die an unnatural death in that part of Great Britain where it most should flourish.

The Otter and his Habits.—The otter (*Lutra lutra*) differs from all other beasts of chase in that he is of an aquatic habit,



HOUNDS SWIMMING THE FOIL.

fictitious rights over them, or at best visited but once a year or even less frequently. These claims, which derive from the ignorance of these masters as to the number of otters using their streams, and as to the best way of hunting them, are detrimental to the true interests of the sport; and there can be no doubt whatever that there is room for at least half-a-dozen new hunts within the territory claimed by the three packs indicated. An unworthy spirit of aggrandisement coupled with a desire to collect a larger subscription than the sport shown can justify, is also partially responsible for this unfortunate state of affairs, which will, if it be not remedied, eventually destroy the sport entirely in middle England. Two packs between them claim no fewer than twenty-five counties of England and Wales: a claim on the face of it absurd. These two packs collect in subscriptions a sum equal to that collected by any other four packs—with one or two exceptions—

and is as much at home in the water, whether it be fresh or salt, still or running, as he is on land. Although, of course, as a member of the weasel tribe, he can run, swim, or climb at will, he is of them all the best swimmer and the worst climber, though his pace on land when pursued by hounds is for a limited distance equal to that of a fox. He differs also from his congeners in that he finds his food supply in or near water, eels and frogs forming the chief articles in his dietary, varied by fish—coarse fish in preference to game fish—fresh-water mollusca, crayfish, water-voles, moor-hens, and dabchicks. In hard weather, when the water is frozen and the fish are buried in the mud, otters will doubtless take ducks if they can get them, and young rabbits are a favourite food with bitch-otters that are suckling cubs.

In the above list are many enemies of fish spawn and fish-food which only the otter may keep within bounds. The otter,

therefore, does more good than harm to the rivers he frequents, so long as he is himself kept within bounds. This is best provided for by hunting him regularly with



A STICKLE.

recognised packs of hounds, which judiciously diminish his numbers without any risk of exterminating him.

Another point of difference between the otter and other beasts of chase lies in the fact that he alone among the mammals in the British fauna possesses no fixed home. All the weasel tribe are of a wandering nature, but none is so abandoned a vagrant as the otter. He has been rightly dubbed "the gypsy of the animal world." A dog-otter seldom sleeps two days in the same holt, and a bitch-otter only when she has cubs laid up in her couch. Otters are always on the move, now here, to-morrow ten or even twenty miles away. Yet they invariably lie in holts—when they are not "lying rough" as is frequently the case in fine, warm weather—that have been used by their forbears for countless generations. Otters are found to-day in drains, rock-holts, and tree-roots where there is recorded evidence of their having been found a century since. There is no doubt that, like deer, they have an intermittent desire for salt water, and work up and down to the sea. In short rivers they are constantly travelling to and from the tidal water and the coasts, varying their journeys by crossing overland to some neighbouring watershed, and descending the streams to another estuary. In such a country otters spend a portion of the winter in the caves by the seashore, and resort to them again in summer if drought affects the water in the upland streams. In flood-time otters leave the big rivers for the tributary brooks.

When on the sea-coast otters live on rock-fish—including conger eels—salt-water molluscs, and crustaceans; they have even been caught in lobster pots off the coasts of Cornwall. An accusation has been brought against the otter that he kills more fish—when he does kill fish—than he needs for food. A long and close observation of the habits of otters has led me to the irresistible conclusion that the real reason for this apparent destructiveness, which, however, has been much exaggerated, is that the otter in a natural state prefers his food alive. He eats a fish from the back of the head down the back, carefully avoiding the vital parts. When the fish dies under this operation it no longer possesses any flavour for the epicurean otter, who leaves it to find another. It is the same with eels and frogs, which he deals with somewhat differently, but always so as to keep his prey alive as long as possible. With a mussel he bites a hole at one corner of the shell and sucks the bivalve alive into his mouth. The otter, like the salmon, the red mullet, the woodcock, and the golden plover, is gifted with a marvellously quick digestion, and in all the otters—a great many—that I have seen slit open to be thrown to hounds, I never saw any traces of food in the stomach, even when evidences of a recent meal lay on the river bank hard by. Hunted otters have been known to catch and eat eels and dace with hounds in full cry close to them.

Otters hunt and travel by night, lying up



A KILL IN THE WATER.

for the day in some holt well known to them. This may be merely a recess under an over-hanging bank, a rabbit-burrow, a tree-root, a drain or culvert, a faggot-heap, weiring, the bucket of a mill-wheel that is

not working, or the hollow trunk of a pollard willow. They will also lie in thick heather, cairns of stones, and often in dry ditches, among bracken, rushes, reeds, and undergrowth in covert, sometimes at a distance from any water. They are, however, cleanly beasts, and naturally avoid sewers, though they will use polluted water—as from mines and factories—to pass from place to place on their travels. A bitch-otter in season has means by which she notifies her whereabouts to any dog-otters that may be within reach. She often lies among reeds that are just awash, and when travelling up or down a stream bites off pieces of rush and lays them cross-wise on the banks to denote the direction in which she has travelled. The otter appears to be polygamous; at any rate, he is not monogamous, and is rarely found with the bitch two days running. A bitch with cubs is rarely found in the vicinity of a dog-otter. The cubs appear to remain with their mother until they are from ten to twelve months old, which seems to indicate that otters breed only once a year, if so often.

The cubs are born at all times of the year indifferently, having been found of all ages in every month in the calendar. Otters are not only pugnacious, but playful, and will romp together both in and out of the water, and in suitable circumstances construct slides in mud or snow, down which they will toboggan into the stream. They are rather silent beasts, as a rule, but make a sound between the mewling of a cat and the hissing of a snake when excited, and use a peculiar flute-like whistle as a call



A KILL ON LAND.

note. When angry or alarmed, they alternate this with a blowing sound somewhat resembling the noise made by a grampus, but of lesser volume.

The physical description of an otter may

be given as that of a magnified ferret as to shape, with the following modifications: The head is proportionately broader and blunter across the muzzle, the legs and feet



A BIG DOG OTTER.

—which are webbed—are shorter and stronger in proportion, and the tail is broader at the base, flatter and very much longer, being nearly half as long as the head and body together. In colour the otter is of a rufous brown, with greyish-brown hairs intermixed, especially on the underparts of the body. White or cream-coloured otters have been killed, but are not common, and there are two examples of otters spotted with white, one in Paris, and another trapped on Lough Sheelin, co. Cavan, and now in the National Museum of Ireland at Dublin. The record weight for an otter is 35 lb. killed on the River Deben, near Kettleburgh, by the Essex O.H. in September, 1909.

The weight of an otter is independent of his length, and is chiefly regulated by the thickness of the layer of white fat found inside his skin, as is the case with seals.

The Cost of the Sport.—Otter hunting need not be a very expensive sport either for the master or his followers. A fifteen-couple pack hunting a reasonable country (where there is not a vast tract of territory to be covered, with the resultant expenditure on railway and hotel expenses) two days a week or five a fortnight, the master acting as huntsman in the field, and the kennelman assisting to whip-in, can be run for £300 a year, or £20 per couple per annum. The cost of feeding hounds works out at half-a-crown a couple per week, and wages average £1 a week. Subscriptions vary with different packs, ranging from a minimum of

10s. 6d. to five guineas, and a cap of 2s. 6d. is taken with many packs.

Payment of the maximum subscription usually entitles followers to wear the hunt uniform. Beyond his subscription the otter-hunter's liabilities are limited to the cost of his railway ticket and his luncheon. His equipment is also inexpensive. The uniform may cost £5 or £6, but should last two or three seasons; a proper pole, properly shod, something under half-a-sovereign; and good *brogues*, or shoes sewn with rot-proof thread, and having eyelet holes in

quently lands and runs the banks or crosses the bends, leaving a drag or trail of scent which hounds are able to follow. Otters, however, go down-stream as well as up, and therefore hounds should be first cast in the opposite direction from that in which it is intended to hunt, in order to make it good. If there should be a drag, they are held down until it is either worked out and thus proved to be "heel," or until the otter is located. If there is no drag for a mile or so below the meet, they are brought back and cast up-stream. Sooner or later, if



THE WORRY.

the heels to let the water out, are procurable for thirty shillings.

Blue relieved by red is the otter-hunting colour, though some packs wear green and red, and one retains the scarlet coat that was formerly worn by several. The grey "bowler" hat is still worn in several hunts, but ordinary flannel caps are chiefly in use. In some hunts these are red, while others have scarlet or crimson stockings to relieve the blue uniform.

The Science of Hunting the Otter.—Otter hunting is obviously a sport conducted on entirely different lines from those governing other forms of the chase. The usual method of procedure is to meet early in the morning—before the sun has had time to burn up the drag left by the quarry during his overnight journeyings—at a mill, or bridge over the river to be drawn. The common practice is to draw up-stream, as an otter travelling against the current fre-

otters are working the river, hounds will begin to feather on a drag, and presently to open on it and run it in full cry above the banks, crossing from side to side, and puzzling out the line across the water meadows into back-ditches, runners, marshes, ponds, and wherever the otter has been in quest of frogs or eels during his nocturnal ramble.

Other signs of his presence may now be looked for by the huntsman and the forward whippers-in on either bank. Where he has landed on a sandy spit or patch of mud he will have left his "seal," the imprint of his feet, easily recognisable from the fact that it has five toes and no heel. This will show approximately his size, the direction in which he has travelled, and by its freshness or otherwise afford a clue to the length of time that has elapsed since he passed. On the banks, too, or on boulders and large stones in rocky rivers, may be found his

“sprints” or “wedging,” which will help the master in the same manner to determine something as to the character and movements of his quarry. If he is laid up not far away, further indications—apart from the eagerness of the hounds—may be discovered in the remains of freshly killed eels and fish, or the skins of dead frogs scattered about. It now behoves the huntsman to draw warily and make every possible “holt” and “hide” good, or he may very easily draw over and pass his otter. Should the drag suddenly end and hounds draw on in silence, this will almost always prove to be the case, and he must without loss of time “try back” if he is to find his quarry before the increasing heat of the sun has destroyed every vestige of scent and rendered the attempt abortive. Some huntsmen will in this case draw on hoping to hit the drag of a fresh otter; but it is a poor plan, and seldom pays.

When hounds finally arrive at the holt where the otter is concealed, there can be no mistake about the savage roar of voices with which they proclaim a “mark.” Directly this happens the master should blow a distinctive call on his horn to let his field know that the quarry has been found; the *Veline*, which resembles the *Gone away* reversed, is the proper call to use for this purpose. The hunt officials and those members of the field who know an otter when they see him, should watch the water for signs that he has left his place of refuge. Usually he will move at once, but often it takes one or more terriers to shift him. An otter frequently slips away unseen, but hounds speedily discover that he is gone, and it is then that the *Gone away* should be blown to announce that he has been “put down,” and set the field on the look-out to “gaze” and “tally” him as he makes his way rapidly up or down stream.

The cry now used for a view in otter hunting is “Tally-ho,” though “Heu Gaze” is the ancient and proper cry. “To-ho” is still employed in Cumberland. The fox-hunter’s “View holloa” is out of place in the otter-hunting field. Once he “beats the water,” and realises that he is pursued, an otter will swim from hover to hide, often showing himself but little, and then only exhibiting the point of his muzzle under a floating leaf or some bit of flotsam when he is compelled to “vent” or take in fresh supplies of air. All otters do not behave alike when hunted. Some will swim without ever taking to the land until they are finally worn down by the persistence of hounds and compelled to do so. Others

will only creep about under overhanging banks, seeking refuge in every possible root, until they are caught by a terrier. Yet others will scarcely go near the water, but—in carrs, reed-beds, and osier plantations, chiefly—will run the covert again and again with hounds in full cry, while some few will occasionally race away across country, over arable land, roads, and through woods, perhaps for two or three miles, in an endeavour to reach some distant lake or river. There is more variety in otter hunting than in any other field sport, and a very different description of hunt is to be witnessed, say, in Cumberland or the south of Scotland from that seen in Devon and Cornwall, or, again, in the south and east of England. It follows that the methods of hunting the otter must be different in every country, and may differ, too, in neighbouring waters in the same country. The aim, however, should be similar in every place: namely, to kill the otter in a fair and sportsmanlike manner by the aid of hounds and terriers alone. This accomplished, the trophies are cut off and distributed, and the carcase thrown to the hounds, who will eat it with gusto, the “Rattle” being blown, and the “Who-whoop” given at the worry and kill.

OTTER-HOUND PACKS. 1910.

| | |
|-----------------------------|------------------------------------|
| Border Counties (N. Wales). | Dumfriesshire. |
| Bucks. | Eastern Counties (late Essex). |
| Cameron’s, Mr. L. | Hawkstone. |
| Carlisle. | Lake District. |
| Cheriton. | Lewes’s, Mr. T. P. |
| Clay’s, Mr. Hastings. | Northern Counties. |
| Conyngham’s, The Marquis. | Pembrokeshire and Carmarthenshire. |
| Crowhurst. | Tetcott. |
| Culmstock. | Tracy’s, Mr. Courtenay. |
| Cumberland, West. | Wharfedale. |
| Dartmoor. | Ynysfor. |
| Davies’s, Mr. David. | |

DRAG.—Lowest, perhaps, in the scale of hunting comes the drag, though lowest only in the sense of not needing a wild or semi-wild animal for its object of pursuit. In strictly orthodox circles a drag hunt is always mentioned with somewhat bated breath, but at the same time it is by no means an amusement to be despised. Its followers do not claim for it that it is a high form of sport, while it is an excellent school for riding, and does not make so great demands on the forbearance of farmers or occupiers of land as either stag, fox, or hare hunting. The line can be laid just where the Master pleases; the horses need never enter a corn or clover field, or where there are root crops; and if a man

objects to his land being ridden over, his wish can be respected without difficulty. To those who go out for the sake of a gallop, a drag hunt is of short duration, and makes but small inroads on the day's business.

The drag, however, is by no means a modern institution, for there is every reason to believe that in the times of the Stuarts trail scents were very common, and, as we know from Mr. Hoare's *History of Newmarket*, there was in Charles II.'s reign "a plate at Woodstock given to hounds running a trail scent over four miles," for which any gentleman might put in a hound; while at the same place in 1682 there was a buck and trail scent for hounds. The famous match between the hounds of Mr. Meynell, who then hunted the Quorn country, and Mr. Smith Barry, the Master of the Cheshire, shows that in the middle of the last century drag hunting took place. In its origin the trail scent was a race for hounds, but in course of time men began to ride to the hounds, and then a plan was hit upon for running a drag for the sole purpose of having a gallop.

A good many people say that the drag is not a sport, but at the same time even the most orthodox are loudest in their praise of hunting when the run after stag, fox, or hare most nearly assimilates to the drag, that is to say, when hounds go as hard as they can from start to finish. The fox-hound must be regarded as an animal which can adapt itself to various circumstances, for he will run not only the usual beasts of the chase, but the otter and the drag as well; and when he has gone at his best pace for something like half-an-hour or forty minutes, he finds his reward in the paunch which awaits him when the drag hunt is over.

The method of running a drag is tolerably well known. Various Masters have their own *recipe* for a drag, but perhaps the most common way is to keep a tame fox in the kennel, and then on hunting days to put the litter into a net, or it is sometimes put into a hare's skin. This is trailed over the ground, and every five minutes or so a few drops of oil of aniseed, or occasionally turpentine, are added, and after a little practice the hounds will stoop to this scent as readily as to that of the stag or fox. Generally speaking, the drag is laid by a man who runs the line on foot, but sometimes he is mounted. The former plan is, however, preferable, since the drag will not jump about so much as when it is trailed behind a horseman.

It is easy to arrange whether the line

shall be stiff or not, and it should be understood that the drag is not laid over any trappy fences. The hounds need not, of course, be very valuable specimens, though in well-maintained packs, like, for instance, that of the Household Brigade, a process of heading and tailing goes on, until they all go much of a pace. The usual plan is to have a check half-way through the run, when second horses are mounted, and after a few minutes the run begins again. A properly laid drag will leave a good scent behind it for about an hour after the runner has gone along, and even then the hounds go at a great pace. As before mentioned, the drag has taught many a man to ride. The fences may be big, and brooks may come in the way, but there is some sort of guarantee that a man will not find himself jumping into a quarry or on to a plough, as may be the case when hunting. Since, of course, every man who goes out with a drag hunts to ride, there is always more rivalry than is the case in other forms of hunting. A fast, bold horse is necessary, and so long as he be a good jumper he need not be the most valuable animal in the stable, for he has not to make a long day.

Drag hunts have increased of late years, there being now fourteen packs, including one for each University and one in Jersey. Six of them are military packs. With a majority, ladies are allowed to follow.

In one respect a good many hunting men might learn from the drag hunts, since there is perhaps more good feeling between the farmers and the followers of the drag than in any other form of hunting. Hospitalities are not unknown, while in various other ways the kindness of the farmer in allowing his land to be ridden over is readily acknowledged by those who ride after what is sometimes called the "red herring."

W. C. A. BLEW.

HUNTING IN FRANCE.—The French Revolution broke up and for the time almost completely destroyed the various hunting establishments which for many centuries had been maintained by the French nobility, and by the more considerable of the landed gentry. The royal pack was, of course, dispersed, and for the moment it seemed that French hunting had vanished, never again to reappear in a country where, during long ages, it had been nourished with every circumstance of care, pomp, and display. The chase is, however, an almost ineradicable instinct of mankind, and after Napoleon I. had seated himself firmly in power a few packs were here and there got together again in France. After

Waterloo and the Restoration of the Bourbons, the French aristocracy began to reappear on their estates, and some few of the old *noblesse* re-established their packs and amused themselves as of old with red deer, roe, boar, wolf, and hare. Still, the advance was slow; most of the landowners were heavily crippled; money was scarce; many of the ancient breeds of hound had been dispersed and almost destroyed; and it was by no means an easy matter to re-establish French hunting on anything like its former scale of splendour. From 1827 to 1880 matters steadily improved, and there are still hunting in France some sixty or seventy packs of hounds which date from that period. Since 1880 the growth of hunting, in nearly all parts of France where game is to be found and hounds can work, has been extraordinary, and there are at the present time some 320 packs of hounds pursuing various kinds of quarry in that country. One of the most astonishing features of this great revival is that in Republican France no fewer than from 120 to 130 packs of hounds are mastered and maintained by nobility, a large number of whom trace their descent to the ancient aristocracy which, before the upheaval of the revolution, delighted so much in the chase. At the head of these may be noted one of the Orleanist princes, the Duc de Chartres, who maintains a very large hunting establishment at Chantilly, and with two packs of hounds hunts alternatively deer and boar in the great forests of that district. It speaks volumes for the tolerance and good sense of the French Republic, now established for forty years, that such things are to be seen

There much of the sport, especially where deer, boar, and roe are pursued, takes place in huge woodlands. France is a country of great forests, where wild red deer, roe



GOING TO DRAW.

deer, and wild boar are found in large numbers. In these vast areas it is not easy to expel the game from the covert, and great part of the hunting naturally takes place in forest country, where a good cry of hounds is a chief requisite. French hounds are, therefore, for the most part possessed of more tongue than the modern English foxhound. Many of the older breeds, which are still preserved, are what we should call "throaty," which, after all, is not a bad quality for woodland hunting. A throaty hound is almost invariably possessed of excellent scenting qualities as well as a grand voice, and French hounds possess, moreover, this excellent characteristic, that, in a region where other quarry are plentiful, they will stick to the line of their hunted beast without changing to other animals that may be roused during the chase. This faculty was one always insisted upon and bred for by French huntsmen, from the middle ages downwards, and it is, as may be imagined, one of great value in woodland hunting.

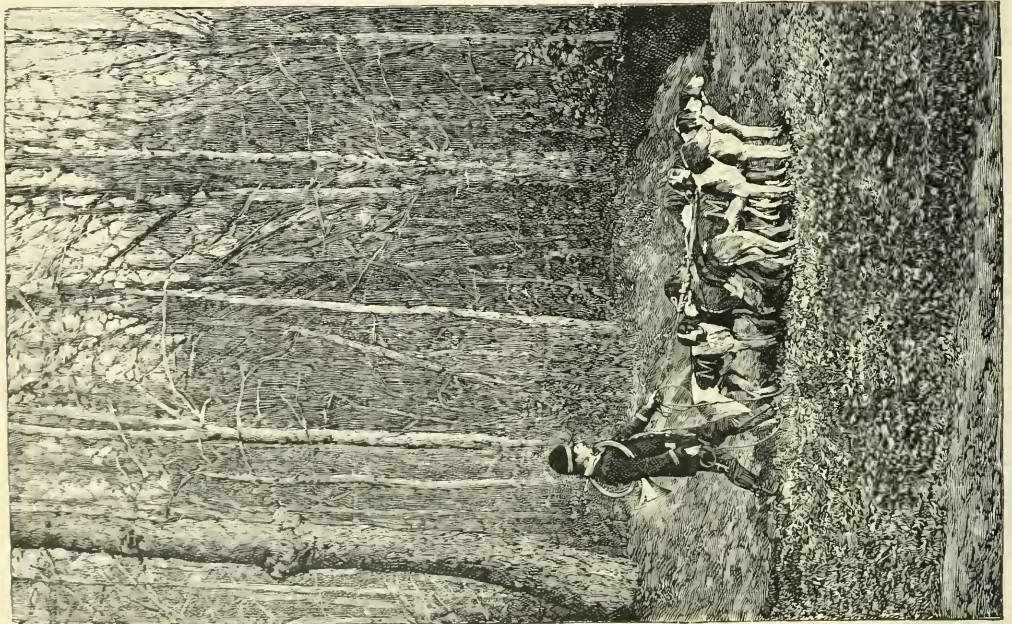
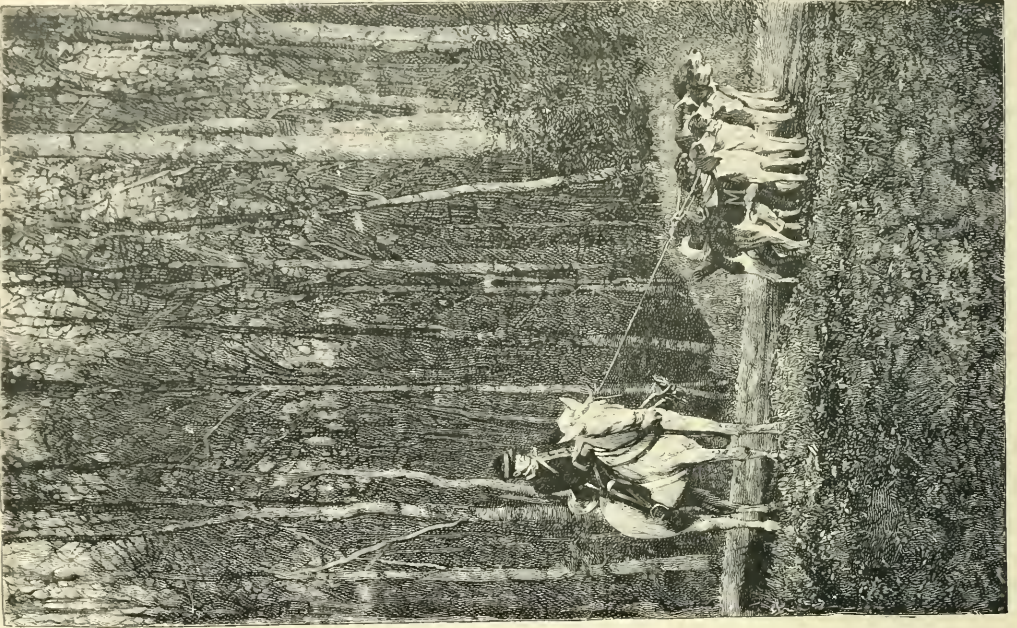
Not all parts of France are available for the *chasse à courre*—that is, hunting with running hounds; some are too mountainous or too marshy or not sufficiently stocked with the requisite game. The western, northern, and midland portions of the country are most favourable for hunting purposes, and of the various departments Gironde, Mayenne, Vienne, Sarthe, Seine-Inférieure, Maine-et-Loire, Indre-et-Loire, Indre, Vendée, Cher, Allier, Eure, Haute-



ARRIVAL AT THE MEET.

in a country where the monarchy and aristocracy were displaced little more than a century ago with every circumstance of violence and tragedy.

French hunting differs essentially from what we are accustomed to in Britain.



“FLYING RELAYS,” (*LES RELAIS VOLANTS*.)

Vienne, Landes, Nièvre, Tarn, Côte-d'Or, Côtes-du-Nord, Deux-Sèvres, and Finistère support most packs of hounds, and produce most hunting. Gironde, for example, is hunted by eighteen different packs, Mayenne by fifteen, Vienne by fourteen, and Sarthe and Seine-Inférieure by thirteen each. The



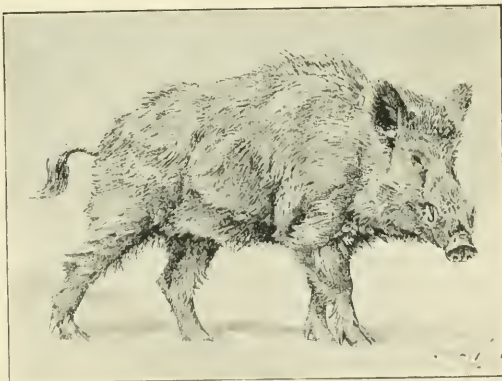
COUPLING THE PACK.

other departments mentioned support from twelve to seven packs of hounds respectively. Forty other departments are hunted by from half-a-dozen to a single pack of hounds. Twenty-three departments are unhunted, but these are for the most part inaccessible to hounds from their geographical position.

Hare-hunting is extremely popular in France, and no fewer than seventy-seven packs are devoted to the chase of this animal. Thirty-seven packs of hounds hunt roe, thirty-two pursue wild boar, while sixteen packs follow the wild red deer. A very large number of packs hunt two or more kinds of quarry; thus twenty-one hunt deer and roe, eighteen deer and boar, fourteen boar and roe, and so forth. Twenty packs are nominally devoted to the pursuit of hare and fox. Foxes are, however, at present not much hunted in France; if we except the Pau Hunt, which is run on English lines, and devotes itself to bag-foxes and drag hunts, as well as the genuine article, there is not a single pack in France hunting fox only. When hare-hunting has come to an end, foxes are chased by a certain number of packs for a few weeks till the season is brought to a conclusion. Some few packs, which hunt every kind of quarry (*tous les animaux*), pursue fox also at odd times during the season. Seven

packs are described as hunting wolves and other game, and two only as following wolf alone. Wolf-hunting with a pack of hounds was, thirty or forty years ago, a popular sport in certain parts of France—especially in Brittany. But wolves are becoming scarce, and are now not often readily accessible to the sportsman. About six or seven hundred of these animals are still slain in France every year; but of these the vast majority are poisoned or trapped, while others, which dwell in mountainous and difficult country, are pursued on foot with scratch packs by the *Louvetiers* charged with the duty, and are either shot or worried to death.

Wild red deer are plentiful in forest country in many parts of France. In place of the harbours, who locates the red deer of Exmoor at early morning, a *Vallet-de-Limier* is utilised in France. This is a survival of a very early mediæval hunting custom. The *Limier* is nothing else than the Lime Hound of old English hunting; and the *Vallet-de-Limier* is a hunt servant on foot, who, with a hound in leash, tracks the deer to its resting place, and informs the Master of its whereabouts. In the actual hunting operations, part of the pack, termed *rapprocheurs*, which correspond to the "tufters" of Exmoor, rouse the deer from its harbourage, and the chase then goes forward—if, that is to say, the beast is a warrantable one. In some hunts the deer is roused with the full pack. Relays of hounds are set in various parts of the forest, and are employed during the progress of the chase. This is another survival of ancient hunting, which has long since fallen into desuetude in England. Red deer yield



WILD BOAR.

very good forest hunting, but it is rare to obtain a good run in the open with them as on Exmoor. Sixteen packs hunt red deer alone in France, but other forty-four pursue

deer alternately with some other kind of quarry, such as roe and boar.

Thirty-two packs of French hounds hunt wild boar, while other eighty-one packs pursue this animal in conjunction with other game—no less than eighteen packs, for example, being devoted to the chase of red deer and boar. The boar is a forest-loving beast, and yields very excellent sport with hounds. He is usually roused by means of *rapprocheurs*, as with red deer. When the end comes and the grim beast is surrounded by the baying pack, among the more venturesome of which he deals furious wounds, he is either slain with a sword or long hunt-

in the department of Eure, has known a roe to stand before his pack for thirty-two kilometres—which is equal to twenty English miles. As a rule, in hunting roe, *rapprocheurs* are not employed, but the deer is roused by the whole pack. This is readily understood when one remembers that this small deer is found singly or in pairs.

The majority of French hare-hunting packs are hunted on horseback, but some, as in England, are managed on foot. This is especially the case where beagles (imported from England) are employed. Hare-hunting is almost the only form of



LAYING ON THE PACK.

ing knife, sometimes by a shot from rifle or revolver. English foxhounds are much employed for boar-hunting in France, and their courage and resolution, combined with first-rate hunting qualities, render them ideal hounds for this form of chase.

Roedeer-hunting is extremely popular in many parts of France, and as many as thirty-seven packs of hounds are devoted to the sole chase of this beautiful little deer, while other fifty-six packs hunt roe alternately with other kinds of game. Roe are true forest lovers, and are usually difficult to force from covert, ringing round about the woodland in a manner which would sadly perplex a pack not accustomed to their habits. Once driven out, however, by a swift and resolute pack, they afford excellent runs, and will often face open country. M. Simons, who hunts these deer

chase in France which is not always conducted in forest country; yet at times, so plentiful are woodlands, a good deal even of hare-hunting takes place in that kind of country. In England harriers and beagles are usually whipped off so soon as they reach a covert.

Probably owing to this reason French harrier masters do not account for so many hares in a season's hunting as we do in England. Sixty or eighty hares are often brought to hand in a season by English packs—some few even reach 100—but these figures are seldom attained by French packs. From thirty-five to forty hares represent a fair season with an average French hare-hunting establishment. From thirty to forty wild boars is also a fair average score for a French *Vautrait*, or boar hunt, although as many as fifty are killed by one

or two packs. A good pack of French stag-hounds, such, for example, as the *Rallye-Francbord*, maintained by Prince De la Tour D'Auvergne, in Mayenne, will bring to hand from forty-five to fifty red deer during the season. M. Paul Lebaudy, who hunts in Seine-et-Oise, takes about fifty deer during his annual campaign. As for roe deer, the most successful of the packs which pursue this quarry kill about fifty during the season, while many average packs take from thirty to forty during the winter's hunting.

Many different types of hounds are to

of the most popular of French hunting hounds is the Batard du Haut-Poitou, of which some forty packs are to be found. The ancient Poitou hound had become scarce and enfeebled, but a cross of the English foxhound was introduced, the result being the modern crossbred (*Batard*) Poitou, a fine, hardy, tri-coloured hound, which is extremely popular all over France. The Blue Gascony hound is a fine old type of big, blue-mottle hound, which is still happily preserved in its ancient purity. This hound has always enjoyed a great reputation for the chase of the wolf. At the



THE STAG AT BAY.

be found in France. During the storm and turmoil of the Revolution it seemed probable that some of the ancient breeds would be swept away and lost. But, happily, thanks to the care and loyalty of old retainers, some of the remnants of the historic packs were carefully preserved, and the descendants of these hounds are still to be seen hunting in France. Modern French breeders have done much to sustain and fortify the old strains. The fine white and orange, smooth-coated Vendée hound—which traces descent from the white hounds of the old French kings—is still pretty often to be seen. The Griffon (or rough-coated) Vendécan of the same colour is also well known. Of these two grand races there are some fifteen packs now hunting, while the Vendécan blood is also to be noted among the various French crossbred packs. One

present time it is chiefly used for deer, roe, and hare. The Gascon-Saintongeais is an admirable cross of two old races, the Blue Gascon and the hound of Saintonge, one of the ancient French provinces. This excellent hound is largely used, and is famous for its good hunting qualities. The Anglo-Norman is a cross between the English foxhound and the old Norman hound, which had almost died out. This is a tri-coloured hound, with a heavier, more old-fashioned head than we are accustomed to see in the English foxhound. Among harriers an excellent type of the ancient, short-legged hare-hound is the Briquet d'Artois, which resembles a good deal in shape and characteristics the Old Southern harrier of England. A beautiful stamp of harehound is the Porcelaine, or Franc-Contois hound, a lively and smart-looking harrier, which

resembles greatly the old-fashioned light-coloured harrier still seen in Devon and Somerset. The true Porcelaine colour is white and orange. Among other races may be noted the Ariégeois hound, the Persac, Pindray, Cérès, and the Beagle Elisabeth. Several races of basset hound, smooth and rough coated, exist in France, but these are usually associated with shooting (*Chasse à tir*), and not with the *Chasse à courre*. A large proportion of French packs are cross-bred hounds, in which English foxhound

out in hunting costume and perform admirably over jumps, will easily convince the most sceptical to the contrary.

French hunting is conducted with much more pomp and circumstance than is the case in England. The huntsmen and whips, and not seldom the Master, carry big, circular horns which are worn over the chest and shoulder. With these much curious and complicated music is accomplished. The *Fanfare* is of very ancient origin, and many hunts possess their own



SOUNDING THE *Mort*.

blood often plays a prominent part. Some seven packs of pure English foxhounds are to be found hunting in various parts of France.

English and Irish horses are largely employed by French sportsmen, and even the native-bred French hunter owes a good deal of its excellence to an infusion of British blood. Although, from the fact that so much of French hunting lies in forest regions, there is nothing like the amount of jumping and cross-country work seen with us, it is a mistake to suppose that French hunting folk are not good horsemen. At the present time large numbers of them are accomplished riders, equal to crossing any country. A glance at a modern French horse show, where Gallic sportsmen come

particular piece, sacred and peculiar to their assemblies. At the death, the *Hallali* is blown vigorously in concert, and at different stages of the chase other calls are made use of. In large hunting establishments as many as three or four hunt servants may be seen mounted, with one or two or more on foot. Owing to the system of relays, the *valet de chiens à pied*, or foot-whip, is always in evidence, having his hounds in couples. The French *piqueux* corresponds with our huntsman, and the *valet-de-chiens* with our whip. The *piqueur* is more correctly not the huntsman proper, but the stud groom, who has charge of the stables.

French hunting costume differs considerably from that of the English. Red coats

are much less frequently seen than blue, grey-blue, grey, and green. White breeches are coming more into fashion, especially among those sportsmen who affect English customs. Blue is also a common colour for breeches, which as often as not are made of velveteen or velvet cord. Orange, yellow, ruby, and garnet are favourite colours for the collars and cuffs of the hunting coat, as also for waistcoats. Nearly all hunt servants wear as a decoration for the coat *galon de venerie*, or hunting lace, usually of gold, and a broad band of the same material encircles the hunting cap.

The chase in France differs from English hunting also in this respect, that it is much more the pastime of a class, or caste, than with us. The French peasant, with his small holding, is little if at all interested in the chase, and hunting for the most part takes place on the estates of large private owners. Meets are small, in consequence, and those who attend are usually members who have the hunt button, invited guests, and officers from the neighbouring garrison town, if there happens to be one. Here and there, in places, a few of the better-class farmers may be seen out, but this is not very often the case. Many of the huge forests where hunting takes place are leased by the owners (more often than not members of the nobility) to the State, the lessors reserving the right to hunt over the property.

French hunting, although, as I have shown, it differs widely in its scope and aspects from our form of chase, is now in a thoroughly healthy and flourishing condition. It shows signs—within a limited sphere—of increasing popularity, and is destined apparently to enjoy a long and prosperous career.

H. A. BRYDEN.

HORN MUSIC.—One of the most important “points of ventry” has always been the winding of the hunting horn, and although the art has declined in the British Isles during nearly a century, it still maintains its position as part of the ritual of the chase in France and Belgium. There the “compassed” horn is yet employed, while its place has, since the end of the seventeenth century, been taken on this side the Channel by the now familiar straight horn, originally from two spans (eighteen inches) to two feet in length, but now made much shorter. The “compassed” horn was so-called because it possessed a compass of twelve notes, from C below the line in the

treble clef to G above the line. It was so formed as to encompass the body of the huntsman. An earlier horn, which still persists in some places, was bugle-shaped, and worn slung from the shoulder by a baldrick. It was usually the actual horn of some beast—buffalo for preference—though subsequently made in metal.

Whether straight or curved, of horn or metal, these horns could only be sounded in one key, usually that of A or D. Difference in the “lessons” or calls, therefore, could only be obtained by altering the character, length, arrangement, frequency, and repetition of the note produced, and by varying the number of “windes” with which they were to be blown.

The late Colonel Anstruther-Thomson complained in his *Hints to Huntsmen* that many of them blew “the same monotonous note on the horn all day long without variety or meaning.” This fact is not improbably due to the non-existence of any reference to or instruction in the notation of horn music in modern hunting literature, though in ancient books on the chase much space was given to recording the notation of the various “lessons.”

More sportsmen took an interest in the subject in former days, since all carried horns, and after the “mort” was “wound” at the taking of the stag or the death of a buck, it was customary for the whole company to blow a “recheat” in concert, and immediately after to give a general “whoop-whoop.”

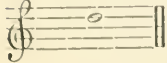
It was, moreover, laid down as matter for strict observance that each quarry was entitled to a different “lesson,” whether during the chase or at a kill. There was even a “measure” provided for occasions when hounds were running a quarry unknown. Thus the buck was entitled to a “double mort,” and the hart to a “triple mort,” while the “pryse” of a hart royal was a most elaborate specimen of horn music “to be blown thrice with three several windes and the recheat upon it.” There were also several varieties of the latter “lesson,” as the “double recheat,” the “royal recheat,” “Hewitt’s recheat,” the “running or farewell recheat,” and others.

It will suffice here to give the notation of those calls which are, or which may be appropriately, used in these days in the pursuit of stag, buck, fox, hare, and otter, and to indicate precisely what calls should be employed in different stages of the chase.

In the first place there is the single note at throwing-off hounds, applicable to each

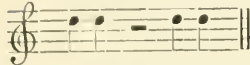
of these quarry, and useful to inform the field that the day's sport is about to commence. (Fig. 1.)

FIG. 1.

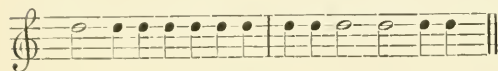


"Doubling the horn" is used when hounds are on a scent, or, in the case of otter-hounds, when they are racing on a hot drag before "marking." (Fig. 2.)

FIG. 2.



The "Veline" is a pretty call to be used at the "rousing" of a stag, the "unkennelling" of a fox, the "finding" of a hare, or the "putting-down" of an otter. (Fig. 3.)

FIG. 3. *To be blown with three windes.*

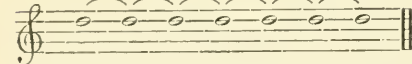
The "Gone Away" should follow, and explains itself. (Fig. 4.)

FIG. 4.



A long swelling note is used for calling hounds away. (Fig. 5.)

FIG. 5.



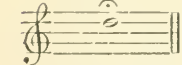
But a simple and much more attractive call, which might well be revived for this purpose, was formerly employed. (Fig. 6.)

FIG. 6.



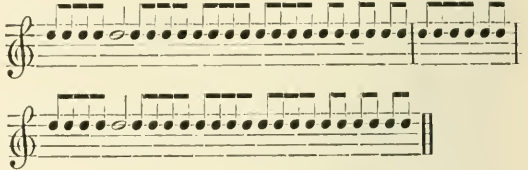
A long single note tells the whippers-in that the huntsman has all the hounds in his hand. (Fig. 7.)

FIG. 7.



Formerly the "Recheat" was in its simplest form wound to recall hounds running a "counter-scent" or heelways, for which purpose, as for bringing back part of a pack that has divided, or calling on the tail hounds, it might usefully be retained. It may also be blown in one of its

more elaborate forms after the "mort" or "rattle" by Masters and huntsmen who are musically inclined. (Fig. 8.)

FIG. 8. *To be blown with three windes.*

The "Tally-ho, back," is accompanied by the crack of a whip, and may also be employed for the "Hark holloa" in otter-hunting. (Fig. 9.)

FIG. 9.



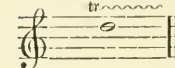
The "Call for the company" is an ancient "lesson" that might be revived in order to inform the field that hounds are drawing on or going to a fresh covert. (Fig. 10.)

FIG. 10.



The "Rattle" is now blown at a kill with foxhounds, harriers, beagles, and otter-hounds alike. (Fig. 11.)

FIG. 11.



And, melancholy to relate, the historic "mort" with the Devon and Somerset Stag-hounds and other packs that hunt wild deer has dwindled to a mere doubling of the horn, a relic of the final "winde" of the measure. In order that those Masters and huntsmen who have the care of "points of ventry" at heart may be able to revive in its entirety this fine and apposite lesson, the notation is appended. (Fig. 12.)

FIG. 12. *To be blown with three windes.*

This is the "lesson" to be wound at the taking of a stag; at the death of a buck only the first two windes should be used.

In former days at "the pryse of a Hart Royall" the whole of this measure was to be blown thrice with "three severall windes and the recheat upon it," and, of course, a "royal recheat" at that. But nowadays huntsmen are in too great a hurry to get their second horses or to get hounds home to kennels to spare time for such an elaborate musical performance.

L. C. R. CAMERON.

HUNTERS.—If the combination of means, opportunity, and no more than a moderate bodily weight enable a man to own

horse offers to him who really means "going."

It is a wonder that more men do not attend the various bloodstock sales and pick up some of the cheaper yearlings and two-year-olds. Plenty of "rubbish" is bred annually; but a horse as "slow as a man in boots" for racing purposes is nevertheless a fast hunter, and an unfashionable pedigree does not matter for the hunting field. Of course, these youngsters will require to be thrown by and forgotten for a year or two, and they would be out of place in the stable of anyone who cannot



A GOOD JUMPER.

a thoroughbred hunter, he can desire nothing better. The blood horse is at all times, and, in the writer's opinion, in every country, the pleasantest and, as often as not, the easiest to ride. He can skim over Leicestershire, surmount the formidable banks which divide field from field in Devon, and can prove his value in every intermediate kind of country. If, therefore, the man who can ride can mount himself on a thoroughbred horse, so much the better for him; but the novice may well content himself with a more ordinary animal until he has learned enough to be able to utilise to the full the advantages the blood

himself make them into hunters or obtain the services of someone who can.

As, however, the thoroughbred hunter is not common, men must ride something else, and hunters vary in character as much as they do in size. In the field one sees every possible type, from the horse which only just misses being thoroughbred, the old "cocktail" in fact, down to something very nearly related to the carthorse; in size they range from fourteen to seventeen hands, with an occasional specimen below and above these heights. Thus it is practically impossible to put forward any stamp of horse as the true type of hunter, except

in the highest class of horses, horses fit to carry fourteen stone and upwards up to the tail of hounds in a stiffly fenced country.

Just as the tiro at fiddling can do with a less valuable instrument than a "Strad" or a "Joseph," so the novice at hunting can enjoy a great deal of amusement on a very moderate priced mount. Yet even this cheap conveyance must possess certain attributes. He must, of course, be workably sound; and here let it be written down as



BEN CAPEL, HUNTSMAN OF THE BELVOIR, AND HIS MOUNT.

a rule never to be broken that no one should, under any temptation of price, buy a roarer. In nine hundred and ninety-nine times out of a thousand the infirmity will grow worse with each succeeding season, and the noise is unpleasant both to the rider and other members of the field. Again, no horse with defective vision should ever be bought for hunting purposes, nor should the purchase of a horse suffering from fever in the feet be entertained, for no humane man would find pleasure in riding a horse which is suffering from pain, not to mention the fact that a steed so affected would bring next to nothing if offered for sale. Opinions differ as to the risk in riding "nerved" horses; but the novice had better keep clear of them.

The hunter on which early experience is gained should be temperate and bold—that is to say, he should go at his fences only just fast enough to inspire his rider with

confidence, and jump cleanly enough to show the beginner that a leap is not such a terrible affair after all. A lad or man who learns on a slow sticky jumper will be a very long time in acquiring the art of getting readily over a country; but as the beginner will not be in a position to sit down and ride with the best and boldest, it will be no harm if his early mounts be rather aged and show some signs of wear. They will know their business, will teach the learner his, and blemishes, of course, will not matter in the least. Make and shape, however, must not be left out of consideration, not merely because a nicely made horse is pleasant to look upon, but because without a certain conformation a horse is no good for use in the hunting field. A horse with bad shoulders is not comfortable to ride; he will never gallop freely, and is very likely to fall when going down hill. Good quarters and hocks are equally necessary, or he will never spread himself over his fences or get up hill; if he is somewhat long in the back it does not matter. It is a cardinal defect in the show ring; but except when a very heavy weight has to be carried it makes little difference in the hunting field.

The visitor to a fashionable country, such as the Quorn, Pytchley, Mr. Fernie's, the Cottesmore, and others will at once be struck by the number of fine horses to be seen at the covert side. A few may be home-bred, and a few picked up by chance at comparatively small sums, but the majority will have been bought from dealers at a high price. The dealers making hunters their chief line of business have agents all over the horse-breeding districts, and they themselves travel about to pick up all the horses which they deem saleable. They have to be transported home, in many cases schooled and brought into better condition; frequently credit has to be given; and accident, disease, and death have to be reckoned with, so that by the time a really good horse reaches the buyer's stable he has cost a good deal of money. Anyone, however, who has once ridden a really perfect hunter will cease to wonder at the large sums given for horses of the right kind. The hunter which can gallop fast, will not turn his head from anything, wants no rousing and but little holding, one that skims over water, and can jump timber, that will walk through a gap, and so spread himself at his fences as easily to clear an unexpectedly wide ditch on the far side, is not to be picked up every day, and when found must be paid for.

Still, there are hundreds of men who

cannot afford hunters costing from a hundred and fifty to four hundred guineas, and who have, of necessity, to put up with something cheaper, though it must not be supposed that a long price necessarily means a good horse; on the other hand, many a first-rate hunter is bought at quite a low figure, and it frequently happens that a horse regarded by his owner as being no more than middling is found, when the question is asked him, to possess galloping and jumping abilities of a high order. Nor must it be forgotten that much, very much, depends upon the man in the saddle, for some men could never show to advantage on the most brilliant hunter that ever looked through a bridle, while others will "shove along," to use an expressive hunting field phrase, on almost anything.

The upstanding, weight-carrying hunter necessarily commands the most money, owing to his scarceness. He must show as much quality as possible, and be able to gallop and jump with the lighter horses; and hunters fit to carry men like the late Mr. Heywood-Lonsdale, Master of the Shropshire, or the late Mr. Bisset, for so many years Master of the Devon and Somerset Staghounds, can only be found

animals. Occasionally a thoroughbred horse gets a weight carrier from a mare which may not be of any great power;



A STONE WALL JUMPER.



LIGHT HUNTER FOR SOUTH DOWN COUNTRY.

now and then. No one at present has discovered how to breed these weight carriers to order; they are entirely chance bred

sometimes a cart stallion or a cart mare is responsible for a great strong horse in which cart blood is not observable, but it is seldom that two weight carriers are bred by the same parents in two successive years.

The light-weight rider has a very wide field open to him from which to mount himself, as he can either ride weedy well bred, or thoroughbred horses, or can get along on smaller horses, horses, that is to say, which would bring good money were they but a little bigger; but, although people talk a good deal about the excellence of little horses, the almost universal feeling is in favour of animals from about 15 hands 3 inches to 16 hands 1 inch in height. A horse standing under 15 hands 2 inches must have a very grand reputation to realise a long price. Here then is the light weight's opportunity; he can afford to buy misfits of all kinds, and, if he be a good horseman, he can afford to disregard sundry little peculiarities of temper and temperament which would cause the horse to be rejected at once by anyone ready to pay a good price for a hunter approximately perfect.

One hears a great deal at times of the horse for this country and the horse for that; but much of it is pure theory. One or two propositions certainly stand out pro-

minently, one of them being that an indifferent horse is of no earthly use in the shires. If his rider does not want to jump he must at any rate gallop from gate to gate; but if a man "goes" on the grass he

Leicestershire or Northamptonshire; but the man on a cob who happens to be in a fine run with the Devon and Somerset would see very little of it. Similarly, in the more wooded portions of Kent and Sussex, it



HUNT SERVANTS' MOUNTS IN THE SHIRES.

must have a good horse. But the horse for Leicestershire is also the best horse for everywhere else, and in no hunting country in England does the workman buy an indifferent hunter if he can afford a better. Mr. Charles Brindley, better known perhaps under his pseudonym "Harry Hieover," wrote in one of his books that a fifty pound hack was quite good enough for Surrey. Well, if any of the packs hunting over that county find a good fox on a good scenting day and get away on good terms with him, anyone who thinks a common horse good enough for Surrey will learn the erroneousness of his opinion, especially if the line happen to lie in one of the Vales, the Godstone Vale, for instance. "Do you call the Blankshire a difficult country?" a young man is reported to have asked of a Nestor of the Chase. "My friend," was the reply, "all countries are difficult when hounds really run," and this should be kept in mind by horse buyers. In Essex, with its interminable plough, a stranger would scarcely imagine that there is ever much of the gaudy side of fox-hunting to be seen; but let him be out when scent lies and a stout fox is before the hounds, while the going is deep; the best horse in England will not then be found too good for the occasion.

It has often been said that you want nothing more than a cob in order to enjoy the sweets of hunting the wild stag on Exmoor or the Quantocks. There are many days on which a cob would suffice for

will be found that the best horse procurable is better than an inferior conveyance.

So far as regards the physical characteristics of different countries, horses very soon grow accustomed to a change of fences. A Leicestershire horse would not be long in mastering the banks of the Blackmore Vale, or even the big banks to be found furthest west, but it is to be noted that, as a rule, a horse used to a flying country becomes clever in a cramped or banking country in less time than a horse accustomed to banks learns to jump freely in a flying country. Many Irish hunters, when they first come into the hands of English dealers, are by no means free jumpers, and take no little time to school before they perform in a manner which will commend itself to the buyer who desires to ride over a flying country; but a horse which may be regarded as somewhat rash over this description of country soon learns not to rush at banks, and quickly gives up attempting to fly them. Although, then, one can scarcely have too good a horse for any country, a man may have too good a horse for himself; that is to say, if a man does not jump, there is no necessity for him to go to the expense of buying a hunter fit to go anywhere. With respect to those good sportsmen who can afford small sums only for their horses, it may be asked where do the fifty and sixty pound horses—many seen in the field cost less—come from? They come from everywhere. A hunter out of

an unknown stud sent to the hammer never realises much; a horse which will not go in harness or into a horse-box has a good deal of his value knocked off, and a tendency to pull or be light-hearted is amongst the causes which make hunters and other horses pass from hand to hand at little money.

And now just a word to the inexperienced on the subject of buying horses. Buying at auction is very dangerous, unless a man be a very good judge and know something about the horse he proposes to buy; nor should the novice rely upon his own judgment when buying privately.

There is no royal road to buying a hundred pound horse for half that sum, nor for obtaining a fifty pound horse for twenty-five pounds; so the beginner should at once abandon all idea of bargain hunting. Those who live in the country can generally hear of a horse by mentioning their wants to their friends, and when the time comes for selling the cub-hunters by auction a suitable mount can frequently be obtained, or recourse can be had to a dealer who deals in the kind of horse required. It is a very

him what he wants, and the price to which he is prepared to go, he will probably not have reason to repent his line of action.

W. C. A. BLEW.

[See also DOGS, FOX, and HOUND BREEDING.]

GLOSSARY—FOX.

Away.—(Of a fox), left the covert.

Babbler.—A noisy hound; one which gives tongue when not on to line.

Bagman.—A fox released when required; the term had its origin in the practice of some owners of estates allowing their keepers to kill foxes, and then to buy one when hounds were expected. He was commonly taken to the covert in a sack, and shaken out.

Balk.—(Of a horse), to refuse a leap.

Billet.—The droppings of the fox.

Blank.—A covert is blank or drawn blank when it holds no fox.

Blooding.—Giving the fox to the hounds.

Breast-high.—[See SCENT.]

Brush.—The tail of the fox.

Bullfinch.—A hedge too high to leap; riders have to bore through it.

Burning scent.—[See SCENT.]

Burst.—The first part of the run if the hounds get away close to their fox.

Burst him.—(Of a fox), killed in the burst.



MR. W. A. SIMPSON'S CHAMPION "HENCHLIFFE."

common idea that every horse-dealer is a rogue, but there are just as many honest men in that calling as in any other, and if the beginner goes to a respectable man, tell

Carries.—(Of the ground), when it sticks to the fox's pads after frost.

Carry a good head.—(Of the hounds), to run and keep well together on a good scent.

Cast.—To spread out, in search of the scent.

Hounds either cast themselves or are cast by the huntsman.

Catch hold.—A huntsman is said to do this when he, at a check, takes his hounds forward, either to a holca or for some reason of his own.

Challenge.—The first hound which speaks on hitting off the line "challenges."

Change.—To leave the line of one fox for another.

Check.—An interruption to the run, the scent being lost—**thrown out.**

Chopped.—Killed as soon as found.

Counter.—To follow the scent from the fox, instead of following him.

Covert.—A place where the fox is sheltered, whether wood, thicket, or gorse, &c. Such places have various local names, such as holts, roughs, coppices, or copses, spinneys, shaws, &c. Artificial coverts are often planted, gorse, laurel, withies, hawthorn, &c., being used. Temporary coverts are also made of dead wood and bushes, and are called stick, faggot, or dead coverts.

Covert-hack.—A horse used for riding to the place of meeting.

Covert-hoick.—The huntsman's cry, meaning "into cover."

Covert-lad.—[See PAD-GROOM.]

Crash.—When the pack all give tongue together on finding a fox.

Crop.—The whip used in hunting, with a loop, called a keeper, at the top of the crop for the attachment of the thong.

Cub.—The young of the fox.

Cub-hunting.—Takes place before fox-hunting begins, and generally early in the morning. Its principal object is to train the hounds and teach cubs to go away at once.

Currant-jelly.—The scent of a hare crossing that of the fox, and disturbing the hounds.

Dog-fox.—The male fox.

Double.—To turn back on one's course.

Draft.—To remove hounds from a kennel, or pack.

Drag.—(1) The scent left by the fox on his return to his lair. (2) An artificial scent, followed by draghounds.

Drag up to.—To follow the scent of a fox up to his kennel.

Drain.—Any underground passage for water, to which the fox may run.

Draw.—**Draw a covert.**—To search for a fox in a covert.

Draw blank.—An unsuccessful draw.

Dwelling.—Not responding to the huntsman's call; lingering too long on the line.

Earth.—The lair or burrow of the fox.

Earth-stopper.—A person employed to stop earths. It is done while the fox is abroad at night, and on his return he finds himself stopped out. All earths are stopped in the district in which hounds are expected to be on any hunting day.

Enter.—Young hounds when first put into the pack are said to be "entered."

Eye to hounds.—The art of watching the leading hounds, and so following them by the shortest line.

Feathering.—Moving the stern from side to side, an act which indicates that the hound recognises the scent, but not to a sufficient extent to speak to it.

Feeder.—He is really the kennel cook. He prepares the meat and meal for the hounds and washes out the kennels.

Flash.—(Of hounds), to overrun the scent.

Flighty.—Uncertain and changeable, applied both to hound and scent.

Fling.—To drive on the scent at the least semblance of a check.

Foil—Foil—to run.—To run over the same track.

Foiled.—A term applied to ground which has been much traversed by hounds and horses.

Fox.—*Canis vulpes*, order Carnivora. The object of Fox-hunting. It is said there were two varieties of fox in this country, the greyhound and the bull-dog; the latter distinguished by its wider head and darker colour; but they have almost disappeared since about 1830, being supplanted by the French fox, which is smaller than either, and of reddish hue.

Full cry.—Originally alluding to the chorus of music from the pack, is now understood to mean the hounds going fast on a good scent.

Gone away.—Left the covert.

Gone to ground.—Gone to a drain, earth, rabbit-hole, or other shelter underground.

Headed.—(Of the fox), made to turn back.

Headed to death.—Killed unfairly, when headed.

Heel.—[See SCENT.]

Hold hard.—The warning to riders not to press too closely on the hounds.

Hold them forrard.—To take the hounds on, in search of a lost line.

Holding scent.—[See SCENT.]

Hunt foil.—Run foil.

Huntsman.—The person who hunts the hounds. The Master (M.F.H.) frequently assumes this office, and then the official who feeds the hounds and sees after them generally in kennel is called the kennel huntsman. The first whipper-in usually discharges this duty.

Kennel.—(1) The fox's lair. (2) The old word used for the hounds; now "Pack," formerly confined to harriers, is often used.

Kennels.—The place where the hounds are kept.

Kennel huntsman.—[See HUNTSMAN.]

Lift.—To take the hounds from a lost scent, with a view to hitting the line further on.

Line hunter.—A hound which keeps close to the scent.

Main earth.—The fox's own lair and breeding place.

Mask.—The fox's head. Also PATE.

Meet.—The rendezvous of those about to take part in the chase.

M.F.H.—Master of Fox Hounds.

Mob.—To surround and kill a fox, without giving him the chance of a run.

Mute.—Silent, the hounds going too fast to speak. Some hounds are naturally mute.

Noisy.—Speaking without a scent.

Over it.—[See SCENT.]

Owning.—[See SCENT.]

Oxer—Ox-fence—Ox-rail.—A strong hedge with a wide ditch, and a single rail about one yard in front of it. A double oxer has a rail on each side.

Pack.—The hounds employed in hunting. [See KENNEL.]

Pad.—The foot of the fox.

Pad-groom.—The groom who rides the hunter to covert, and brings back the hack. Also COVERT-LAD.

Pate.—The fox's head. Also MASK.

Pink.—The scarlet coat worn by fox-hunters.

Point-to-point.—A straight run. Most hunts now have point-to-point races during the season. The course is not flagged, and the competitors take their own line.

Point-rider.—One who does not ride as the

fox and hounds go, but to points at which he hopes to pick up the hounds.

Rabbit-earth.—A burrow, to which a fox often goes for shelter.

Rack.—A way through a hedge.

Recovered.—[See SCENT.]

Ring-ing-fox.—One that runs in circles instead of going right away.

Roach-back.—A round-backed hound.

Road-hunter.—A hound which possesses the rare gift of being able to hunt a fox or hare on a road.

Riot.—[See RUN.]

Run.—(1) The chase of the fox from finding to the death. To run counter, foil, or heel [see COUNTER, &c.]. To run to earth [see EARTH]. To run to ground [see GROUND]. To run riot: to follow a wrong scent.

Scent.—The odour given off by the fox, by which he is found and followed by the hounds. It is *burning*, if very good or strong; *breast-high*, if so good that the hounds do not stoop to it; *moving*, if it is so *fresh* that it must be recent, and not a *drag* (*q.v.*); *flighty* or *catchy*, if variable; *holding*, if good enough, but not very strong; *recovered*, if lost, and found again. When hounds speak on a scent, they *own* to it; when they go beyond it, they are *over* it; when they follow it the reverse way, it is *heel*, *counter*, or *foil* [see RUN]; when they remain on it without following it, they *dwell* on it; when they first perceive it, they *feel* it, or *hit* it, and *hit it off* when it has been lost; if they hunt any other animal than that which is their proper game, they *run riot*; when they lose it, they *throw-up* (*i.e.*, their heads).

Scoring.—Hounds "score" when the whole pack speak to a strong scent.

Sinking.—(Of a fox), nearly beaten.

Skirter.—A hound which runs wide of the pack.

Speak.—(Of a hound), to cry, showing he is on the scent.

Spout.—Rabbit-earth (*q.v.*)

Stained.—Injured as regards scent by the previous passage of hounds, horses, or of cattle, &c.

Stern.—The tail of a hound.

Stooping.—(Of hounds), putting their noses to the ground. [See SCENT.] A hound is said to stoop to a scent when he has once taken to speaking to it.

Streaming.—Going across open country, spread out.

Stub-bred—**Stump-bred.**—Foxes which, in certain districts, make their lairs in bushes or stumps instead of underground; stubbed was the old term.

Tailing.—Hounds are said to tail when they run in almost Indian file. To tail is the opposite of carrying a good head.

Throw off.—To start the hunt by putting the hounds into a covert.

Throw up.—[See SCENT.]

Thrown-out.—Checked. [See CHECK.]

Timber.—A wooden fence, rail, stile, or gate.

View holloa.—The cry when the fox is seen.

Vixen.—The female fox.

Ware riot.—The cry to the hounds, when running riot (*q.v.*).

Well clawed—**Well knit up.**—With strong claws, adapted for running.

Whelp.—A very young puppy.

Whipper-in.—The huntsman's help in controlling the hounds.

Worried.—Killed by the hounds.

OTTER.

Bend.—The land between two stretches of a winding river crossed by an otter on his way upstream.

Bolt.—To put the otter out of his holt or couch.

Chain.—The air bubbles rising from an otter's fur when he swims under water, by which his progress may be traced.

Coke.—[See "SPRAINTS."]

Couch.—[See HOLT.]

Double.—When the drag lies on both sides of a river or when it leads away from the water and returns to it higher up or lower down.

Down-water.—A cry used to show that the otter has gone down-stream.

Drag.—The scent left by an otter, by which he is hunted up to.

Foil.—(1) Used of spectators or huntsmen: to spoil the scent by disturbing the ground. (2) Used of the otter: to return on its own track.

Gaze.—To view the otter.

Heel-drag.—The drag leading in the direction from which the otter has travelled.

Heu Gaze!—The proper cry for a "view holloa."

Hide.—The temporary retreat of a hunted otter.

Holt.—The lair of the otter, and the various refuges to which he flies when pursued, or when driven from home by rising floods. It is a burrow excavated in the bank, generally overshadowed by a bush or tree, with an entrance beneath the water. There is generally also a *Vent-hole* of small size above water level, at which the otter may be winded. Other names for holt are *Couch*, *Hover*, *Kennel*, and *Lodge*.

Some authorities prefer to use "couch" and "kennel" for the permanent home, and "holt" and "hover" only for the temporary refuge.

Hover.—[See HOLT.]

Kennel.—[See HOLT.]

Litter.—A family of young otters varying from three to five in number, and very occasionally six. They are generally brought forth in spring or early summer.

Lodges.—[See HOLT.]

Look below.—The man stationed at the shallow beneath the pool where an otter is found in order to turn him back should he attempt to pass or at any rate to give notice of his departure.

Mark.—Hounds mark on finding the "HOLT" where an otter is laid up. Sometimes used for "SEAL."

Mask.—The head of an otter. Sometimes incorrectly called "PATE."

Notch.—A cut made on an otter-pole to register a kill.

Otter.—*Lutra vulgaris* or *Mustela lutra* (Linnæus). The otter is a member of the family *Mustelidæ*, to which belong the weasels, stoats, pole cats, martens, &c. It has beautiful fur of a brownish-grey colour covering the whole body. The limbs are short and provided with webbed feet; the tail is long and powerful, gradually tapering to a point.

The usual length of the body is about 2 ft., and of the tail about 15 or 16 in. The male weighs from 18 to 26 lb., the female from 13 to 22 lb. upon the average, but one dog otter was caught in a net measuring 4 ft. 10 in., and weighing 40 lb.

The otter is not only an extremely expert swimmer and diver, but can run swiftly overland, often escaping hounds in this way.

Otterhounds.—The Otterhound is a perfectly pure and ancient breed of rough hound. Foxhounds are also used for otter hunting.

Otter-pole.—The pole which most sportsmen use to assist them in wading and climbing banks, &c.

Out of Mark.—Said of an otter laid up where hound cannot wind him.

Pad.—The foot of an otter.

Padding.—Sometimes used for "SEAL" and "SPUR."

Pelt.—The skin of an otter (anciently PYLES).

Put the Otter down.—To drive him from hisholt.

Ream.—[See "FOIL."]

Ring.—When the quarry lands and runs a circuit back to the water.

Rough.—An otter often lies "rough" among reeds and undergrowth instead of "going to HOLT" for the day.

Rudder.—The tail of an otter, sometimes erroneously termed the "Pole."

Seal.—The track of the otter upon the bank; easily recognised by the mark of the five toes, the ball in the centre of the foot, and the absence of a heel.

Shoal.—Verb: to drive the otter down to the shallows.

Spraint.—The excrement of the otter; also called WEDGING.

Spur.—Rarely used for SEAL (*q.v.*).

Stickle.—West country term for a shallow.

Sticky.—Said of an otter that hangs about the place where she is found and refuses to go away up or down stream.

Stroke.—When hounds carry the "DRAG" across a bend at full cry they are said to make a "stroke."

Tail.—To catch an otter by the "RUDDER" as he forces a "STICKLE."

Tally.—To shout "Tally ho!" (or, more correctly, "HEU GAZE!") when an otter is viewed.

Trail.—Same as "DRAG."

Trophies.—The "RUDDER," "MASK," and "PADS."

Unkennel.—To dislodge the otter from hisholt.

Up-water.—The cry used when an otter has gone up-stream.

Vent.—(1) Of the otter: to come up to the surface to breathe; (2) the spot at which the otter comes up for air.

Vent-hole.—The upper surface of the HOLT (*q.v.*).

Wedging.—Same as "SPRAINTS" and "COKE."

Worry.—The fight that ensues when hounds catch their otter.

L. C. R. CAMERON.

STAG.

Antler.—Originally the first branch of a deer's horns; now used for any of the branches or tines, and even for the whole growth of horn. [See BROW, BAY, and TRAY.]

Backer.—A deer that has passed maturity, and has begun to diminish in size of body and horn as old age comes on. Also called BATER.

Bay.—(1) The second tine or branch upon a deer's horns, counting from the head upwards. Also called BEY.

(2) The stag is "at bay" when he turns to face the hounds, either too much exhausted to run further, or having found a strong position of defence. The hounds in their turn are said to "bay" or "bring to bay" a deer in such a position.

Beam.—The main stem of a deer's horns from which the branches proceed.

Bell.—The challenge of the stag during the rutting season.

Blanch.—To head, *i.e.*, turn the hunted deer from making his point.

Break soil.—[See SOIL.]

Brocket.—A two-year-old stag; also called KNOBBER or KNOBBLER. (Several of the old terms for deer at various ages are now never used.)

Brow.—The lowest and forward projecting branch of a deer's horns.

Burr.—The rounded swelling at the base of a deer's horns, just above the skull. Also called the CORONET.

Calf.—A red deer of either sex in its first year.

Coronet.—[See BURR.]

Croquets.—The points upon the top of a deer's horns.

Foil.—The trail of the pursued game.

Fraying stock.—The stump of wood or stone which the stags use to rub off the VELVET (*q.v.*) from their horns.

Harbour.—(1) Of the deer; to take up a settled abode in some covert.

(2) Of the harbourer; to track the deer to its favourite covert, and to make sure that it remains there.

Harling.—The old Devonshire practice of taking a pack to covert roped together in couples.

Havier.—A castrated deer.

Hearst.—A two-year-old hind.

Hind.—The female of the red deer.

Hoop-headed.—Epithet of a deer whose horns, in place of spreading, tend to come together at the top.

Knobber.—[See BROCKET.]

Layer.—The spot at which the deer intended for pursuit couched over-night.

Lay on.—To put a pack upon the trail of a stag after the tufters have driven him from cover.

Mewing.—Old term for the shedding of a deer's horns.

Nott.—Of stags; hornless.

Pearls.—The bony swellings that form a ring around the BURR (*q.v.*) of a deer's horns.

Pricket.—A three-year-old stag. Also called SPIRE.

Rack.—A gap in a hedge or fence through which a deer has passed.

Rights.—The "rights" of a stag are his brow, bay, and tray antlers.

Rouse.—To put a deer out of cover.

Run-up.—A deer is said to be "run-up" when exhausted by the chase.

Set up.—Of the hounds; to bring the deer to bay.

Single.—The tail of the red deer.

Slot.—(1) The footmark of the deer. (2) The foot itself. (3) Verb: to trace a deer by his footprints.

Soil.—Of the deer; to take to water. Hence the place to which he goes is called his soiling place, or shortly, his "soil." When he leaves it he is said to "break soil."

Spire.—[See PRICKET.]

Staggart.—A stag in his fourth year.

Take.—The successful conclusion of a run is always called the "take," whether the deer be killed or not.

Tine.—A branch of the antlers.

Tray.—The third projecting branch of a deer's horns, counting upwards from the head.

Tufters.—Selected and steady hounds put into covert in order to separate the deer intended for

pursuit from the rest of the herd, and to put him out from cover.

Velvet.—The network of arteries that covers and nourishes the growing horns. It is extremely tender, and bleeds freely if touched.

Warrantable stag.—A stag fit for hunting, *i.e.*, in his fifth year or upwards.

Yeld.—Of the hind; barren.

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HUNTING DOG.—The Cape hunting dog (*Lycaon pictus*), the *Wilde Hond* of the Boers, stands slightly under two feet at the shoulder, drooping somewhat at the quarters, and has an extreme length—from snout to tip of tail—of about four feet or a trifle over. The body is slight, the muzzle pointed, while the skull is like that of a wolf, but shorter and wider. The general body colour is yellowish-red, blotched with irregular markings of black, white, and yellow. The face, nose, and muzzle are black; the ears large and erect. The tail is bushy and fox-like, separated towards the middle by a black ring. Above this ring the colour is yellowish; below, white. The hunting dog runs in packs, ranging in number between a dozen and forty or fifty. It possesses great pace and staying power, and few antelopes in Africa can stand before the savage and relentless pursuit of these fierce and dangerous animals. The packs hunt in a systematic and organised manner, often driving their prey in a circle, so that relays of fresh hounds take up the pursuit. Mr. F. C. Selous has witnessed a single Cape hunting dog running down, single-handed, so strong and formidable an

animal as the sable antelope. In the actual chase, the hounds, as they press their game, dash forward in turn and take snaps at the flank and under parts of the beast pursued. These animals are plentiful in many parts of the interior. In Cape Colony and the more settled regions of South Africa packs of hunting dogs, although being gradually exterminated, still exist and do enormous damage to flocks. Numbers of sheep and goats are destroyed in a single night by these dangerous marauders. On these occasions the hunting dogs, apparently from the mere savage delight of slaughter, rip and tear far more than the number of animals required



HUNTING DOG.

for their supply of food. The hunting dog seems to have little fear of man. I have seen a pack in the interior, while in full chase after a koodoo, suddenly stop at sight of our hunting wagons and coolly indulge in a prolonged stare, after which they took up the pursuit again. Gordon Cumming, while shooting by night at a pool of water, once sustained a great fright from a large pack of these wild hounds, and had some difficulty in driving them off. In addition to South Africa, this hunting dog is found in many other parts of the African Continent, as far north as Abyssinia and Somaliland. In different districts slight variations in colouring are to be noticed, and scientific naturalists appear to be inclined to separate these races into sub-species. All these wild hounds, however, have the strongest possible family likeness, the East African race being perhaps the richest and handsomest in hue. H. A. BRYDEN.

HURLING.—[See LOCAL SPORTS.]

HYÆNA.—There are three species of true hyænas: the striped hyæna (*H. striata*), found in India, South-western Asia, and the North and East of Africa; the spotted hyæna (*H. crocuta*), which is, perhaps, commonest in South Africa, but is known northward to Senegal in the west, and to Somaliland and Abyssinia in the East of Africa; and the brown hyæna (*H. brunnea*), found in South Africa, but ranging some distance up the two sides of the Continent. Another animal, distantly connected with the hyænas, is the curious Aard-wolf of the Cape Dutch colonists, known to men of science as *Proteles cristatus*. This singular animal looks like a small striped hyæna, but has a more pointed nose and longer ears, five toes instead of four upon the fore feet, and teeth which, compared with those of the true hyænas, are poor and feeble. The aard-wolf represents a family by itself, called by naturalists *Proteleidae*. Hyænas are always miscalled wolves by the Boers of South Africa; the spotted hyæna being known as the "tiger-wolf," as its pied coat resembles distantly that of the leopard, always called "tiger" by the Cape Dutch; the brown hyæna is called "strand-wolf," from its supposed partiality for the seashore; while the aard-wolf, "earth-wolf," takes its colonial name from its burrowing propensities. This aard-wolf ranges through East Africa to Somaliland East.

All the true hyænas are fierce and ravenous, yet extremely cowardly brutes. They are essentially nocturnal beasts, and seldom or never have the hardihood to face mankind boldly and openly. The most formidable is undoubtedly the spotted hyæna of Africa, the largest of the three kinds, which will carry off young children, and in remote native districts even attack sleeping adults. Not a few natives of South Africa have lost a cheek, or some other fleshy part of their person, from the cowardly nocturnal assault of a "tiger-wolf," made upon them while asleep in the open, or even in an unclosed hut. Where these ravenous brutes have not been killed off, their devastations upon flocks and herds are very great. Sheep and goats fall a ready prey to them, and they will easily master calves, and even cows and weak or ailing oxen. The teeth of all three of the true hyænas are immensely powerful, and with their highly developed jaw-muscles enable them to crack and devour bones that would offer great difficulties to any others of the Carnivora. The spotted hyæna stands some 2 feet 6 inches to 2 feet 8 inches at the shoulder; the striped and brown hyænas are rather

less in size. The skins of hyænas, from the carrion-eating propensities of the animals, are usually very malodorous.

The coat of the aard-wolf is, however, very handsome, and not very offensive. In colour it is of a yellowish-brown, neatly marked with black stripes, and having a thick mane and bushy tail. This animal is trapped and hunted for its skin a good deal by the Bechuana natives, and the pelt is often to be seen at traders' stores up country. The aard-wolf is considerably smaller than its relatives the true hyænas, and resembles somewhat a large, leggy, and high-shouldered fox—if such a beast could be imagined. The aard-wolf feeds occasionally on carrion, but the contents of its stomach indicate that more often than not its dietary consists of white ants, grubs, and other insects. The appetite of the true hyænas is well-nigh immeasurable. Like the vultures they gorge at a dead carcass until they can literally fill themselves no more, and a spotted hyæna, shot at early morning, as it is retiring from its disgusting banquet, will be found to be almost bursting with repletion. Against any animal that they can master, hyænas are murderously savage, and the poor beast, whether sheep, calf, goat, cow, or antelope, is torn to pieces and devoured with marvellous celerity.

In Cape Colony the spotted and brown hyænas have been shot, trapped, and poisoned off by the farmers until few now remain. Beyond the Orange River, however, they, with the aard-wolf, are still abundant in many places. It cannot be said that any of these creatures are good sporting animals; their habits are too nocturnal, and only at very early morning, when retreating to their earths and resting-places, do they offer a fair shot to the rifle. The Cape colonists, long since recognising these difficulties, have achieved the downfall of the spotted and brown hyænas largely by aid of strychnine pills inserted into dead carcasses. The "tiger-wolf," too, with his tremendous jaws and teeth, is a formidable beast for any but the very largest and fiercest dogs to tackle. The up-country Boers used occasionally to capture one of these brutes in log traps, slit the hind legs just above the hocks, and insert between the sinew and bone an iron chain. Thus fastened up, the hyæna was suffered to break his teeth in the vain attempt to gnaw through his fetters. He was then considered a fit subject for the dogs to bait and kill. This extremely cruel sport was supposed among the old-fashioned Boers to be a capital training for young hounds.

In the hunting veldt, hyænas are often extremely troublesome round the camp at night. One of the simplest and most effective ways of dealing with them—known as the gun trap, or *stell* of the Dutch farmers—is still commonly practised. A loaded gun is firmly lashed in a horizontal position, at about the height of the hyæna's head, to two stout saplings, or strong poles, driven into the ground. A short piece of wood, which acts as lever, is tied to the side of the gun stock in such a way as to move slightly backwards and forwards. A piece of string connects the trigger with the lower part of the lever. Another piece of strong cord is then fastened to the upper part of



SPOTTED HYÆNA.

the lever, the other end being firmly tied to a large piece of flesh secured over the muzzle of the gun. A small fence round the gun is then made, with an aperture in front, so that the hyæna can only seize the meat while facing the muzzle of the gun. Drags or trails of flesh or carrion, conducting to the trap, are then usually laid. If the affair comes off successfully, the hyæna seizes the bait, pulls the trigger, and the contents of the gun are lodged in its skull, or the head itself is blown to pieces.

It is a curious fact that the young of hyænas, if taken quite in infancy, can be so tamed as to become attached to human beings. Thus tamed, they will even make friends with dogs, usually their inveterate enemies.

H. A. BRYDEN.

IN SOMALILAND.—The spotted hyæna is not hunted systematically in Somaliland, but is killed as vermin whenever met. There are generally a dozen or so about each kraal; they prowls about at night outside the zarebas, or thorn-fences, within which the sheep and goats are

penned at night. They carry off children, and often molest men and women while asleep, generally attacking the face, and tearing off the cheek. Many are the Somali men and women to be seen with their faces horribly disfigured, without eyes or nose, the work of the warāba, or spotted hyæna. These animals tear off cows' udders and camels' tails. Half a dozen of them will attack and kill a haltered camel in a few minutes. Old people are occasionally killed by hyænas.

Round the sportsman's camp they are nightly visitors, attracted by the scraps of meat scattered about; and I have, at different times, shot in all some two dozen from the tent door, and several while I was watching over water. On one occasion, at a well, I found the bodies of seven spotted hyænas, killed by natives by the simple expedient of putting poison in one of the troughs of puddled clay which stand at the mouth of every well where water is left after the cattle have drunk. The wells are deep and difficult to climb into, and wild animals often have to drink from these troughs left by the herdsmen.

In Somaliland the spotted hyæna, which is commoner there than the striped species, should give a glorious run in suitable country, for they are very numerous round Berbera, Bulhar, and Zeyla on the Somali Coast, and at Harar, when cholera was raging about 1892, they were said to come in thousands at sunset to drag away the dead bodies of the victims.

The cry of the spotted hyæna is a peculiarly mournful howl—a long drawn note ending with a high one, or two low notes with a high one in the middle. When breaking up a carcase, the hyæna emits curious low chuckles.

Striped hyænas are not often shot in Somaliland; they live more in the bush, and do not prowl so much round the kraals; they are also rarer. The skin of this species is often very handsome, with a bushy tail.

There is no difficulty in shooting either kind of hyæna, but there is very little sport in it, although the spotted species affords the very best practice in night-shooting. My own custom was to paste a long strip of white paper down the rib of the rifle, and, when shooting at night, to take a quick aim with the muzzle slightly raised, then to lower it, and pull the trigger as the white line disappeared from view. So fired, the rifle carries high, and the eyes should be fixed about six inches below the object at short range.

H. G. C. SWAYNE.

IN INDIA.—The only species of hyæna in India is the striped *Hyæna striata*. It is somewhat smaller than the African spotted species, but appears bigger owing to the large mane or crest which hangs over on either side of the neck to a little below the withers. Its appearance is ungainly, as its front legs are higher than the hind; the stripes, which recall the hoops of a barrel, extend downwards on to the legs.

This species stands about 2½ feet at the shoulder, and is about 5 feet 8 inches in length, including the tail, which is about 15 inches long and bushy; the snout is



STRIPED HYÆNA.

moderately long but blunt. It has immensely powerful jaws, and can crack even a horse's thigh-bone with ease. The great longitudinal ridge on the top of the skull is far larger than even in the lion or tiger, and to this ridge are attached the great cheek muscles which close the jaw. The strong cheek teeth have great conical crowns, the base of the cone being belted by a strong ridge which defends the subjacent gum; but the canines are proportionally smaller than in the cats, and the outermost incisor—that nearest the canine—is much larger than in the latter. The total number of teeth is thirty-four.

This hyæna is cowardly, as a rule, but occasionally shows pluck. It generally confines its attacks to the maimed, and carries off infants, and usually feeds on any carrion or offal it can find. Very noisy at night, and only inferior in this respect to the jackal, it is not of much account as a beast of chase in India, but when one is found on a ridable plain, it is always a feather in a hunter's cap to run down and spear one on horseback. I have had a strong shaft—a solid male bamboo—of a spear that had survived many a boar-hunt severed in two by a hyæna, after I had thrust it right through him. Hyænas not only possess considerable speed, but double like hares.

A friend of mine when chasing one of these beasts, after spearing him, had the misfortune to fall with his horse almost on the top of the hyæna. The brute turned round, gave a snap, and bit the horse's leg almost in two just above the pastern, and then gave up the ghost.

The natives catch hyænas by tying a kid over a pit-fall on a small platform, which gives way when the aggressor springs, as it must on account of a gap being left all round.

When I was a mere griff beating some ravines, within 50 yards of me rose, only to disappear almost instantaneously, three striped bodies. My heart palpitated considerably faster than its wont, for I took the unclean brutes for tigers, and I was on foot in rather heavy jungle, but my disgust may be imagined when three striped hyænas trotted past my post within 10 yards, and in revenge for my disappointment I laid two of them low. If a male hyæna, with his consort, come across a solitary dog they will muster up courage to attack and make a speedy ending of it; but an officer of my regiment had a Poligar dog that fairly beat off a couple.

The hyæna is nocturnal in its habits, and will now and then carry off sheep and goats. As it desecrates graves, it is detested by the natives of India; and when one is killed the body is treated with every mark of indignity and finally burnt.

F. T. POLLOK.

[See also Vol. I., pp. 243-4.]

IBEX.—The ibex, steinbock, or bouquetin (*Capra ibex*) of the Alps, now well-nigh extinct, is the typical representative of a group of wild goats characterised by the more or less scimitar-like and heavily knotted horns of the rams. So far as sportsmen are concerned, a much better-known species is the Asiatic ibex (*C. sibirica*), known as *Keyl* in Kashmir, *Skyn* in Ladak; *Danmo* in Tibet, *Buz* on the Upper Sutlej, and *Tangrol* in Kulu.

The Asiatic ibex is found generally on high ground throughout Central Asia and the Himalaya from Gilgit to Nepal. It is best known to sportsmen from the large number of fine heads killed year by year in the hunting grounds of Kashmir, Baltistan, and the Tian Shan. Though it will be many years before the Kashmir ibex is killed out, there is no doubt that the modern rifle, and the modern shikari too, are gradually reducing the numbers of ibex in the best known and most available parts

of Kashmir. Nullas which, thirty or forty years ago, were full of fine heads, are now hardly worth a visit, and to secure good heads the sportsman must push on to Baltistan, Shigar, Chilas, Gilgit, and elsewhere.

Ibex are not found on the south-western side of the Vale of Kashmir—though good heads come from the Hazara country, and the Gilgit district is said to be full of ibex and markhor. South-eastward the ibex extends from Kashmir and Baltistan through Ladak, Lahoul, Spiti, Kunawar, and Chumba, as far as the borders of Nepal.

It is found on the higher ground of the



HIMALAYAN IBEX.

Pamir region, in the Tian Shan, and in the mountains of the head waters of the Irtish; and in many other parts of Central Asia where the ground is suitable to its habits.

The general appearance of the Asiatic ibex is well known. Of a somewhat stout and heavy appearance, it is nevertheless extremely active, and possesses very sharp eyes and nose. A good buck ibex will stand some 40 inches at the shoulder, and with his massive, curving horns, and long, shaggy, black beard, is a noble beast to observe or to stalk. The horns have been known to reach a length of $57\frac{3}{4}$ inches and a girth of 11 inches; but such heads are rare. Anything over 40 inches may be considered a good head, and one of 45 is a prize that does not fall to every shikari.

Of course, the measuring tape is laid along the outside curve of the horn, but not run into the hollows between the knobs.

The female is an insignificant animal, with weak little horns of 9 or 12 inches in length. She has, however, a pair of eyes

sharper, if possible, than the buck, and exhibits an exasperating patience in lying for hours on some commanding crag from



HIMALAYAN IBEX.

whence she may command the only approach accessible to the human enemy.

Ibex vary locally a good deal in colour, and upon this and other data naturalists have founded a number of sub-species, or local races, the names and characteristics of which it is unnecessary to record on this occasion. The Tian Shan race carries by far the biggest horns; while the Kashmir is characterised by its white saddle, and the Baltistan by its dark, almost black, colouring.

One of the most striking characteristics of the ibex is his smell. The writer has several bucks killed in 1883 and 1884, the heads of which are still redolent of the unmistakable aroma. In stalking ibex this quality is often of considerable assistance to the shikari. In the still, pure air of the high mountains there is no mistake about the proximity of ibex if the wind be in the right direction.

Ibex-stalking in Kashmir in the months of May and early June is most fascinating, although hard, work. An ibex nulla generally combines the finest features of mountain scenery. Wild and picturesque groups of fir and birch surround the rocky torrent in the valley bottom. Here and there a green patch provides a camping-ground. Right and left rise rugged cliffs and masses of rock and shale and snow, while at the head

of the valley gleams the dazzling whiteness of some mighty bulk of snow and ice. This is the home of the ibex, and if the sportsman is content to work hard and exercise self-control, he will sooner or later come to terms with some fine old bucks. "Make sure of the easy chances" is a maxim for stalkers in general; but in no case is it of such constant application as in that of ibex stalking. Ibex stick very hard to the same feeding grounds. The sportsman should, therefore, refrain from firing at doubtful chances and so disturbing the herd. Left to themselves they will be found again with tolerable certainty near the same spot, and in time they will be sure to take up a position where a more or less certain approach may be made. Ibex, when alarmed, prefer to move upwards, and by remembering this fact several shots may be obtained before they get out of range.

Ibex are not tough beasts to kill, and a bullet in the ribs generally brings them to bag. When wounded, an ibex almost always works up-hill till he dies, where his position is pretty surely indicated by a number of lammmergeiers and other birds wheeling constantly above the spot.

April, May, and early June are the months when most of the ibex are killed in Kashmir. After that date the higher ground is



CAUCASIAN IBEX.

open to them, and they are difficult to follow. In the rutting season at the end of October and in November they have been hunted with success.

A third species is the wala or Abyssinian ibex (*C. vali*), a magnificent brown animal, with very heavy black horns, inhabiting the



ABYSSINIAN IBEX

mountains of Simien. The beden or Nubian ibex (*C. nubiana*) of Nubia, the Sinaitic Peninsula, and South Arabia, is, on the other hand, a slighter and lighter-coloured species, with horns approximating to those of the Asiatic ibex, but with a narrower front surface. This species leads on to the wild goat (*C. hircus agagrus*) of Asia Minor and Persia, the Sind representative of which is commonly known among sportsmen as the Sind ibex, although it departs from the proper ibex type in the sharp front edge of the horns. Another member of the group is the Spanish ibex (*C. pyrenaica*), forming the subject of the second half of this article, and characterised by the somewhat spiral twist of the horns, which are not distinctly knotted. This species leads on to the so-called ture of the Caucasus, of which the foxy red western *C. caucasica* has horns approximating to the ibex type, whereas in the brown *C. cylindricornis* of the Eastern Caucasus these appendages approximate to those of the Himalayan bharal.

S. H. WHITBREAD.

IN SPAIN.—The splendid Spanish ibex (*Capra pyrenaica*) is seldom the object of the English sportsman's pursuit, yet Europe can show few finer trophies than the bearded head and massive horns of an old ram. Such lack of attention may be accounted for in many ways, expense being perhaps the

main obstacle. Apart from this, however, to carry out a trip satisfactorily, a certain knowledge of Spanish, good lungs, and indomitable perseverance are essential to success. The game is not numerous, and the man is lucky indeed who succeeds in bagging an ibex without several days—indeed weeks—of arduous labour.

Spanish ibex are confined to four or five points, all in the highest mountain ranges of their native country, the two best known or rather least unknown to the Englishman, being the Pyrenees, and the Sierra lying along the Mediterranean coast, not far from Gibraltar. Their haunts in other sierras, and more especially in Gredos, have never, I believe, been visited by an English party except ourselves. In the majority of cases, the goats live exclusively among the barren rock-summits and crags (*riccos*) at elevations of 6,000 to 10,000 feet, only descending to lower levels under the stress of severe winters. There are, however, ibex in isolated Sierras of lesser altitudes, where they are found frequenting scrub and even forest. In all cases their habits are nocturnal, the day being spent either basking in the sun, or sheltering from its rays in some cave or crevice amid crags and precipices.

The Spanish ibex, which is peculiar to the Peninsula, differs markedly from its Alpine congener in the form of the horns, which in the latter are scimitar-shaped, with annular knobs, while the Spanish goat's horns show a spiral form, diverging outwards, then recurved backwards and upwards; with the rings (one for every year) following the oblique course of the spiral curve.

A head of 24 inches must be regarded as more than a respectable trophy, while heads with horns exceeding 29 inches survive only in the Cordilleras of Central Spain.

The ibex ram is at his prime when ten years of age, but the horns continue to add extra rings for two or three years. The total weight of a ram (clean) is about nine to ten stone; the females are at least a third less in size, and have only rudimentary horns of some six or eight inches in length. The young are born in April and May, one, or more rarely two in number, and follow their dams from the first with surprising agility. When alarmed, the ibex emits a shrill whistle, sometimes repeated several times. The rutting season begins in November, the rams congregating during the preceding month, when (barring the possibility of early snowfalls) they often afford a favourable opportunity to the stalker.

The lofty Risco Mansor, the highest point in the Sierra de Gregos, is the real home of these goats, towering as it does on three sides over the Laguna de Gredos, a gloomy little lake of unknown depth, by whose stony margin we had pitched our camp in August and September, 1890, after many hours of stiff climbing. As we could not go where



SPANISH IBEX.

the natives went without breaking our necks, we had recourse to drives, each "*monteria*" taking a whole day; the guns were placed in the small passes (*portillas*) of the giant ridges, dividing one valley from the next, and the beaters then brought up the whole country before them, the gun highest up having the best chance, as the goats when disturbed always make for the highest ground.

To our idea, however, too little attention was paid to wind, and indeed this negligence at a later date lost us a nice chance at a big ram. It was quite as much as we could do to reach these passes, for the distance we could travel in an hour was covered by the native in ten minutes, and by the ibex in thirty seconds. Yet perseverance was rewarded, and after a week's hard work we bagged three ibex between the two of us, one a very good head, while one of our

beaters secured a small one-year-old male. We were lucky in having fine weather, as the lightning is terrible on these heights, and existence in our isolated position would have been unbearable in rainy weather, as there was absolutely no shelter. At night all the water in the camp froze solid, while at mid-day the heat reflected from the rocks was almost unbearable, yet we suffered no harm from the changes of temperature beyond the peeling of the skin from our faces.

We had twenty mountaineers with us from the tiny village beneath, some over sixty years of age, splendid specimens of agility and grace combined with strength, and in perfect condition. Curiously enough, only two or three of them had ever seen an ibex before; these exceptions being the professional hunters. The flesh is much esteemed and fetches a good price in the valley below. These men are continually after the ibex, and as they shoot male and female alike, are gradually exterminating them; indeed, only thirty years ago, there were large numbers, where now they have ceased to exist. All our beaters (among whom was the Alcalde of the village) wore hempen-soled shoes studded with nails with shilling-sized heads, which gave a perfect grip on the rock, though every evening they required renewing.

The striking peculiarity of the ibex-haunted crags was their extremely irregular outline and broken nature, rising against the deep-blue sky, clear cut in saw-like ridges, or in monster pinnacles and spires like a cathedral; again, the line would be broken by deep rifts and dark crevasses. Below, by the lake, though not adjoining, were green grassy slopes, where our tent was pitched.

BERTRAM F. BUCK.

ICE YACHTING.—[See SAILING.]

IRISH SPORT.—[See LOCAL SPORTS.]

JACKAL HUNTING.—This sport is indulged in more by new comers or Griffins in India than by men of mature standing. On arrival in the East one finds night made hideous by the unearthly yelling of these unclean beasts, which sally forth at night and prey on any offal they can find. Jackals differ greatly in various districts. In Assam, where the cattle plague is always more or less prevalent, they get so fat and sleek they can barely trot along. But in India, where food is scarcer, they take a good deal of killing.

Life in many stations in India is dreary

enough, and nobler sport is not to be obtained without obtaining leave, so a bobbery pack consisting of mongrels of all sorts is kept up and the jackal is hunted once or twice a week. Thursday, being the Sub-

an open veranda, a mad jackal made a grab at the junction of my neck and back, but only inflicted a slight wound. Two people he bit a few seconds later both died of hydrophobia. A pony bitten by him



BLACK-BACKED JACKAL.

altern's Sunday or holiday, is generally chosen, and the meet takes place soon after dawn. When a jackal is viewed the curs are laid on, and if the jackal is in good fettle he will give a run of a mile or more before being overtaken. Overtaken I say advisedly; being killed is quite another thing. If a cat has nine lives, a jackal has a dozen. I have seen one to all intents and purposes as dead as a door nail, yet, after the departure of the hunters and pack, he will open first one eye, then the other, get up quietly, and sneak away. Jackals often run to earth if they come across holes big enough to admit them, and often live in drains and other unseemly places. To hunt them with greyhounds is no sport, as they are overhauled at once. Spearing them is better fun, for they twist and double as well as, if not better than, a hare, and seek refuge in any fissure or hollow big enough to hold them. It is better not to course them with valuable dogs, as I have known more than once a dog's leg to be bitten and broken by a hunted jackal; and as they live on the most putrid flesh their bite is always dangerous, and a mad jackal is not a rarity.

Once when I was sleeping on the floor in

went mad six months after the occurrence, and had to be destroyed.

In old sporting books there is often mentioned a jackal with a peculiar cry which is called the pheel. Some have asserted that it is made by a different variety of jackal



JACKAL.

from the ordinary one whose cry I have before mentioned. The pheel is not often heard; but there is no doubt that the peculiar cry is uttered by the common jackal when suddenly frightened. As the yelping

of a cur when chastised or alarmed differs from its ordinary bark, so the cry of the pheeal is only heard when the jackal is alarmed. Twice have I heard it: once when



[Photo. by W. S. Berridge, F.Z.S.]

BLACK-BACKED JACKAL.

a leopard sprang at a jackal which was helping itself to the remains of a goat slain by the former, and once when a tiger put in a sudden appearance under similar circumstances; and again when General Blake was watching over a cow killed by a tiger, with a Mr. Barry, a tiger trotted up and interfered with the proceedings of the jackal, which went off with its tail between its legs, uttering the cry of the pheeal.

F. T. POLLOK.

JAGUAR (*Felis onca*).—The Jaguar inhabits certain portions of the American continent extending from the Southern States of North America through Mexico, Central America, and Brazil to Paraguay. It is a fierce, untamable beast, nearly resembling a leopard in general character. The spots or rosettes are, however, larger, and more symmetrically arranged, each group consisting of a ring of well-defined spots enclosing a space somewhat darker in tint than the ground-colour, and generally showing smaller spots, although the latter also occur in certain Asiatic leopards.

Black jaguars exist, but are not very common; those that live in gloomy forests are far darker than those found in more open country.

The skull differs from that of other large cats in the presence of a well-marked tubercle near the middle of the inner side of the socket of the eye. The total average length of a jaguar is from $6\frac{1}{2}$ to $7\frac{1}{2}$ feet, of which the tail occupies about 2 feet 2 inches.

The jaguar is a noisy animal, roaring by night, especially before bad weather. Like other cats, it delights to sharpen its claws on the bark of certain trees. It rears itself up and, pressing the breast against the trunk, claws at the bark on either side. A common method of ascertaining if a jaguar is in the neighbourhood is to examine the trunks of the trees. Tigers and leopards have a similar habit in India. The object of the practice is to tear off the ragged ends of the claws, and not, as is generally supposed, to sharpen them.

The favourite haunt of the tiger in the hot season is a cool sheltered portion of a jhil, and the jaguar not only delights in water, but actually, when hard pressed for food, will wade into streams and with a dexterous pat scoop out passing fish on to the bank and devour them at leisure. It is to a great extent arboreal in habit, and an adept at climbing, and by means of its claws alone will run up the smooth bark of a tree devoid of branches to a considerable height. When hunted it takes refuge in trees, and this habit is well known to hunters, who pursue it with dogs and shoot it when in the branches.

Some jaguars from Mexico have the small spots, which ordinarily constitute the rings, at a considerable distance from one another, so that complete rings or rosettes of spots only occasionally appear.

The jaguar is found even in the Pampas, a place totally unfitted to its ordinary habits; but it may have been tempted by the abundance of mammalian prey to colonise that cold, treeless, and comparatively barren tract.

The cry of the jaguar cannot be described as a roar; it is loud, deep, and hoarse, and



JAGUAR.

has been compared to a series of repetitions of the syllables "pu, pu, pu." From two to four cubs are produced at a birth towards the end of the year.

The mode of hunting jaguars differs in accordance with the seasons and the locality. During floods, especially along the banks of the Parana River, the hunters proceed in boats, searching for the claw-marks, and so soon as they discover a forest which these cats inhabit, some watch, whilst others of the party make a circuit with a few dogs. When the animal is started, they follow in hot pursuit. If the ground is sufficiently open, they use the lasso; otherwise, they drive it up a tree and surround it with the dogs, whilst the hunters with the guns

that follow the jaguar; they annoy it by their constant yelping, and often give warning to its prey.

The cause of the enmity between the puma and the jaguar is a mystery. Where the capibara is plentiful, there is ample food for both; but, odd to say, though the puma is an animal considerably inferior in size and power, it is the persistent persecutor of the jaguar, following it about, and when an opportunity occurs, springing upon its back and inflicting terrible wounds with teeth and claws.



JAGUAR.

come up. Often the similarity of the markings between the foliage of the forest and the jaguar puzzles the huntsman, as the animal crouches along a branch heavily fringed with leaves. Even if shot dead, it often remains pendent for a considerable time. Now and then, if only slightly wounded, and at no great height, it drops down on to the men and dogs and dies fighting. When encountered in open and ridable ground, it has no chance, and is easily lassoed, and if once, so hunted, it manages to escape, its dread of the lasso is so great that it has been known to prefer being suffocated by fire rather than face its enemies armed with that instrument.

It is generally affirmed that tigers are accompanied by jackals, and doubtless those unclean beasts follow for the sake of any offal they may collect off the remains of their larder, but they remain silent until their feast begins. Not so with the foxes

As there are man-eaters among leopards and tigers in India, so there are man-eating jaguars; and when the country is flooded, and their food, in the choice of which they are not particular, difficult to procure, they often prey upon men, preferring the black to the European. They often kill more than they can eat, and out of a party of thirteen men which accompanied a friend of mine, three were killed in one night.

It is also curious that while the flesh of the puma is considered a delicacy, that of the jaguar is never eaten, except under dire necessity. The flesh of the puma tastes like veal, while that of the jaguar is rank to a degree, yet both animals are carnivorous.

The following extracts from a journal in my possession may be interesting:—

“Later on in the day, as we passed a heavy bush, a jaguar sprang upon one of the men’s horses, embracing him and fastening his jaws in the poor brute’s wind-

pipe; down came horse and man. I sprang down and was going to the man's assistance when our headman galloped past as hard as his horse could go, and, shortening his bolas as he swept by, gave the jaguar a blow that could be heard a long way off. I thought the brute's head must have been broken in two, but after it had struggled for a moment on its back, and was just clear of the horse, the same man returned at full speed, cast the bolas with unerring aim, and had the jaguar entangled and helpless, and, in a few minutes, more than half strangled. Two men dismounting soon put an end to the struggling animal. The horse was dead in a few minutes, for his jugular had been severed. The jaguar measured 7 feet 3 inches in length. On another occasion I had just entered the forest from the river bank, and had not penetrated far when I saw a jaguar stalking some animal, so I stepped behind a tree and waited events. As the brute passed through some longish grass, I saw some animal spring on to the jaguar's back; over they rolled, and in a moment the assailant had cleared itself and disappeared. The jaguar rose foaming from the mouth, and, as nothing further was to be expected, I put a bullet through his head. My people hearing the shot hurried up, and, on examination, we found the beast's back badly scored and bitten. The men said at once that it had been done by a puma; but, though I searched everywhere, I failed to find it."

In parts of South America the Indians kill jaguars by means of a blowpipe and poisoned arrows. The poison used is the ourali. They kill even the tapir with these tiny darts. The poison does not affect the meat; the portion round the wound is cut off and the rest eaten. Death takes place in a quarter of an hour, but within a few minutes the animal becomes drowsy, seems to be in no pain, and expires quietly and gradually.

F. T. POLLOK.

JOCKEY CLUB.—[See RACING.]

KANGAROOS.—When English attention was first directed to the peculiar flora and fauna of Australasia, their novelty was the chief occasion for comment and curiosity. They were interesting because they were unlike anything in our previous experience. But science soon learnt to dwell on the real antiquity of much that seemed so new. Observers and inquirers were not long, for instance, in noting that the cycad known as *Zamia spiralis*, so frequent in the

neighbourhood of Sydney, is akin to some of the earliest forms of fossil vegetation. The Port Jackson shark (*Cestracion phillipi*), with its curious rasp-like rollers for crushing shell-fish, also claims kindred with some of the fossil fishes of the Jurassic period.

The kangaroos of Australia, forming the genus *Macropus* of naturalists, are so closely mixed up with modern pastoral interest that I hold myself at liberty to speak of them only from the squatter's point of view. They are, in fact, formidable enemies to the vast wool-gathering interest which maintains, I think, something like forty sheep for every man, woman, and child in Australia. They have, moreover, been greatly favoured by local changes. The "black-fellows" who were clever in killing them, have become a pitiful remnant, unless in the extreme North West. The warrigals or dingoes—the half-wild dogs which helped to keep them as well as the sheep down—have become very scarce, baits seasoned with strychnine having disagreed with them. Perhaps, too, station life has become more purely a matter of business, and is less seasoned with sport than in the



KANGAROO.

days when my long circuits were enlivened by an occasional halt at some hospitable mansion, where the kangaroo dogs were an institution. Quite apart from the question

of keeping down the kangaroo population, the *chasse* is of peculiar interest and well worth witnessing. In the case of the great grey kangaroo (*Macropus giganteus*) and its immediate relatives, the speed attained by the quarry in a regular succession of bounds, which forms the mode of progress, is sometimes extraordinary, particularly when the lighter limbed female is the fugitive. I have known an "old man" cover 10 feet at each bound for full half a mile, but his pace was not particularly fast. Moreover, the male is somewhat pugnacious, and often, instead of doing his best to escape, is meditating reprisals on the dogs. If he reach a convenient water-hole, especially one affording a tree against which he can lean his back, they may catch a Tartar. Short as are his fore legs, his lug is formidable, and if his position be such that he can keep his balance, while lifting up a muscular hind leg, his strong horny toe cuts like a knife, and goes near to bisect his enemy. The same thing often happens when an eager young dog catches and throws his game, but receives a kick which is almost equal to that of a horse. The flying doe, however, as the adult female is termed, has no purpose of showing fight, but only tries to escape by speed. I have never had the opportunity of measuring her successive bounds on sand, but believe they average full 20 feet. I remember pressing one very hard over level ground, when well mounted and with a brace of excellent dogs. I counted on a kill, but just when she seemed to be out-paced, she took from her pouch a "joey," about the size of a large cat, and tossed it away from her line of flight. From that moment she left dogs and horses behind, went straight away, and doubtless, after tiring out her pursuers, duly retrieved her bantling. Indeed, the number of kangaroos coursed and fairly run down cannot be great. A few are shot, a very light charge sufficing if they are hit along the course of the spine; but dogs and guns are merely palliatives to a great evil.

When we consider that there are something like a hundred and ten millions of sheep in British Australia, an army of rival graziers must be dealt with wholesale. And this is done by a grand drive, generally, I think, in the direction of Port Fairy, lying to the extreme south of Victoria at the end of an extensive range of valuable sheep pasture. A long double line of fencing opening to a great width inland, but converging as it nears the coast, is constructed to receive the driven kangaroos.

The principle is the same as that adopted by the Indian Government in the construction of the keddas for the capture of wild



[Photo, by W. S. Berridge, F. S.
KANGAROO.

elephants. A sort of funnel of fencing is, in fact, erected, wide open inland, but narrowing gradually as it approaches the spot fixed for the final capture. It will, however, be seen from the immense numbers of the game to be enclosed, that the scale of this kangaroo-trap is vastly greater than anything that can be required in the taking of elephants. There is another difference very distressing, if we must not say cruel, to the driven kangaroos. The enclosure in which the elephants are finally secured is made strong, that there may be no risk of the captives breaking out, and a mighty barrier of timber is opposed to their attempts at escape, backed by a show of fire wherever a sally appears to be threatened, and by the trained manœuvres of tame elephants, who mingle with the wild ones, and subdue them one by one, by the joint action of force and guile. But the enclosure into which the kangaroos find themselves finally driven is formed, not to capture and subdue, but simply to destroy them. They descend in their thousands, down a treacherous slope into a deep hollow, from which, as from the lion's den in the fable, there are no backward tracks. They are there simply to be killed. One would like to know what provision, if any, is made for utilising the carcases of the victims. Kangaroo skins make excellent leather, and I remember "in my hot youth when George the Fourth was king," fancying that boots made of it were elegant as

well as comfortable. Then there is a great amount of human food available where kangaroos are slaughtered by the thousands. The tails alone, sometimes very heavy, supply a soup equal to ox-tail, and ought to sell well among tinned meats. A half-grown kangaroo also supplies excellent cutlets taken lengthwise from the large muscle on each side of the spine, quite equal to those sliced from blue hares after shooting a Highland hill.

There are three large species of kangaroo on the continent of Australia specially worthy of the sportsman's notice. First there is the great red forester (*M. rufus*), which I have seen standing erect not less than 7 feet high. Next in size comes the aforesaid grey or "blue" species, more particular about its pasture, and thus a worse enemy to the sheep owner. Thirdly there is the wallaroo (*M. autolopinus*), a dark, rough-haired inhabitant of craggy hills, heavier in the arms and shoulders than the other two, and rather like a bear when seen erect against a background of rock. I have toiled to get a specimen, but was baffled by the "old men." Once I succeeded in shooting a doe, but only recognised her species on the authority of a naturalist. She was a smooth, blue creature, weighing only 12 or 13 lb. In fact, throughout the kangaroo tribe the male has an immense superiority in bulk and strength, though decidedly inferior in speed, even allowing for the combative temper which often inclines him to imprudent resistance. I knew a case near Wagga Wagga where a heavy "old man" turned on two mounted pursuers, and leapt up successively behind their saddles, tearing their coats nearly off their backs, and utterly scaring their horses.

Every species of kangaroo, when grazing, may be said to walk with his powerful tail, which he bends under him as a lever to lift his hind quarters gently forward. But when it comes to a question of jumping, he keeps it carefully off the ground, flourishing it aloft with an effect which in a large mob looks highly comical. I believe, however, that this flourish has some useful result in steering his course. Be that as it may, he is most careful when hunted to keep it high and dry; if once dragged, it shortens his stride and cripples his pace. It was my ill fortune to be travelling on duty during the heaviest rain I ever encountered even in Australia. A fall of fifteen inches within three days had laid the grand level expanse of the "Old Man Plain" under water, and I saw before me a drive of more than twenty miles through

an inland sea. On the last slope of the higher pasture-land which I was reluctantly leaving I saw a huge male kangaroo in utterly helpless plight, crawling rather than hopping, while his tail dragged piteously behind a vessel to check her speed. A lady's lap-dog could have overtaken him. Thus, when I claim for the kangaroo—and especially for the stately red forester—a wonderful "turn of speed," I do so "with proviso and exception" on several grounds. He—or rather she, for the ladies are the fast sex—must not be called on to cross a wet meadow, or to scale a rocky slope, or even to travel at high speed across a level thickly strewn with loose stones, where the troop make much clatter but small way. From one hindrance or another, kangaroos seldom run "their level best," and can rarely stand long before dogs of the right breed, wire-haired, hard-footed, long in the stride, and in all essentials identical with the noble Scotch deer-hound. The smaller kangaroos and wallabies form a still more numerous tribe, of which even the names cannot be recorded here, these being followed by the yet smaller kangaroo rats, with several species.

H. R. FRANCIS.

KANGAROO-SHOOTING.—The kangaroos and wallabies, which, if not perhaps the typical, are at any rate the most widely known of the great marsupial sub-class to which they belong, are, however interesting they may be to the student of the mammalia, familiar to the colonial chiefly as a plague to the stock-owner. The larger kinds, those in particular which frequent the plains, move so rapidly from place to place, and are so insatiable in their appetite, that they quickly over-run whole districts, their scissor-like front teeth cropping the herbage so close as to leave no meal for anything superior to a rat.

To cope with this evil, farmers in those parts organise drives on a generous scale, in which the flying beasts are done to death in their thousands, either hunted with kangaroo-dogs in the more sporting fashion described above by Mr. Francis, or driven in dense masses into enclosed stockades and there butchered with anything that comes handy—shot so long as the cartridges hold out, clubbed with the butt afterwards.

The visitor, however, who seeks in the course of his colonial experiences as much sport as can be got out of the pursuit of such timorous, inoffensive game, will elect some less wholesale means of finding his

kangaroos, and, if he does not object to penetrating as far as the back blocks—the vast flocks of other days have long since deserted the neighbourhood of the populous centres—there is the choice of stalking most of the larger kinds in the plains (no easy performance for anyone out of condition), or seeking the red kangaroo and smaller wallabies among the rocky boulders, that, to the wonderment of the new arrival from England, strew the landscape in every direction.

Rock Kangaroos and Wallabies.—The shooting of these animals among the rocks is a simple matter, and may be dismissed in few words. It is scarcely necessary for purposes of the present article to enumerate the dozen or more species found in such rocky country, beasts ranging in weight from 200 lb. down to 20, their measurement from nose to root of tail varying between 60 inches and 30. What chiefly concerns those who would find them is the marvellous protective colouring with which, without exception, they are endowed. So closely indeed do the tints of many harmonise with their surroundings that I have more than once, when stalking one herd upwind, all but trodden on the outposts of another squatting motionless among the rocks. This similarity of colouring to the background is not perhaps shared, to quite

beasts are plentiful, no great difficulty in bagging them; and it is amusing to take note of the strange miscellany of firearms that are taken out for the purpose. Shooting is a far more rough and ready affair in the Australian colonies than at home, subject to no restrictions and hedged by few etiquettes. Neither gun- nor game-licences trammel the sportsman, or neither were at any rate enforced when I was there, in consequence of which only those were prevented from shooting who could not muster some kind of gun. These were few indeed, and the members of the party usually turned up with as many kinds of weapon, from the newly imported '303 Magazine rifle (the weapon I would above all counsel for the work) down to the duck-gun and even the "converted rifle," a formidable article which I believe the Government sold for a few shillings, and which threw a good foot to the right or left when fired. Owing largely, no doubt, to the antiquity of some of the battery, as well as the carelessness with which they were handled, there was invariably a competition for last place in the file.

The procedure depended upon whether we were shooting over dogs—by far the most enjoyable, as also the most productive, style. Without dogs, everyone crept away on his own beat and blazed at everything that came within range. If there were dogs, however, each gun was allotted a position near some high rock, and the hounds were sent on ahead by a circuitous route and then drove the frightened beasts back past the guns. It depended on the nature of the country whether the rifle or shot-gun had the better time of it: in the general way, the chances lay with the former, but when, as occasionally happened, the rocks were very close together, the shot-gun got a hurried shot at a flying wallaby close at hand and a few pellets brought it down. No beasts of the same size—few, indeed, irrespective of size—take less killing, and a blow from the handle of a stockwhip is sufficient to kill a doe of the largest dimensions. As the wallabies are keen-sighted, all that is necessary, when waiting for the dogs to drive them past, is to remain motionless and in readiness to take a pot-shot at the shortest notice, for these creatures are as silent in their movements as they are swift, and only at the moment of their coming within close range are the rhythmic beats of their hind feet audible.

Stalking in the Plains.—Without the aid of the cover of rocks, and, as often as not, in the full glare of a sun that can, even in mid-winter, make itself felt to the European



WALLABY.

the same degree, by the kangaroos of the plains, though there is at first some little difficulty in descrying them at even a short range on the sand, no unusual framing in that parched continent.

With the cover afforded by the rocks, there should be, at any rate where the

at an early hour of the morning, the pursuit of the kangaroo, in which there is no danger to attract and but the very poorest skin by way of trophy, is not likely to recommend itself except for the one trial necessary to all new experiences. A moment's contem-

plary in the immediate neighbourhood of rivers, beside which, for example, when their steamer is taking in cargo, those who visit the colonies have most of their opportunities for kangaroo shooting.

The islands that a prolonged drought unites to the mainland are excellent kangaroo ground, but, on the other hand, their soil is most treacherous, and, as already mentioned, a single tropical rain of only a few hours' duration is sufficient to convert a plain as hard as iron to a quicksand capable of swallowing, or at any rate detaining, both the kangaroos and their pursuers.

The shrieking ibis, which are flushed at every dozen yards, especially in the late summer, are also a great nuisance to the stalker, though, mercifully, the kangaroo sometimes pays no attention to their warning cries.

The '303 Magazine rifle has already been recommended for the work, and it would, in fact, be hard to beat.

On the natural history of the kangaroos and wallabies, of unequalled interest among mammals to the biologist, it is unnecessary to dwell in any detail. The earlier fables in respect of their reproduction have long since been refuted; and we now know that the young one is born a month or two after Christmas, after a very short period of gestation (and without any pre-natal connection with the dam) in a perfectly helpless condition; is conveyed by its mother to her pouch immediately after birth, and is there nourished, the milk being pumped down its throat, until able to shift for itself, which it does in the course of ten months.

The kangaroos, indeed the marsupials generally, are the most primitive type of mammals, Nature's earlier attempts at fashioning the now predominant class. They cannot, however, be said to furnish sport of a very high order, although those who visit the colonies will scarcely miss an opportunity of experiencing the novelty of shooting at quadrupeds that leap more after the fashion of frogs than of any other living creature.

F. G. AFLALO.

KNUR AND SPEIL.—[See LOCAL SPORTS.]

KUDU.—The **Kudu** (*Strepsiceros kudu*), though surpassed in size of body by the eland, may fairly be regarded as the handsomest of all the antelope family. Its great spiral horns form a trophy of which



WALLABY.

plation of the larger kangaroos, even in captivity or the museum, will suffice to convince the visitor that such creatures, tall, with large eyes and sensitive ears to acquaint them with all that is going on around, without any means of defence (except the powerful hind nail) to encourage indifference to danger, and with a rapid and eccentric mode of progression by leaps that in the larger species cover twenty feet at the least, are by no means the easiest to stalk, nor does the aforementioned resemblance of their colouring to that of the sandy earth make matters simpler. Even when there is a strong wind blowing, there are often unforeseen complications, not the least among which is the sudden change in its direction so characteristic of at all events the North Queensland plains, where I have followed these beasts by the hour, or maybe the abrupt appearance of a morass, the result of an overnight downpour, that either causes a sudden disturbance and the consequent warning of the kangaroo, or a *détour* of such a nature as to make it impossible to keep the game to windward. As they take the scent as quickly as most browsing animals, a moment is fatal, and in a few leaps they once more put between them and their pursuers as much ground as was gained in the previous half hour's stalk.

It is necessary to lay stress on the importance of a thorough acquaintance with the ground to be gone over, more particu-

every hunter, who has the chance, desires to become possessed. So keenly is this noble animal pursued, that there is, in the writer's opinion, danger of its ultimate extinction unless the great Powers who are colonising Africa are mindful of their obligations in this respect, and provide sanctuaries for its preservation, or make stringent rules against the excessive slaughter of the bulls by sportsmen. The females very rarely carry horns, and therefore, except for meat, do not offer the same temptation as the males. The northern limit of the kudu is the river Atbara in the Italian Abyssinian colony. From this point southward it is found throughout East Africa as far as the Transvaal, wherever the nature of the ground is suited to its habits. It almost invariably frequents dense thorny scrub, and it generally affects the sides of ravines, or steep and lofty mountains, so long as these are not barren. Living in such jungle, the kudu relies chiefly on the acuteness of its hearing for protection. Consequently it is endowed with immense ears, comparable to those of the elk in the northern hemisphere, which is an animal similarly protected, and for the same reason. In searching for the kudu it is these large leaf-like ears, fully ten inches in length, which first catch the eye, and which, together with the handsome fringe of hair on the throat, helped to give it its air of distinction and intelligence. The colour of the skin resembles that of the pale dun breed of Jersey cows, but white vertical stripes on its flanks, and crescent marks between the eyes, in imitation of the lines and patches of light in a thicket, help to break up and render invisible the expanse of grey hide. The animal, which is as large as a fourteen-hand horse, would otherwise be too readily discovered by its enemies.

From Ward's Horn Measurements it would appear that the longest heads have all been brought from south of the Equator. The horns gradually diminish in size as more northern latitudes are reached. The writer obtained a bull in Somaliland whose horns taped fifty-two inches following the curve, and forty inches from tip to tip, and these measurements have rarely been exceeded in that country, whereas many heads of sixty inches have been obtained in South Africa, and one of sixty-three inches. On the other hand, no recorded heads from Abyssinia reach fifty inches.

Unlike many of the African antelopes, the kudu is a tolerably frequent drinker, and, except in the rainy season, when his food contains abundance of moisture,

must be sought within a few miles of water.

It aims at escaping by concealment, rather than by fleetness of foot, and it is said that a kudu desiring to escape observation will lie almost as close as a rabbit when it knows itself to be well hidden, and will allow a man to pass within a few yards without moving. The alarm note is a "bark," somewhat like that emitted by a red hind,



KUDU.

but louder. It is generally the females who give the warning signal. A thin-skinned and tender animal, the kudu does not, like the oryx, carry away much lead. The first bull I saw offered a long running shot, and I consequently hit him far back. Finding the blood spoor, I insisted, much to my Somali's disgust, on giving him time, always the most prudent course in such circumstances. When we did ultimately take up the line, we found that he had not travelled more than 150 yards after receiving the shot. Almost any other antelope with such a wound would have got clean away. My largest bull, above referred to, fell instantly to a single .256 Mannlicher bullet. But I must not be understood to recommend that weapon, admirable as it is in the open, for an animal which may require to be tracked in thicket and over strong ground. In

such a case, where the blood track is all important, a rifle which will inflict a larger wound should be used.

No description in words can convey an impression of this animal, its habits and surroundings, so vivid as Mr. Millais' admirable drawings in *A Breath from the Feldt*. To those who have the good fortune to possess that work, I commend the careful study of the pictures in pen and pencil of that close observer and good sportsman. I may sum up his impressions of the kudu in his own words. "The sable will stand and stare at you, quite close sometimes, as much as to say, 'Who the devil are you?' The kudu will creep under the shadow of a bush and hope to goodness gracious you won't notice him, but the roan will say 'good morning' as soon as he sees you." Mr. Selous' works should also be consulted on the habits of this animal and the conditions for hunting it successfully.

For kudu hunting in Somaliland, the chapter in Captain Swayne's work dealing with this subject is full of suggestive observation. He remarks that the hunter who secures one good head in a fortnight's hard work in the mountains may consider himself fortunate. It must be remembered that the best kudu ground in that country, namely the Golis range and Gadabursi Mountains, is now comprised within the limits of the area reserved for the use of the Aden garrison. Some information with regard to the animal in Abyssinia may be derived from Baker's *Nile Tributaries*, and *Life with the Hamran Arabs*, by Myers.

THE LESSER KUDU (*Strepsiceros imberbis*) is almost identical in appearance with the greater animal of the same name, but is on a far smaller scale, its size being less than that of a fallow deer. Its dorsal and flank stripes are more sharply defined, and it has two crescent marks on the throat, which are wanting in the typical species. The white, semi-transparent points of the dark horns are another special characteristic. This antelope has the most refined and high-bred air of all African animals, and a well-mounted head is a trophy to be coveted for its intrinsic beauty.

This kudu has a much more restricted habitat than its larger congener. Unlike the latter, in my experience, it avoids steep ground, and is to be found in valleys or flat plains at the base of mountains, but always in thick covert. Wherever the low, pointed aloe abounds, or the green fleshy-leaved *ergin*, there may the *Godir*, to quote the native name, be sought, with good hope of success, always provided that it is not

too far removed from water. The hunter who desires success must be gifted with great keenness of vision and quickness of hand and eye, for it is generally a question of a snapshot or none at all. The writer, who is deficient in the above qualities, allowed several good males to escape him, either by failing to see them in time, or by egregious bad shooting, before he annexed a fair specimen. This kudu seems to have the instinct to stand or feed always in the shadow. Once aroused, there is one flashing bound over a bush, his white tail waving a parting flick, and, unless this brief opportunity be seized, he is not likely to afford another chance. Notwithstanding the difficulties attending the chase of this watchful beast, large numbers are killed by Midgans, or low caste Somalis, who use only a bow and poisoned arrows, but are expert and patient hunters.

E. N. BUXTON.

LACROSSE.—History.—Catlin and other early travellers amongst the North American Indians found the game a firmly established institution, and the seriousness with which preparations for a great game between tribe and tribe would be undertaken, and the fierceness with which the play was conducted, were second only to actual warfare. The preliminaries of a contest commenced at midnight with processions of the two tribes from their entrenchments to the spot in the prairie selected for the encounter. The players, several hundreds in number, then assembled at their respective goals, and solemnly danced round them to the accompaniment of much shouting and yelling and beating of sticks. These performances were repeated at every half-hour throughout the night, and although they cannot be recommended as ideal methods of preparation for a lengthy and strenuous game, it is nevertheless recorded that the contesting braves were keenly eager for the fray when the appointed hour arrived for commencing the match. This was usually fixed for nine o'clock in the morning, and the conflict continued until sundown—presumably with intervals. It does not follow, however, that there were any prearranged stoppages, and none are mentioned, for with such huge sides and each man running and fighting for himself, quite regardless of opponents, and with no other thought than of somehow getting the ball (a tightly bound bundle of raw hide) to the other end of the one or two miles' course, the compulsory defections were necessarily plentiful, and frequently they were permanent. In the course of the

description of one of the games he witnessed, Catlin says: "In these desperate struggles for the ball (when hundreds are running together and leaping, actually over each other's heads, and darting between their adversaries' legs, tripping and throwing, and foiling each other in every possible manner, and every voice raised to the highest key in shrill yelps and barks) there are rapid successions of feats and of incidents that astonish and amuse far beyond the conception of anyone who has not had the good luck to witness them."

The womenfolk were the prime instigators of these meetings. Large stakes in kind (goods and chattels, knives, dresses, blankets, dogs, and horses and guns) were risked upon the issue of the game, and it was they who settled all such details, and who were privileged to urge their husbands on to increased exertions by the application of switches to their backs. The game was generally known as "ball game," but this title was not universal among the tribes, and the implements used for carrying and throwing the ball also varied materially. These implements usually consisted of a stick with a circular or loop-shaped head, having a diameter of from three to four inches, and this portion, the only part strung with gut, was thus just large enough to hold the ball. The Choctaw tribe, and possibly others, carried two such sticks, and the ball being secured in one of them, the other was clapped over it like a lid before the holder proceeded to charge his opponents.

As the Indians became tame and sought the shelter of the towns, they brought their game with them. The white populations were not slow to take to "ball-game," and they evolved from it lacrosse as it is known to-day. They also fashioned an implement that closely resembles the modern crosse, though the expert will notify many differences in detail between the old and the new.

It was during the period when the white player began to compete with some success against Indian teams that England was first invaded, but, although spasmodic attempts to establish the game here followed the visits of 1876, it was not until 1883 that real success in this direction was achieved. Its progress in this country has been remarkably slow; frequently it has halted, and at others it has apparently dwindled to nothingness, but visits from the Toronto Club in 1888 and in 1902 quite revived the waning interest, and to-day it is possible to say that English lacrosse is really flourishing. This is so not only because its clubs and its adherents are steadily increasing in number in the North, the South, and the West, but

also because the quality of game that is being played has reached such a high standard. English players believe that they are able to contend successfully with the amateurs of America, Australia, South Africa, or Canada, and are keen to have their faith put to the test.

Amid the many fluctuations that the game has experienced in England—the coming and the going of temporarily successful clubs, such as Liverpool and Clapton, its



A CHOCTAW INDIAN BALL GAME (LACROSSE) PLAYER.

[This drawing is taken from Catlin's *North American Indians*, kindly lent by C. M. Stuart, Esq., M.A., Headmaster of St. Dunstan's College.]

rising and ultimate disappearance in districts such as Sheffield and Brighton, and in countries such as Scotland and Ireland—there stands out prominently the remarkable constancy of Cambridge University and the Leys School. This loyalty is the more extraordinary because it has lived without the incentive of opposition and support from the quarters to which such teams customarily look. Cambridge played lacrosse for twenty years before Oxford appeared in the field, and so far the game has not been taken up by any school of equal standing to The Leys. The chief credit for the adoption of the game at those places is due to Mr. C. J. Isard (the bursar of The Leys), and he was one of the founders of the C.U.L.C., and one of the members of its first team.

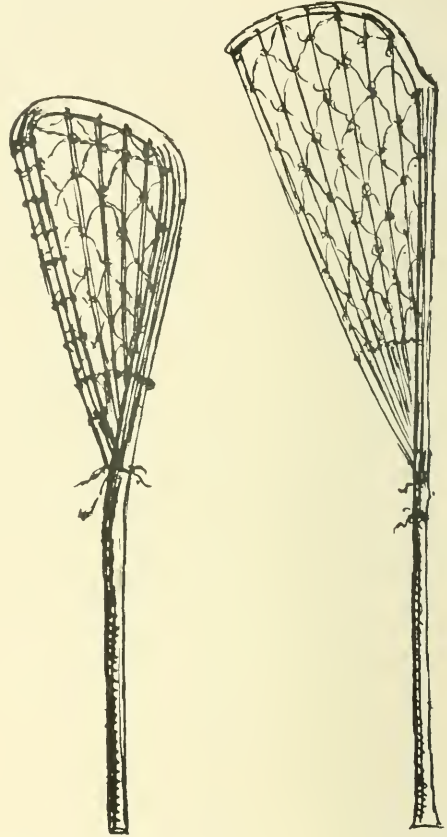
Although the main features of the game, the chief of them being the absence of "off side," remain just as heretofore, its char-

acter has altered considerably within the last ten years. Originally it was made up of long throws, long runs, frequent dodges, and quite deliberate shooting, together with a considerable amount of slow and "lobby" passing; the long throw has disappeared for all practical purposes, speedy running remains an important essential, but the runners' steps are better directed, dodging is less general and is not so pronounced in action, hard shooting is still indulged in with success, but the majority of goals scored nowadays are due to the skilful finishing "flip" put to an equally skilful bout of rapid passing. All these are qualities that have improved the game very considerably, but they are as nothing when compared with the advance that has been made by the general body of players in the ability with which they catch and pass the ball. The passing is much swifter; it is no longer a soft and somewhat aimless lob, but is directed promptly and speedily to its intended recipient; and the catching is much surer. It used to be urged that lacrosse could never become popular because of the difficulties encountered by the novice in the elementary stages—the throwing, the catching, and the picking up; but this view is quite changed, and although it is more necessary than ever for a player to be master of his crosse, just as it is imperative for a cricketer to have complete control of his bat, the implement now placed in his hands renders accomplishment a comparatively easy matter if practice is not ignored.

Implements of the Game.—These consist of the lacrosse (La Croix, the Bishop's Crozier, is the origin of the name), the ball, and the goals.

The Lacrosse.—In England this title is abbreviated to Crosse. It is the implement with which the ball is played, and its legal definitions and limitations are set out in the first of the laws of the game attached hereto. It is made of wood (hickory for choice), and is strung with strips of hide and clock gut; the former is used for the length strings, and the latter for the meshing. In some cases the entire stringing is of hide, and then the meshing is of finer quality than the length strings. What is known as the leading string forms the left-hand side of the crosse (see illustrations below). A piece of hide is drawn through a hole at the extreme left-hand top corner (known as the tip), and then through another hole at the point where the handle commences (the collar). These two strands are united by three or four uprights of twisted hide, and a third length string is introduced between them. In this way a

stiff wall of hide is erected to assist in keeping the ball on the crosse, which is sometimes higher than the wooden backbone on the other side. Players will be well advised to undo these leading strings where they are tied up at the collar after every game, and especially after the crosse has been used in wet and muddy weather. By this means



As used by Canadian and English pioneers in 1876 and later.

The present day.

THE CROSSE.

alone can the correct shape of the wood be maintained, for the tendency of the comparatively slender bend at the top right-hand corner to give way—frequently to splinter and break—is much assisted by the continuous strain of the tightened leading strings. It is also necessary to clean both the stick and the gutting, and to anoint the whole of the crosse with salad oil, or any waterproof concoction that will not stiffen the gutting. The object of this dressing is to give both the durability and the suppleness that are so necessary.

The altered construction of the crosse of late years is responsible for the advance the game has made, and a little consideration of the two models given will explain this. The backbone in the 1876 shape was no

more than half an inch high, the meshing was quite taut, and the leading string barely half an inch above the flat meshing. With such an implement in his hands, the would-be player found it extremely difficult to retain possession of the ball, and he succeeded in doing so only by the exercise of the most accurate balance, which could not be obtained without weeks of patient practice. The shape of crosses varied in after years and more nearly approached those in use to-day; the backbone and the leader both grew in height—occasionally to absurd proportions—but the rigid adherence to the law that compelled the meshing to be quite taut was always a bugbear to the novice. It was not until 1902, when the Toronto Club paid its third visit, that English players discovered that the taut meshing had been abolished in Canada, and, in readily adopting the innovation, they wondered how it was that they had put up with the old, quite unnecessary, and quite absurd conditions for so long. The modern crosse is a beautifully balanced instrument, and its handling rapidly becomes a fascinating pleasure.

The Ball.—See Law 2. It should be added that a white ball has been tried, but has hitherto proved to be too hard and too heavy. A suitable white ball would be welcomed by both players and spectators, particularly when mud and murkiness prevail.

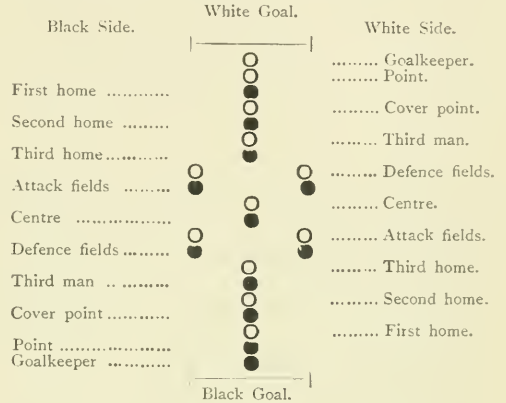
The Goals.—These are fully described in Law 3.

Originally they consisted solely of two posts six feet high and six feet apart, with a line drawn between them, and one method of scoring was to pass the ball through from behind, to have it knocked back again whilst the unfortunate goalkeeper had his crosse checked by a third opponent. The arrival of goal nets was contemporary with that of a goal crease, which has frequently varied in its size, and more particularly in the conditions surrounding its uses. Only this season fresh regulations have been framed (see Law 10, Section 13).

The Players.—Twelve players constitute a team, and they are divided roughly into *attacks* and *defences*. They are distributed over the field in the manner shown in the next column, the respective sides being designated black and white for the purposes of the diagram.

It will be observed that the players extend the entire length of the field—from goalkeeper to first home—and that each one, except the goalkeeper, is paired off with a member of the opposing team. This arrangement is possible because off side is non-existent. Point, cover point, and third

man are essentially defence players, and they take up positions in the order named and as marked in the diagram. It will be seen that they come into immediate contact with the opposing first, second, and third home respectively. These homes are the leading attacks, and, as it is their office to score goals, it follows that the duties of the



three defences named are of a most responsible nature. The defence fields devote their attentions to the opposing attack fields, whose main duty is to keep their homes well "fed" with the ball. The position of these eight fielders, in conjunction with that of the centres, is one of much greater freedom than that of the other players. The centres are situated in the middle of the field, and their duties are to start the games and to assist both their attacks and their defences as the course of the play demands.

Goalkeeper.—Every position on the field is necessarily one of responsibilities, although they may vary in degree. Of the goalkeeper it may safely be said that his office is one of responsibility only. Beyond possessing the necessary attributes of every goalkeeper—a quick eye, a steady nerve, and a plucky spirit—he must be a player of great ability, with a complete mastery of his crosse, and a full knowledge of every move in the game. He should take up a position a foot or so in advance of the goal line, holding his crosse in an easy, upright position, with his body slightly bent. He is thus able to follow the swift movements of the ball in front of him, and to be more readily prepared for its reception when it is sent into goal with rapid unexpectedness. The most difficult shots to deal with are those that touch the ground two or three feet in front and bounce shoulder high, and if the crosse is held downwards it is not possible to raise it in time to touch them, whilst from the slightly upright position every other angle is easily reached. A

really fine goalkeeper will catch four out of the six balls he stops, be they never so hard and sudden. In the first of the illustrations he is seen in the act of taking a shot; in the second he has stopped the ball, and it has spun up in the air—evidently a very hot shot—and he is running to catch it on the fall.

But a goalkeeper's duties are by no means confined to the stopping and clearing of shots, for when he has possession of the ball his discretion in parting with it should lead to an attack on the opposite goal. Therefore he must be very quick to grasp the

keeper. The stay-at-home custodian is far preferable to the one that leaves his citadel to chase every ball that comes near.

Point.—Inasmuch that he takes up a position directly in front of goal point is the equivalent of a full back at football. He is a defence player pure and simple, and his primary duty is to check the scoring tendencies of the opposing first home. The chief natural requisite of a point is restraint. It is necessary for him to be ever anticipating the movements of his immediate opponent (the first home), and to be ready to intercept the many surrounding passes,



GOALKEEPER (i).

disposition of his men in the field, and must possess the ability to get the ball to the best-placed player with promptitude and true direction. Further, when a shot at his goal misses its objective, he has either to field the ball, which possibly entails a struggle, or be prepared to assist his defence (point or cover point, as a rule), who does this work. He must leave his goal and go well to the side or behind it, and, being the odd man, his reception of the ball enables him to relieve his defence and to place his side in possession. It is a movement that must be carried out with great care in order that his absence from his post may not place his side in jeopardy, but, on the other hand, its successful completion will speedily start a raid at the other end of the field. It is thus truly claimed that an attacking movement may frequently commence with goal-

but he must repress all desire to act in these matters unless he is certain of his ability to be successful, for even the smallest mistake or misjudgment on his part will doubtless have fatal results. Point's position is regulated to some extent by the opposing first home, as he must make sure of always being between that player and his own goal, but the area of his operations is distinctly limited. Apart from his attentions to his check, point is continually required to play a general defensive game—indeed, his responsibilities in this respect are seldom absent. Consequently, wherever his check may be, he must always remain in his position in front of his goal. The first home will often wander afar off in the hope of enticing point away from his position, and thereby weakening the defensive powers of his (point's) team, but point must steadily

refuse to be drawn, and his distance from his goal should seldom exceed three or four yards. When goalkeeper stops the ball he will at once work to the side of his goal with it, and it is an important part of point's duty to support him by deploying behind goal in order that he can be passed to if goalkeeper is checked. This manœuvre not only gives relief to the defending side, but, if successfully carried out, it begins at once an attack by those who were defending a few moments before. When point is possessor of the ball in front of goal, he needs the support of every player on his side in

picking up the shortest of passes from him, and by retrieving his failures.

Cover Point.—This player's position is also in front of goal, but a few yards further out than that of point. His main duty is directed to second home, but, as in the case of point, he must not be led far afield, however alluring the home he is checking may appear to be. His range should generally not exceed ten yards from goal, although he is permitted occasional bursts to midfield when the way is clear for him; cover point even scores a goal now and again, but such performances are not indicative of good



GOALKEEPER (ii).

the field, and that support is given by the promptness with which they free themselves from their checkers, and so become ready to receive the pass. Point, on his part, will look for this support, and will take advantage of it by giving the ball to the man whom he considers most likely to secure it with benefit to his side. He should seldom have to throw the ball beyond his centre, and generally it will go to third man or the defence fielders, but he must be capable of a longer cast if the situation demands one. The occasions when point will be hard pressed will be innumerable, and at such times he will look for the aid of his cover point. Indeed, the positions of these two players are interchangeable, and their belief in the practice of cohesion of the most complete character must be absolute; one must ever be ready at hand to help the other by

play, and it would be unwise to encourage them. Despite his close proximity to point and his frequent assumption of that player's work, cover point is accorded a larger share of freedom; he is less restricted by the confines of his position, but this access of liberty is only comparative, for, whilst he is responsible for any damage the opposing second home may inflict, he must continually be on the look out for raids by "free" opponents from whatever quarter they come. He is practically the last line of active defence, and a free opponent inside his position (*i.e.*, between him and the goal) means a morally certain score against his side. It is a position that requires a very experienced, cool head, for he will often be called upon to check two opponents at once, and he needs great foresight to help him to reduce the compass of their combined activity,

and great skill in intercepting their passes. He must also take a ready hand in the relief work spoken of in connection with goalkeeper and point, and always be prompt to drop back into goal if necessary. Both point and cover point must be masters of the body check (see footnote to Law X., Section 1), a check that is generally, but imperfectly, understood. It should precede all attempts to secure the ball from an adversary who is running in; it is the only sure corrective to a dodgy player's actions.

Third Man.—This player concludes the defence straight, viz., goalkeeper, point, cover point, and third man, in a straight line in front of one another from goal. His position is farther out than cover point by ten yards, and his area of purely defensive work should not exceed more than thirty— at the most forty—yards from goal. His objective is the opposing third home, and when that player is within the danger zone of twenty yards from goal he must be checked as closely as point and cover point are watching the two inside homes. At thirty yards third home may be given a certain amount of latitude, and beyond that distance it is not desirable for third man to follow him—except with a very warry eye. The reason for this partial freedom is that the main defences rely upon third man to cut off those opponents who are continually so pressing in their endeavours to encroach upon the danger zone. He needs to be a very quick-footed player with the power to make up his mind instantly, for he will have many complex situations to encounter, and his actions in those matters strike the keynote to his comrades behind him. Although his recognised check is third home, he must take on the incomer likely to cause most danger to the citadel. As those of his men behind him look to him for defensive support, so those in front rely upon him to bring them the ball, and his duty directly he has it is to make off down the centre of the field. Sometimes a prompt pass to a free man is the best game, but, as a rule, it is advisable for him to run on until he is met by an opponent, and then to transfer the ball to the comrade whom that opponent has had to leave. This "forcing" is an important part of third man's game, but it is necessary to caution him that he can never be transformed into even a temporary attack player, however strong his desire to "have a go" at goal may be. He must return to his position directly he has parted with the ball. Beyond these details third man must always fall back when serious danger threatens, and he will frequently be called upon to play as closely defensive a game as point and cover.

The illustration on the opposite page is a very interesting study in defensive play, and is an incident in the North v. South match of 1910. The South goal is being attacked. The Northern first home (No. 1) has just passed the ball to his second home (No. 2), who is dashing across the front almost on the crease ready to flick it in upon arrival. The Southern point (3) has intercepted the pass, and is hurling the ball away over his shoulder. Cover point (4), with uplifted crosse, is ready to bash down the second home's crosse if the ball reaches it, and goalkeeper (5), with his eye on the ball, is also prepared to attack second home. The Southern third man (6) is awaiting events with the alert knowledge that he is between his goal and his immediate opponent, third home (7).

Defence Fielders.—The positions of these players is to the right and left of the defence straight, and as little, out of that straight as their checks, the attack fielders, will permit them to be. Provided that he keeps a vigilant eye upon the movements of his check, the defence fielder is allowed many liberties. It is a position in which the opportunist who is able to control himself will shine. He must be a speedy runner with an alert brain, and he must, before all else, be imbued with unselfishness. The fielder can make or mar a team by the amount of combined effort he practises. If he finds himself a faster man than his check, he will give him plenty of latitude, and will himself play a forceful game; if the contrary, then he must be content to play a more or less defensive game fairly well back on the straight. Next to checking his attack fielder, his object is to get the ball among his own homes, and it will generally be advisable for him to do this by an indirect route, and by strategy that will provide a free home. He will, as a rule, use his legs to start with, and will run upfield, as near the centre as possible, making for an opponent. This opponent will either have to take him or let him go by. If he is checked, he at once passes the ball to his opponent thus left free, but if he is allowed to go by (an unusual event), he must go on to meet his next opponent. Having given the ball to an attack player, the defence field returns at once to his position, for, in the event of the failure of the attacking movement he has initiated, he is instantly required on the defensive. He will not always be able to break through in the manner suggested—he will not be able even to start the run that commenced the operation—and the course of the ball to his attacks will frequently be more uncertain. Manœuvrings, struggles,

and bouts of short passing make up the rest of a fielder's life, and his work with his centre, his own attack field, his third man

place. Although a defence field can never become an attack proper, he is, nevertheless, attacking whenever he has the ball, and



NORTH v. SOUTH (for explanation see opposite page).

(who occasionally breaks through), is incessant and varied. In his difficulties he must always remember the opposite wing, for nothing can at once be more relieving

there are occasions, once or twice in the course of a season, when he scores goals. In some of his several incursions he will find a free path left for him, and he must



KEY TO THE ABOVE.

to his own side and more disconcerting to the defence of the other than to have the game that has been concentrated in one spot suddenly transferred to a quite opposite

take every advantage of such an opportunity. It is to the defence fielder that the main defences chiefly look for support. There must be no hesitation about this work,

and when he realises that goal, or point, or cover, as the case may be, has possession of the ball, the fielder must instantly deploy; whether he does this by breaking away up-field, or to the side, or to the centre, or by falling back, is settled by the existing situa-

tion must be exceedingly prompt, his valour must be tempered by sound discretion, that resourcefulness must be his leading characteristic, and that he must not know what it means to feel tired. Speed is a necessary adjunct of a centre.



MAKING A RUSH.

tion at the moment, but get free he must. A few feet is generally enough freedom, and he must expect the ball to come to him very swiftly. Sometimes the direction will be indifferent, as the defence man may be in a harassed state, and he must then be prompt to resume his strictly defensive play if necessary. This relieving work is of the greatest possible value to a side, for without it success is not possible.

Centre.—Versatility is the hall mark of a centre. His title defines his position, for it is at the marked centre of the field that he is placed. His first duty is to start the games by means of a face. (The face is explained in a footnote to Law IV.) His other work is multifarious, and if it is governed to some extent by the movements and the ability of his opposing centre, as, of course, it is, nevertheless, it is quite as necessary for him to compel the other centre to be watchful also. A purely defensive centre is, consequently, not as useful to his side as he should be. A really good centre must be not only everywhere, but everything, and at once. He must assist his defences when danger threatens, he must support his attacks when an aggressive movement is in progress, he must intercept the man breaking away from the opposing defence, he must be the free man in the field to form the great connecting link between his defences and his attacks, and he must be an adept at scoring goals when opportunity arises. In the midst of these things he must always be conscious of the whereabouts of the other centre. It is scarcely necessary to add that, whilst every action

Attack Fields.—An attack fielder's position is by no means a fixed one, and he will select it and vary it with two objects in view. His first desire will be to give the fullest assistance he can to his three homes, and the other to make himself as troublesome as possible to his checker—the opposing defence field. He is an attack, but not necessarily a goal scorer. The homes are primarily the goal scorers, and the attack fields are the feeders and supporters of them. The nearer an attack field plays to the straight, the more dangerous he becomes, but he must be very careful to avoid trespassing on the home ground, as any bunching near goal is detrimental to his, the attacking, side. He must choose his ground so well and shift it so frequently and discreetly that he is always accomplishing both the objects with which he sets out. A widely placed attack wing will generally be left more or less alone by his checker, and he will consequently have a good deal of the ball, but he will do very little good with it. It is very necessary that he should make himself an anxiety not only to his immediate checker, but to the other defences also. An attack field will frequently score goals in a legitimate manner, although, as has been said, it is a secondary part of his work. His doing so will either be the result of rapid tactical work with his homes, or because those players are so closely shadowed by their checkers that although the ball is in the danger zone, they cannot secure it. When the main defences are checking closely, it becomes imperative for the homes to deepen their positions, as the defences

then have to choose between their positions and their men. If they keep to their positions, then attack field feeds the homes; if they follow the homes, attack field at once seizes the opportunity and rushes in to score. That is the general principle upon which attack field must work; it is subject to every imaginable exception and variation, and needs all possible adroitness and promptness in decision and in action to carry it out. Attack field must be prepared to defend at the shortest notice. When an attacking movement by his side has failed, his first duty is to get back into the field, and, when there, to look out for the opponent, who will assuredly break away from defence. This is a vastly important part of the work of centre, the attack fields, and third home, and they must never allow an opponent to go down the field unattended, whether he has the ball or not.

Third Home.—Except that his position is in the direct straight, this player's duties are similar to those of the attack fields. He is more frequently in the danger zone than they are, and his work is with the first and second homes to a greater extent. Like them, however, he must be careful not to bunch in, although he will again and again have to take up the positions vacated by the other homes. It is a position requiring much agility and the most complete unselfishness. His work must be continuous, and he must ever be on the move in order that his checker and the other defences may know not the meaning of rest. His great desire should be to get between his checker and the goal, and when he has accomplished this, a certain score should accrue. He feeds his homes incessantly, works in with them for the return pass, and, as this passing must be short, sharp, and hard, it follows that his alertness and his crosse work must be of the keenest and the best. He has to adapt himself to the movements of his attack fields, for if the fortunes of the game appear to demand their presence in the danger zone, he must withdraw in order to avoid a bunching. His defensive obligations have been spoken of under the heading of attack fields. They are imperative.

First and Second Homes.—These players are known as the inside homes, and as they are the recognised scoring members of a team, it is necessary for them to be lightning shots. Their crosse handling must be perfect. It is required of them not only that their crosse should be so much a part of themselves that catching in any and every position is easy, but that when necessary the ball should leave the crosse again instantly either as a shot or a pass.

The taking and the shooting should be a simultaneous action, and the shooting and the passing must be accurate to an inch.



AN ANXIOUS MOMENT IN FRONT OF GOAL.

Many a game has been won and lost by that inch. The freedom of an inside home has often to be measured by inches, whilst its duration counts a moment only, so that once the ball is within the danger zone (and it is always so when third home's position has been passed), the play has to be accurate and smart to the finest degree. The two positions are continuously interchangeable. Their purpose is to elude their respective checkers (point and cover point), in order that a score may be possible. One of them, first home as a rule, will keep in fairly close proximity to the goal crease prepared to whip in any shot or pass that may reach him. His presence there is a continued anxiety to the goalkeeper. The other, the second home, will wander a little in the hope of attracting cover point away from his position, and thus leave the goal open for any incomer with the ball. The inside homes must never be stationary. Their movement must be incessant—to one side of the goal, then to the other; out a little bit, in a little bit; always a continual "worry" to their checkers. The intricacies of home work would require a volume to describe them; they are so numerous and so varied. If a home player has an idiosyncrasy, as most of them have, it is wise of him to practise it with infrequency. A more or less stereotyped game on the part of a home is the easiest of all to check. Adroitness and activity of mind and body and crosse work are compulsory qualities for an inside home.

LAW OF LACROSSE.

I.—THE CROSSE.

The crosse may be of any length. In its widest part it shall not exceed one foot. A string must be brought through a hole at the side of the tip of the turn, to prevent the point of the stick catching an opponent's crosse. A leading string



MID-FIELD PLAY.

Note the restraint of the defence man (in white); he is keeping pace with his opponent, and waiting for him to come round in order to meet him.

resting on the top of the stick may be used. No string may be fastened so as to form a pocket. The length-strings shall be woven to within two inches of their termination, so that the ball cannot catch in the meshes. No metal of any kind shall be allowed upon the crosse. Splices must be made either with string or gut.

II.—THE BALL.

The ball shall be of indiarubber sponge, not less than $7\frac{3}{4}$ in. nor more than 8 in. in circumference. It shall weigh not less than $4\frac{1}{2}$ oz., nor more than 5 oz.

III.—THE GOALS.

Sec. 1.—Each goal shall consist of two square poles six feet apart and six feet high out of the ground, joined above by a rigid top cross bar. Netting of not more than one and one half inch mesh shall be attached to the posts and cross bar, and to a point on the ground six feet behind the centre of the goal, and shall be firmly pegged to the ground. The goals shall be placed not less than 100, nor more than 130 yards apart. The posts may be supported by back stays within the netting. A line shall be drawn from post to post.

Sec. 2.—The goal crease shall be a marked line enclosing a square space 12 feet by 12 feet, laid out 6 feet in front and behind, and 3 feet to either side of the goal posts.

IV.—THE BOUNDARIES.

The boundaries of the field of play shall be agreed upon by the Captains before the com-

mencement of the match. Should the ball be thrown out of bounds, the Referee shall, unless the Captains have arranged otherwise, call "Stand," and the ball shall then be "faced" by the two nearest players not less than four yards within the bounds at the point where the ball went out.

Stand.—The ball is dead when the Referee calls "Stand," and no player shall move, unless otherwise directed by the Referee, until the Referee calls "Play." N.B.—The blowing of a whistle may be substituted for the above calls, or such calls as may be hereinafter mentioned.

Face.—The ball shall be placed upon the ground between the backs of crosses of two opponents, and the defending player's crosse shall be between the ball and the goal he is defending. They shall not move till "Play" has been called by the Referee, but must then immediately draw their crosses apart (towards them), before removing them from the ground. The Referee shall not allow players to be within five yards of those "facing," and no face shall take place within ten yards of the centre of goal, when it is caused by the action of an attacking party.

V.—THE TEAMS.

Sec. 1.—*Number.*—Twelve players shall constitute a full team.

Sec. 2.—Should an accident or injury occur to any player which, in the opinion of the Referee, incapacitates him from playing, the opposing side must withdraw one of their players as long as the player remains so incapacitated. If the "accident" or "injury" is due to a foul, and the Referee suspend the offending player, a player other than the suspended one shall be withdrawn.

VI.—THE CAPTAINS.

Sec. 1.—A Captain shall be appointed from each team previous to the commencement of a match.

Sec. 2.—They alone shall be the representatives of their respective teams in all disputes.

Sec. 3.—They shall "toss" for choice of goals previous to the commencement of the match.

Sec. 4.—Nothing in this law shall prevent any player notifying the Referee of any infringement of these Laws.

VII.—THE REFEREE.

Sec. 1.—The authority of the Referee shall commence from the time of the appointment and shall continue until the end of the match, and his duties shall be to enforce these Laws and Regulations. His decisions shall be final and without appeal.

Sec. 2.—Before the match he shall see that the Umpires have been properly appointed, and that the goals, balls, &c., are in accordance with the Laws.

Sec. 3.—He shall draw up the players in lines immediately before the match begins, and see that the regulations respecting the crosses and spiked shoes are adhered to.

Sec. 4.—If he observe any infringement of the rules, or when a "foul" claimed by any player has been allowed, or in any case of injury or accident (Law V., Sec. 2), the Referee is empowered to immediately call "Stand." If the ball enter goal after "Stand" has been called by the Referee, it shall not count; or if a foul be claimed by one side and their opponents score a goal immediately afterwards, the Referee shall first give a decision on the foul, which, if allowed, shall nullify the goal. If the

foul, however, be claimed by the scoring party, whether the claim be allowed or not, a goal scored before the Referee has called "Stand" shall count.

Sec. 5.—He shall ascertain the length of time each period shall last, directly from both Captains, and shall call "Time" at the expiration of such

by anyone not actually a player, it shall not count.

Sec. 6.—In the event of a goal-post being knocked down during a match, and the ball put through what would be the goal if the posts were standing, it shall count a goal for the attacking side.



A GOOD GENERAL VIEW OF THE GAME.

time together with any time lost due to the suspension of the game by reason of accidents.

Sec. 6.—He shall arbitrate in all disputes between the Captains.

Sec. 7.—The infliction of penalties shall be at his discretion without appeal, and any side rejecting his decision or refusing to continue the match shall be declared the losers.

VIII.—THE UMPIRES.

Sec. 1.—There must be only one Umpire at each goal. They shall stand behind the posts and shall not change ends during a match. No person shall be allowed to speak to them, or in any way to distract their attention.

Sec. 2.—In the event of a goal being claimed, the Umpire at the goal shall at once decide whether or not the ball has fairly passed through the goal space, his decision being simply "Goal" or "No Goal" without comment of any kind. His decision shall be final.

Sec. 3.—If the Umpire observe any infringement of Law X., Sec. 13, he shall notify the Referee in such manner as the latter shall direct. The decision of each Umpire at his own goal shall be final in this matter.

IX.—THE GAME.

Sec. 1.—The playing time shall be two periods of forty-five minutes each, or such other time as shall be agreed to by the Captains.

Sec. 2.—Ends shall be changed at "half time" when either side may claim not more than ten minutes' rest, which shall not be counted as playing time.

Sec. 3.—Each game shall be started by the centres facing at the centre mark, and when both sides are ready the Referee shall call "Play."

Sec. 4.—The side scoring the greatest number of goals shall be the winners. A goal shall be scored by the ball passing between the goal posts and under the cross bar from in front, and not being propelled by the foot or leg of an attacking player.

Sec. 5.—Should the ball be put through either goal-space by one of the players defending it, by whatsoever means, it shall be counted a goal to the opposite side. Should it be put through

Sec. 7.—When goal has been claimed and allowed, the ball shall be again faced at the centre mark.

Sec. 8.—The goalkeeper, while defending goal within the goal-crease, although not allowed to catch or throw with his hand, may put the ball away with his hand, or block it in any manner with his crosse or body.

Sec. 9.—Any player is at liberty to propel the ball with his foot or leg.

Sec. 10.—A match is ended by the Referee calling "Time."

Sec. 11.—When the ball lodges in a place inaccessible to the crease, or about the clothing of a player, or becomes ensnared in the goal netting, the Referee shall call "Stand," and the player must at once remove it with the hand and "face" with his nearest opponent.

Sec. 12.—Should the ball catch in the netting, the crosse must be struck on the ground and the ball dislodged immediately, otherwise the Referee shall call "Stand," and the ball shall be "faced" where the player caught it.

Sec. 13.—Should the game be stopped by any cause not mentioned in these Laws, the ball shall be "faced" in each place and by such players as the Referee shall direct.

X.—FOULS.

A PLAYER SHALL NOT—

1.—Deliberately charge or shoulder an opponent. This does not prevent the use of the "body check," nor pushing the opponent with the shoulder in ground scuffles.

Charging or Shouldering implies motion and unnecessary force, and is forbidden.

Body Check is the placing of the body in the way of an approaching opponent so that the latter is simply impeded.

2.—Hold or trip an opponent, or push with the hand or crosse.

Holding shall mean clutching with the hand or arm, or detaining an opponent between the two arms and the crosse, or placing the crosse against him so as to impede his movements.

Tripping is the use of the legs, feet, or crosse to throw an opponent.

3.—Wrestle with the legs entwined so as to throw an opponent.

4.—Use the "square" or "crosse" check, which consists of one player "charging into" another with both hands on the crosse, so as to make the stick meet the body of his opponent.

5.—Deliberately or recklessly strike, or threaten to do so under any circumstance.

Striking means the giving a blow with the crosse or otherwise.

6.—Grasp an opponent's crosse with the hands, hold it with his arms or between his legs or under his feet, or kick it.

7.—Interfere in any way with another player who is in pursuit of an opponent.

8.—Deliberately kneel, crouch low, lie down, or drop in front of an opponent, or wilfully fall and cover the ball with his body.

9.—Wilfully touch the ball with his hands, save as in Law X., Secs. 8 and 11.

10.—Throw his crosse under any circumstances.

11.—Move from his position when "Stand" has been called.

12.—If he drop his crosse, touch the ball, or impede an opponent in any way until he recovers it.

13.—When attacking, go within the goal crease, nor shall he check the goalkeeper while the latter is within the bounds of the goal crease. Any goal made while an attacking player is within the goal crease, or is interfering with the goalkeeper while the latter is within the crease, shall be deemed to be a foul, and shall not be counted. This shall not prevent a player from running through or across a corner of the goal crease to field a wide ball.

14.—Wear spiked shoes (indiarubber spikes excepted), nor shall the soles be of a material other than indiarubber.

15.—Persistently throw the ball out of bounds, or in any way try to delay the play of the game.

16.—The goalkeeper, while within the crease, shall not hold the ball on his crosse longer than is necessary to step out of the crease.

17.—Claiming a foul on trivial grounds when, in the opinion of the Referee, no foul was intended, cannot be tolerated. The Referee shall first caution the player so offending, and, if persisted in, the offence shall be deemed to be a foul.

XI.—PENALTIES.

The penalty or penalties for a foul shall be at the discretion of the Referee:—

1.—"Free position";

Free Position.—The players shall "stand," except the goalkeeper, who may resume his place, and the player to whom the Referee awards the "free position"; and no player may be nearer than five yards to the last-mentioned. If anyone be within the prescribed distance, he must retire to the satisfaction of the Referee. The player awarded the "free position" shall then take the ball on his crosse in front of him, and at the word "Play" from the Referee the game shall proceed. The "free position" shall never be within ten yards of the goal, and the Referee may, under extreme circumstances, order any player or players, including the goalkeeper, from between such "free position" and goal. The ten yards shall be measured in a straight line from the centre of the goal through the place where the foul occurred.

2.—Suspension of the player for the remainder of the match, or for such lesser period as the Referee shall forthwith decide.

3.—"Face" at any point he may direct not nearer than two yards from the goal crease, in the event of a breach of Law X., Sec. 16.

LAWN TENNIS.—Without a doubt, lawn tennis is at the present time the most popular and cosmopolitan game in the world. It is played practically everywhere and under the same rules, and the number of players is increasing at a wonderful rate.

Lawn tennis was introduced into England in 1873 by Major Wingfield. In its rudimentary form it was called Sphairistike, and was a very different game from lawn tennis as it is now played.

In 1875 Mr. J. M. Heathcote introduced the covered ball. Previous to this, plain india-rubber balls had been used. It was found that the covered ball was much superior to the uncovered, and they have been universally used ever since.

The marking of the court and the height of the net have undergone many changes. The present size and shape of the courts seem to be satisfactory, but it is strange that they have "taken shape" without any definite design. It is possible that the development of modern lawn-tennis, particularly the American service, may in time lead to further alterations in the dimensions of the courts.

The object of the game is to prevent one's opponent or opponents from returning the ball across the net. Originally, the game was played mainly from the back of the court or the base-line, and the ball was allowed to bound before it was hit. In 1879, however, the volleyer came into notice. Those who could not volley well found themselves at a great disadvantage. There was a long correspondence in *The Field*, and other papers as to the propriety or otherwise of volleying. It sounds supremely ridiculous in these days, but at that time it was considered by many rank bad form to hit the ball before it struck the ground. There is, however, almost as absurd an idea prevalent to-day about a beautiful and useful shot in the game. When a man is waiting on the base-line watching his opponent serving, it takes an extremely well-judged and delicate drop service to beat him, yet most players, if beaten on it, as they often are on a first-class drop, either in service or play, get very angry. This is stupid, but so was the prejudice against volleying.

The All-England Club for many years occupied in lawn tennis practically the same position as did the M.C.C. in cricket, but it is on record that they did not use their authority with the same tact and discretion as was shown by those in power at Lord's. In 1880 there was much discontent amongst players, and in 1884 an attempt was made



LAWN TENNIS.

to start a Lawn Tennis Association. The players, however, did not support the movement very well, and the All-England executive promised to mend their ways, so nothing came of this agitation. In 1888, however, the Lawn Tennis Association was formed.

The year 1881 was a very important one in the life of lawn tennis. There was an enormous demand for rackets, balls, and other implements of the game. The play of the famous Renshaws revolutionised the game. Their volleying and smashing made lawn tennis much more interesting than it was when the game consisted of interminable rests of semi-lob.

The introduction of volleying led in 1882 to an alteration in the height of the net. It was lowered to 3 ft. 6 in. at the post, and from that time the measurements and arrangements of the courts and nets have remained practically unaltered.

Very great interest was taken in the game in 1883. The controversy "Volleyer v. Baseline" was carried on to the courts, and the famous H. F. Lawford proved that a combination of the two styles is best—and that holds good even to the present day. Mr. Lawford did not believe in persistent rushing to the net, but he never neglected a fair chance to go in on a good-length ball, and in the main those are the soundest of sound tactics to-day.

How to Mark Out a Court.—The usual method of marking out a court is to take the line where the net is intended to cross it, and to peg off diagonals of a certain length to the end of the side lines. This

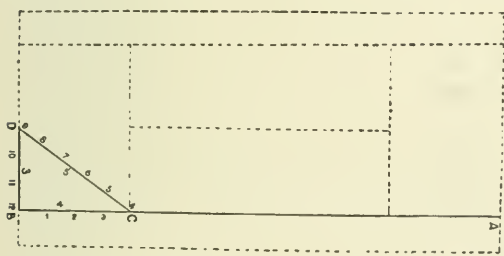


FIG. 1.

(Triangle not to scale.)

method is open to objection, for generally the side-line runs parallel with something, be it a hedge, a walk, or a wall, and a very few inches off the right angle, which the net should make with such hedge, walk, or wall, will throw the side-line seriously out.

The best way is to get the long line—the side-line—down first. Fig. 1 will show

the method. Lay down the side-line AB 78 ft. in length wherever you intend to have it. You must now remember that the figures 3, 4, and 5, or any multiple of them, will give you a right angle, so you put in a peg at C 4 ft. from B . Your assistant stands at B , and you measure out 12 ft. of tape—that is, the sum of 3, 4, and 5—and give him both ends of the tape to hold at B . You then pass the tape round C , noting that the 4 ft. is correct. Then you take another peg and put it in at the corner, D , of the triangle made by stretching the tape tight at the 9-ft. mark. This gives you your right angle, and the rest is simple, for it means merely drawing parallel lines, as every line in a lawn tennis court is parallel with either a side-line or a base-line. The measurements of the courts are given in the diagrams in the rules.

Implements of the Game.—It is useless to endeavour to enjoy lawn tennis with inferior implements. It will be best for anyone who has not some friend who knows the game to get a reputable firm like F. H. Ayres, Ltd., to attend to his requirements. He can then rely on getting everything sound and of the best, particularly the balls, which contribute so materially to the enjoyment or otherwise of the game. Stop-netting or some other means of stopping the ball is required all round the court.

The Racket.—The choice of a racket is a very important matter. For a man the racket should, generally speaking, weigh from 14 oz. to 14½ oz. For a lady it should be about an ounce lighter. Some ladies who are very strong in the wrist like a 14-oz. racket, but a heavy racket always has a tendency to make the player using it slow, particularly in volleying. Care must be taken not to get too weighty an implement. It was formerly usual to test the balance of a racket by resting it on the forefinger at the screw. This is in many cases a useless test. There is only one way to test the balance of a racket, and that is by swinging it. The racket should be tightly strung, but not so tightly as to make it "boardy." The handle should not be too large. A large handle stiffens the wrist. It should be of such a size that it fills the hand comfortably. On no account have anything to do with a racket which has double stringing in the centre. It is a silly and harmful fad, for it takes the "life" out of a racket from exactly the place where it is wanted most.

The Grip of the Racket.—This is a matter of the utmost importance to the beginner, and, indeed, to the game. It is mainly owing to the defective grip of the

racket that England has had to take a back seat in the world of lawn tennis, and will have to retain it until her methods are altered.

Dr. Dwight's advice as to taking the grip is as follows: "Lay the racket on a table



PLATE A.—AUTHOR'S FOREHAND GRIP.

with the smooth side up. Open the hand with the thumb nearly at right angles with the fingers, and then clasp the handle in such a way as to make its upper right edge (or what would be its right edge if it were cut square) fit into the hollow of the joint between the thumb and forefinger." Anyone following this advice will find that he has *his forearm and the handle of the racket in the same straight line*. This is the important point in all grips, as will be seen later. Plates A and B show clearly the

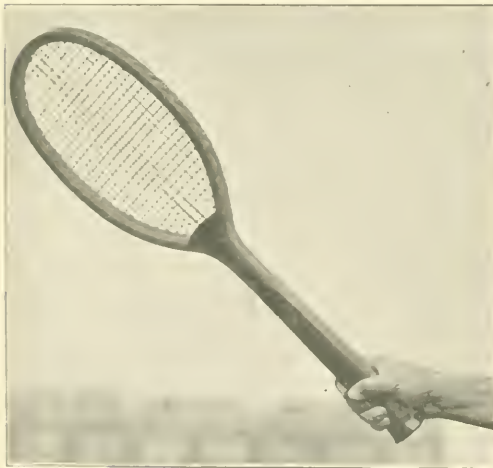


PLATE B.—GRIP FOR FOREHAND CUT SERVICE.

proper forehand grips with forearm and racket in line, so that all the strength is concentrated in one line. Plate C shows an English forehand grip with the angle between the arm and the racket handle. This is fatal to power and direction in any-

thing from wood-chopping to lawn tennis. Plates D, E, F show the grip of the back-hand strokes. It will be noticed that the flat of the top of the wrist is nearly parallel with



PLATE C.—THE LATE MR H. S. MAHONY'S FOREHAND GRIP.

the upper side of the racket handle. This is the secret of the great power in this back-hand grip; the force of the blow falls on the wrist in such a way that it cannot give to the shock. The result is that the ball goes away when well struck with tremendous speed. An example of an English back-hand hold is given in Plate G. Here again will be seen the angle that prevents accuracy or strength. The word English is used to distinguish the strokes used by players who have followed the methods of Messrs. R. F. and H. L. Doherty as dis-

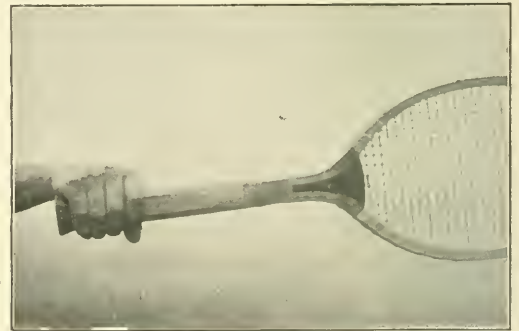


PLATE D.—AUTHOR'S BACKHAND GRIP, WITH THUMB ROUND HANDLE.

A fine firm grip, suitable for nearly every shot in the game, except forehand strokes below the shoulder. Front view.

tinguished from what are now known as Colonial or American methods, but which are, in truth, nothing but the genuine old English strokes that prevailed before the present hiatus, and that will ere long prevail again. With the ordinary unchanged English grip some of the finest strokes in

the game are absolutely cut out from a player's repertory. Even players like the Dohertys are unable to serve the American

air with a considerable amount of rotation on it.

These really should be taken separately, but in the limited space available they must be dealt with as concisely as possible.

Service.—We have, firstly, the service. The simplest service is a plain underhand service. This is practically useless, so it is generally varied by ladies with right to left cut. At the moment of impact the racket is cutting across the ball from right to left, and it thus imparts a lot of spin to the ball. This causes it on landing to keep very low to the earth, and to break away from left to right (from server's position.) When one has acquired this simple but most effective service, one may serve a deadly variant and drop-shot, by putting on pure back-spin or cross-spin. In this case the ball is hit much more underneath than in the ordinary underhand cut



PLATE E.—AUTHOR'S BACKHAND GRIP. THUMB STRAIGHT UP HANDLE.

services, the chief development of modern lawn tennis. It may also be noticed here that no first-class player in the world except the Dohertys uses their grip, the grip that is quite a wonderful instance of a personal hold that has proved useless for anyone else in first-class lawn tennis. Before the Doherty régime lawn tennis players held the leather of the racket in the hand. They will in course of time return to this grip. It is undoubtedly the best for the backhand stroke, and is probably so for the forehand as well.

The Strokes.—In lawn tennis there are two great and distinct classes of strokes. These are:—

(1) Those which are played with a plain-face racket, in other words, those in which the racket strikes the ball fairly and truly, and projects it on its course with a minimum of rotation.

(2) Those which are played by the

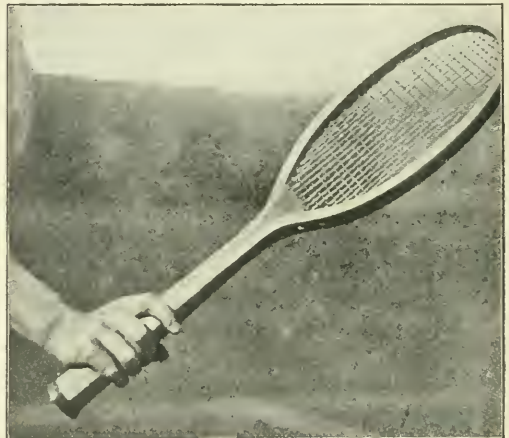


PLATE G.—THE LATE MR. H. S. MAHONY'S BACKHAND GRIP.

service. The spin of the ordinary underhand cut is much the same as that of a top. No cricketer would think of trying to use such a spin for break, but by cutting across *underneath* the ball pure off-break is imparted to it, and a wonderful amount of delicacy is lent to the touch. It is a most useful stroke to have, for it can be played as a drop-shot when close to the net, while the unfortunate person who charges madly up to save the point, only to be hopelessly beaten by the extraordinary break, has a most decided opinion as to its value.

The reverse of this service, the underhand back-hand cut service, is a useful variation. It is very rarely seen, but if one has only an underhand service, it should certainly be practised for the ordinary forehand cut service from right court to right

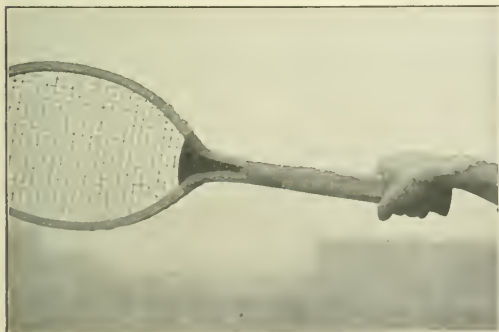


PLATE F.—AUTHOR'S BACKHAND GRIP, WITH THUMB ROUND HANDLE. REAR VIEW.

racket striking the ball while moving at an angle to the intended line of flight of the ball, and thus projecting it through the

court cannot be made to break out of the court. Its value is therefore somewhat discounted, because it is not possible to work



MRS. LAMBERT CHAMBERS SERVING.

one's opponent out of position so much as it is when serving into the backhand court.

There is an underhand lifting service, and an underhand American is possible, but they are both practically negligible at the present time.

We now have to deal with the service generally. In England the service is much too stereotyped, and there is far too much arm work and too little body work. The best general description of the service is that one should serve overhead, as one would throw a stone, but instead of throwing a stone one throws the head of the racket. It is not uncommon to see quite good players standing as stiff as ramrods and using their arms in the service like a railway semaphore. The best result can only be obtained by a proper transference of weight at the moment the stroke is being played.

There are two important points that should be impressed on players in regard to the service. The first is that one should not try to hit the ball down into the service

court. The ball should be hit *away from the server*, but there should be no conscious effort to make it come down. It may be trusted to do that, as two causes conspire to produce this result. The ball is already falling when it is struck. It has gathered a certain amount of downward momentum, and there is such a thing as gravitation. The most common error in serving is hitting the net. Start your serving with the determination to hit the base-line. The net will lose half its terrors. You will get near to the service court every time with quite a little practice, and you will have no "moral effect" to worry you in the shape of a net. Most players hit the ball too far in front of them. It follows that the face of the racket has turned over and gets on top of the ball a little. This ruins either deep smashing or serving.

In serving, one should stand behind the base-line with the weight on the right foot (for right-handed players). Throw the ball up until it is above the right ear and about nine inches or a foot beyond the reach



P. A. VAILE SERVING, AMERICAN SERVICE.

of the racket. Immediately it gets within reach of the *centre of your racket*, strike it with *the centre of the racket*, so that it

shoulder, but well away to the right, so that the player can hit it a severe downwardly glancing blow behind with the arm practically at full extent and both wrist and forearm very firm. This sends it away with



REVERSE AMERICAN SERVICE. P. A. VAILE. START.

a large amount of back-spin, which causes it to shoot and keep very low on striking the court. It is a much neglected and little understood service, and its value is not confined to hard courts. No liberties can be taken with it on grass, for it keeps below the net, while on a wet or sodden court it is deadly.

Without a doubt the chief modern development of the game is the American service. This service was for years a puzzle to English players. Messrs. Doherty explained in their book on the game that in this service "the ball travels on the racket itself, from the wood at one side right to the wood at the other side." In "Modern Lawn Tennis" I pointed out at the time, and it is well recognised now, that this was an error, for in every stroke in lawn tennis, be it a cut stroke or otherwise, there is only one place to hit the ball with—and that is the *centre of the racket*; and, as a matter of fact, the duration of contact and the length of the ball's *travel* on the face of the racket are very slight. The *run* of the ball on the racket after deducting the diameter of the compression barely exceeds an inch. This was proved by experiments with a racket marked with lampblack. New balls were

used, and exhaustive tests made. It is important for players fully to understand that this idea of extended contact is quite erroneous, as, especially in the forehand drive, it leads to many a smothered shot. The contact is *practically instantaneous*, and all the spin is got by the racket face "brushing" the ball rapidly as it passes obliquely across the intended line of flight; nor does the angle of the face of the racket to the intended line of flight alter much, *if at all*, during contact. There must be no attempt to obtain cut or top by turning the racket face quickly round or over a ball. That is a futile operation that has ruined many good strokes.

The ordinary American service is obtained by throwing the ball up well to the left, above the left ear, or if anything farther away. One stands more with the left side towards the net in this service than in the ordinary one. The body is bent backwards towards the left court, and the ball is struck a quick upwardly glancing blow that puts top-spin on the ball, but it is, if I may so qualify it, top-spin lying over at an angle of roughly 50°. The effect of this spin is to make the ball break *in the plane of its spin*. This is the only break



REVERSE AMERICAN SERVICE. P. A. VAILE. IMPACT.

known where the break is got irrespective of what is commonly known as *lateral spin*. The only spins *for break* that are known to cricketers, or *were known* to lawn tennis players before the explanation of the

American service, were *lateral spins*—that is, spin coming in from the side. The break of the American service does not depend in any way *on lateral spin*. It is obtained by a modification of top-spin. Cricketers have not yet grasped this solution of the modern googlie. If one were to take a wooden hoop and throw it through the air spinning violently at an angle of 50° , it would, on contact with the earth, bounce up *at an angle of 50°* . It strives to remain in the plane of its rotation. This is why a top spins, why a Brennan mono-rail carriage stands up; is, in short, the secret of the American services and many other apparently complex but really simple little puzzles.

A player who has grasped this all-important explanation will see that what he must aim at is to hit the ball an upwardly glancing blow, crossing it at the moment of impact at as nearly as possible 50° , although there is probably a margin here of 10° or 15° lower. If one finds, however, that one is getting too much "top" and too little "American," one must come across the ball more. This will alter the pure top, which will not give break, to American, which will. It is important to remember that, in learning the American service, the finish of the stroke is behind one. Finishing the cut in front makes it ordinary forehand cut. The natural finish of the American is behind the player serving it.

Now you must look at Fig. 3 and think that you are standing right behind the stand *A*, which is on your base-line, and that you are facing down the court towards the other base-line. If you hit the ball *B* which revolves on the axis *CD* with the stroke for the lifting drive, you will make it revolve from *E* to *F*—that is, with vertical forwardly rotating action. Consider the stand hinged at *A*. Push it down to an angle of 45° as shown by the dotted stand. The ball has still the rotation of the lift in a forehand drive, but is rotating at an angle of 45° to the ground instead of vertically. This accounts naturally for its peculiar bound which at first glance might seem unnatural. Now put your American *G* under the ball to show his service. Stop it revolving. He is going to hit upwards, and his racket will pass across the ball as shown by the curve *HI*. It is really an overhead lifting volley.

The reverse American service is very rare in England. I do not know a player of any eminence who has it. It is impossible for those who retain the English unchanged grip to produce this very fine service.

Anyone who can serve the ordinary reverse overhead service can very easily get the reverse American. The only difference is that, instead of being, as in the case of the reverse overhead service, cross spin or cut,



REVERSE AMERICAN SERVICE. P. A. VAILE. FINISH.

the spin of the reverse American is, as in the American ordinary service, overspin (*HI*, Fig. 3). This difference is obtained by throwing the ball more to the right and hitting it an upwardly glancing blow from right to left. It would be impossible to serve a reverse American if the ball were hit at the full extent of one's reach, but were it taken a foot, or even less, lower down it would be possible, for then the racket has the space in which to pass the ball *in its upward passage*.

There was a most foolish attempt to belittle the value of the American service when I first explained it to English players. Now, every tyro seems bent on hacking the cover off the ball. This is almost as stupid as trying to discount the importance of the stroke. Worse still, the less effective of the two services has been chosen because it is the only one possible with the present English hold.

The American service is no doubt very valuable, but, like any other good thing, it can be overdone. An important open single was played on a hard court recently. Both players used ordinary Americans. One used it well, and scored freely on it. The other did not do well. The American

service gets up very high, and his opponent "slaughtered" it. Yet this deluded player kept on giving away points. He had a good chop stroke that bothered his opponent very much. The play of his opponent was simply "screaming" for the chop service. Either this player did not know the service, or he was not intelligent enough to see what was wanted. He went on exhausting himself with ordinary Americans, which his opponent put out of sight by *driving them down*. This is the weakness of the American service. That great player, Mr.

a little more, must cover the ball more than is necessary with a plain ball that is not striving hard to rise.

The most important things to remember in connection with the service, which in many ways occupies far too important a position in the game, are:—

(1) Keep your eye on the ball until you have hit it.

(2) Hit it with the centre of your racket.

(3) Be transferring your weight from your right leg to your left as you hit the ball.

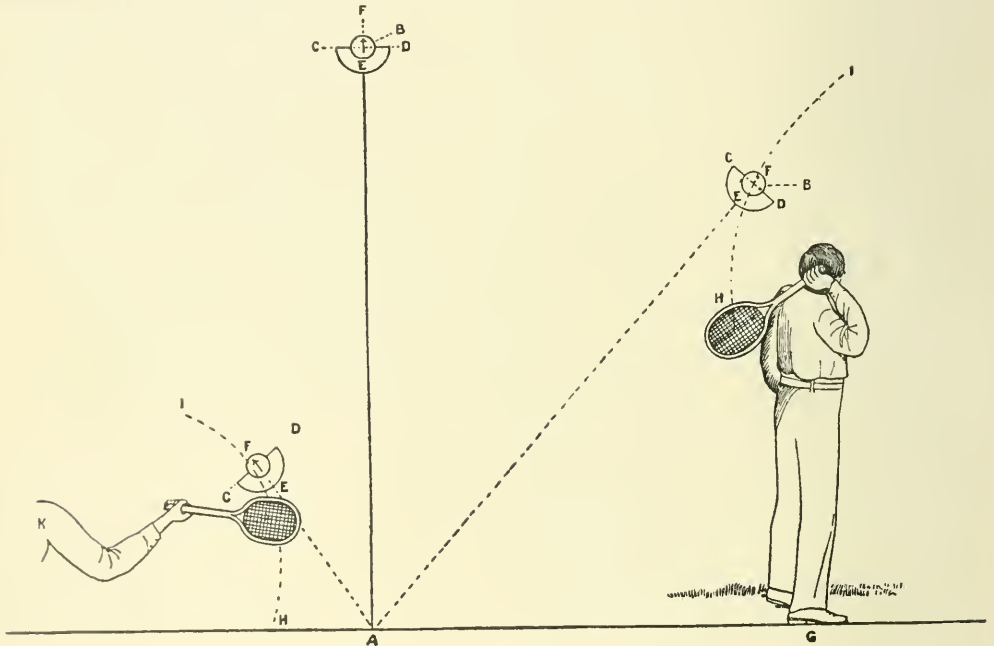


FIG. 3.—THE AMERICAN SERVICE.

S. H. Smith, showed this very conclusively when he simply blew Mr. Holcombe Ward off the centre court at Wimbledon in three sets. A service that keeps below the net cannot be slaughtered. One that rises above it can. Let those who are striving after one American service, and that the less effective, remember this.

The great secret in returning the American service, or any service with much top-spin on it, is to meet the ball with a very firm racket, and to cover it well. One's wrist must be as firm as a rock, for if there is the least slackness the work on the ball gets its chance, and all accuracy of the return is gone; also it stands to reason that immediately the ball touches the racket the top-spin makes it strive to rise, for it is simply running side, as we say at billiards, and the racket is the cushion. To counteract this tendency, one must turn the face of the racket over towards the net

(4) Follow through your stroke.

(5) Do not try to hit the ball down into the service court.

(6) Do not throw the ball up *in front of you*. To hit it effectively you should be *under it*, or in line with it.

The Forehand Stroke.—The forehand drive, as it is generally called, is the staple of the ground game. It is wonderful what men can do with only a forehand drive if it is good enough. It is therefore well worth anyone's while to pay some attention to the main points in connection with the forehand stroke. In playing the forehand stroke one should have one's left side towards the net, as shown in the diagram on position of feet (Fig. 4). Indeed, if anything, the left foot should point more towards the net. The finish of every stroke should carry one's weight *down* one's foot just as one's spring at the start of a sprint does. One's weight should never be thrown

across one's foot. The feet, in good footwork, are almost at right angles, with the front foot pointing almost down the line



H. L. DOHERTY SERVING.

the ball is intended to go. The footwork of most English players is very deficient. It is an important but much neglected part of the game.

The forehand drive is best played when the ball is at the top of its bound, but the beginner will find it better to let the ball

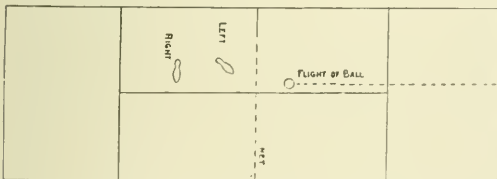


FIG. 4.—POSITION OF FEET FOR FOREHAND STROKE.

fall until it is quite near the ground before he plays it. He will gradually learn to attack it earlier until in time he is able to hit it *as it rises*. The drive off the rising ball will probably be the chief development of the game in the near future. With the advent of high-bounding services it is the natural reply. The main thing in this stroke is to see that the face of the racket is inclined forwardly to the net so as to cover

the upward tendency of the ball's flight, aided in many cases by the top-spin, which also tends to cause the ball to fly off the racket with a higher trajectory than would be the case with a plainly hit ball. In both the forehand and the backhand strokes it is advisable to step on to the ball at the moment of making the stroke. In the forehand stroke a short step forward is taken with the left foot; in the backhand stroke the same thing is done with the right foot. This is very frequently neglected, and, in consequence, the player's pace and direction suffer. The greatest drivers get their pace by timing the body on to the ball. Body work is far too much neglected. This is not a fad. It is the simplest of simple practical lawn tennis. In stone-throwing to boxing it is the body that finds the power. It is so in all athletic games. Lawn tennis is no exception to the rule; on the contrary, it most forcibly exemplifies the necessity for good body work.

It is essential to time this step well. Sometimes the weight is transferred without making the step. In this case, as the ball approaches, the player swings his weight on to the foot farther from the ball, and at the moment of striking transfers the weight to the other foot. As a matter of fact the ball is struck *during* the transference of weight, and upon the accurate timing of this transference of weight



A. W. GORE, FOREHAND DRIVE.

depends much of the success of all lawn tennis strokes. Its importance cannot be exaggerated.

The feet should rarely, if ever, be flat on the ground. The whole essence of good and quick footwork consists in having the correct position, and in being ready to start quickly. If the player is standing flat-footed he must necessarily raise his heel and flex his knee before he can jump off, therefore let him *have this already done*. In other words, the grip of the court with the feet is from the ball of the big toe forward. There is, whenever the ball is in play, generally no contact between the heel and the court, and there ought certainly to be no weight on the heel; also the knee should be flexed and ready for immediate use. No player who neglects these instructions can possibly be really quick about the court.

It is quite a mistake for a beginner to try to drive too near the net. It is possible to get a good-length, fair-paced drive 2 ft. above the net, especially when one has command of the lifting drive hereinafter described.

The Lifting Drive.—It is but a few years ago that in "Modern Lawn Tennis" I separated all strokes at lawn tennis into two great classes, those with spin and those without, and showed conclusively that their methods of production and treatment are essentially different. For quite a year "rotation of the ball" was a stock-joke on every tournament

former case, so in this, players are going to extremes. The best of lawn tennis today consists of the game almost as it was



A. W. GORE. FINISH OF FOREHAND DRIVE.



A. W. GORE PLAYING FOREHAND VOLLEY WITH HIS DRIVE. FINISH OF STROKE.

played fifteen years ago. Practically the only innovation is the American service, as it is called, but which had been used in New Zealand before it created a sensation at Wimbledon. It, however, was extremely rare, and its value in those days was but little understood.

The forehand lifting drive was well known in lawn tennis many years ago, although quite a number of players seem

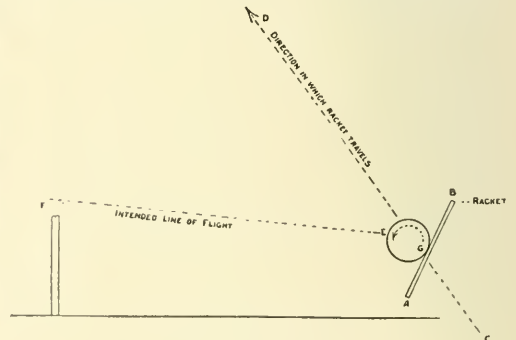


FIG. 5.—FOREHAND DRIVE WITH LIFT.

ground in England. Now every player, who wants to be considered above a rabbit, thinks that he must be able to get a lot of "work" on his ball. As in the

to think that it is claimed as a modern invention. The main principle in its production is shown in Fig. 5. The racket *AB*

passes forwardly and upwardly in an oblique direction across the intended line of flight of the ball, brushing violently against the ball as it passes at *G*.

It will be seen at a glance that directly the racket hits the ball at *G*, it gets a grip on it, and sends it away rotating from *G* to *E*—that is, forwardly and downwardly.

This stroke is unquestionably the most valuable ground stroke in the game. At the moment of impact the face of the racket is nearly always more vertical than it is here shown. The diagram is designedly shown thus, for in endeavouring to produce top-spin, which is the spin of the forehand lifting drive, the common mistake is to turn the face of the racket forward *too soon*, and so to put the ball into the net.

It is very necessary to emphasise this point, for the most astounding things are written about the production of top-spin, and, indeed, about spin generally. In a book called "The Complete Lawn Tennis Player" we are told that "in order to get this top-spin, the ball must be hit at the bottom; this rule applies also to the service." This statement is absolutely incorrect, and anyone attempting to follow it out is court-ing failure. The forehand top-spin in the modern drive is got by the "brushing"

that in this stroke the player generally hits that part of the ball that is farthest from his opponent. Moreover, if the ball has a high



H. L. DOHERTY. FINISH OF FOREHAND DRIVE, PLAYED WHILE RUNNING.



H. L. DOHERTY. FINISH OF FOREHAND DRIVE.

action of the vertical face of the racket passing up behind the ball. The angle of the face to the court must not be altered until after the stroke is played. It follows

bound, the player frequently hits it *above* the centre line, and slants the racket more forwardly towards the top of the ball than in the case of a drive off a lower ball. In *no case* can top-spin in a forehand drive be got by hitting the ball "at the bottom," and anyone advocating it takes the great responsibility of ruining a player's forehand.

The fact is that many writers who originally scoffed at the scientific explanation of the game of lawn tennis are now endeavouring, with imperfect knowledge, to exploit the principles involved in these explanations. It behoves players to be wary, for this is essentially a case in which a little knowledge is a dangerous thing.

The idea of hitting the service underneath is so amusing and amazing that it may be passed over very quickly. In the American service the ball is frequently hit *half-way between the centre and the top*. Only a pure underhand cut service is hit *underneath*, and that but rarely, for the stroke is not generally known. In the ordinary underhand cut service the ball is generally hit at the back, if we may describe it so, and only very rarely does a player hit it *underneath*.

The outstanding advantage of the forehand lifting drive is that it drops suddenly during its flight. This enables one who has a fair command of the stroke to hit hard and yet well above the net, whereas

one who trusts to the unassisted trajectory of the plainly hit ball must necessarily drive much nearer to the net, and so take greater risks. It is not really hard to acquire the stroke when once the mechanical principles involved in its production have been grasped. It is of almost more importance than usual, in playing this stroke, to keep a very firm grip of the racket at the moment of impact.

The Chop.—This stroke is not usually called a drive, because most of the players who use it play it very slowly and with a high trajectory. It is the reverse of the last stroke described. It is got by coming down behind the ball as shown in Fig. 6. The racket, *AB*, with its face nearly vertical, as shown at *AB*, passes down the line *EF* in a forward and obliquely downward course, so that in passing the intended line of flight, *CD*, it meets the ball at *C*, and, by reason of the glancing or "brushing" contact, causes the ball to revolve backwardly in the direction *CG*. The racket, after hitting the ball, continues its down-

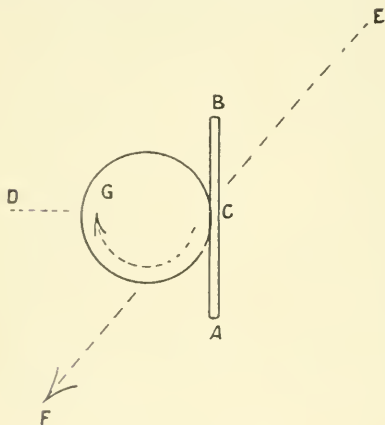


FIG. 6.—THE CHOP.

ward course until it is suddenly arrested quite near the ground.

The chop is an imperfectly understood stroke. It is a very valuable return, and a fine shot to go up on, for it keeps low, and sometimes if the player has cut across it a little, breaks in a disconcerting manner. It is an invaluable stroke, both as a service and during the rest on hard courts, for it always keeps low when well played. Great care in volleying it is required, as, unless it is taken very smartly, the backspin on it turns it down into the net.

An interesting comparison of the flight of the plain forehand drive, the lifting drive, and the chop is given in Fig. 7.

The Backhand Stroke.—There is no stroke in the game that has been so in-

adequately described as this important and beautiful drive. Invented originally in England, it is now, in the land of its birth,

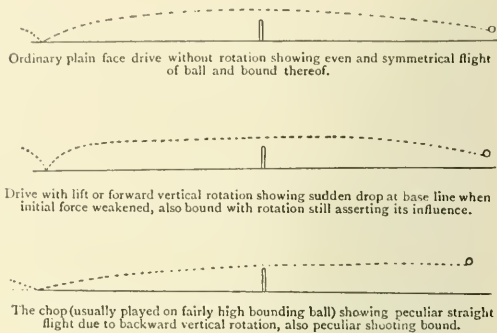


FIG. 7.

a lost art. In playing this stroke it is generally best to hold the leather in one's hand and to place the thumb up the handle of the racket, but if one can do better with the grip shown in Plate D it is not necessary to do this. Footwork is of the essence of this stroke. As one plays the forehand stroke with the left side of the body facing the net, so one plays the backhand stroke with the right side of the body facing the net. The position of the feet in making the backhand stroke is clearly shown in Fig. 8. If this be not most carefully attended to, the backhand stroke is bound to be cramped and ineffective, as it unquestionably is with most players. The backhand stroke, instead of being a weak, defensive shot, is, in the hands of a man who understands it, a beautiful, vigorous, and effective drive, capable of being most accurately placed, and having the valuable quality of concealment of direction until the last moment. It is, in a word, a man's shot, whereas the stroke most in vogue is calculated to bring contempt on the game.

The accompanying series of photographs illustrates the more important portions of the stroke. No. I. shows the swing back as the ball is approaching." Note carefully the

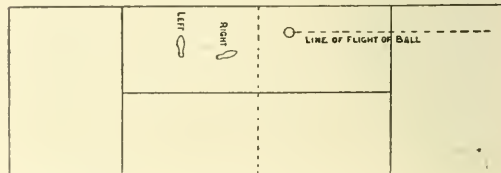


FIG. 8.

position of the feet, and that the weight is on the right foot. Observe that the control of the racket must be, in the begin-

ning of this stroke, from the elbow and in the wrist. The main feature of the stroke is the predominance of control *in the wrist*.



P. A. VAILE. BACKHAND DRIVE (I.). SWING BACK.

This is emphasised, because in the ordinary backhand stroke *there is no wrist*, and players changing their stroke are inclined to



P. A. VAILE. BACKHAND DRIVE (II.). JUST BEFORE IMPACT.

make this an *arm-stroke*, which cannot successfully be accomplished.

No. II. shows the moment before impact. Here the elbow will be seen pointing to-

wards the net, the little-finger side of the forearm is facing the ball, and the forearm and the racket handle are *in the same line*. This is of the utmost importance. Note again carefully the position of the feet.

No. III. shows the ball directly after impact. It will be seen that the ball is taken well in front of the body, much sooner, in fact, than in the forehand stroke. The face of the racket at the moment of impact is almost vertical, and it draws rapidly up across the ball when hitting it, if it is desired to impart lift to the ball. This stroke quite naturally gives a lot of lift to the ball. The return keeps very low to the net, has great pace, and "dives" very well at the end of its flight.

No. IV. shows a most important position



P. A. VAILE. BACKHAND DRIVE (III.). IMPACT.

in this drive. Those who try this stroke in England have two bad faults. They play it with their feet out of position. This puts the chest in the way of the arm, and prevents a proper swing back, and in the follow through they do not allow the wrist—or rather the forearm—to turn as it is shown doing here. The forearm will, if allowed to carry out its natural tendency, turn, as it is shown doing here, so that the thumb, instead of remaining underneath the handle, turns with the racket until at the finish of the stroke it is seen as in No. V. above the handle. This is a point of the utmost importance, both as regards the grace and the effectiveness of this stroke, for if the player allows his stroke to end with his

thumb *below the handle*, he will find that he cannot possibly get a free follow through and finish. If, on the other hand, he allows



P. A. VAILE. BACKHAND DRIVE (IV.). SHOWING THUMB TURNING OVER.

his forearm to turn, naturally he will get a beautiful and effective drive.

The last position in this stroke shows how the weight has all gone on to the right foot, *and down it*, so that the player is thrown into his stride for the net or for his next stroke.

This stroke, the only backhand drive worthy of the name, is not hard to acquire. It may be played as a plain return off a low ball, a lifting drive off a low or medium ball, or a horizontal drive. It is a most adaptable stroke. With it one can chop, cut, lob, or smash with accuracy and strength far beyond anything possible in the ordinary stroke. The want of this stroke is the outstanding defect in the English game. This deficiency reduces many players who might otherwise be quite good to one-sided men.

The Volley.—The first volley one learns—for in effect, although perhaps not technically so, it is a volley—is the service. This being so, it is amazing to see the want of confidence exhibited by most players in dealing with any overhead volley a little way from the net. It is extremely rare to see a player launch himself at the ball and kill it by sheer pace, yet this should be quite a common stroke with first-class players. Here, again, one may be generally advised as to the overhead volley or smash, as it is generally called. The motion in

playing it is similar in nearly every respect to throwing a stone. It is really exactly the same stroke as the plain overhead service. The two great errors in smashing are that players give the stroke no body, and they do not get underneath the ball. As, in the service, the ball should not be thrown up in front of one, so, in the smash, the ball should not be attacked a foot or two in front of the player. At the moment of impact it should be almost directly above the right shoulder, and, instead of standing still and using the arm like a semaphore, one should be stepping forward as one hits the ball. This is the only proper way really to *smash* a ball.

There are, of course, varieties of the smash. The plain smash, properly played, is good enough in most cases, but the smash with forehand cut is a most difficult ball to pick up, and can be placed with deadly accuracy. The reverse overhead cut smash is another most deceptive stroke. It is rarely seen, but it is one of the fastest and best strokes in the game, and when England comes into her own again it will be quite a favourite. The nature of the hold for this stroke causes the force of the blow to fall on the wrist in the way it cannot bend.



P. A. VAILE. BACKHAND DRIVE (V.). FINISH, SHOWING THUMB NOW ABOVE HANDLE.

This gives great pace to the stroke. These two strokes are exactly the same as the forehand cut and reverse overhead cut

services. They are most useful strokes for taking advantage of the sharp angles of the court, and for concealing till the last instant the direction of the ball's flight.

Most well-played volleys at the net are played with cut, especially if the return be fast and low. Meeting this with the plain face and a stiff wrist often means putting it out. A little cut or chop softens the impact, and enables one to drop the ball much shorter than can be done by the plain stroke, and, more valuable still, at a sharper angle across court.

Both the forehand and backhand lifting drives, especially when the player is near the net, make beautiful and effective volleys. This is particularly so with the backhand stroke.

There is, generally speaking, too much straight volleying. The ball should, where possible, be cut across the court at a sharp angle. It really is not difficult if one gets well up to the net, and, as a scoring stroke, is incomparably more effective than a straight return.

A good way to smash volleys near the net is to hit them so hard on to the court as to bounce them beyond your opponent's reach. It is distinctly necessary to try to hit this stroke downwards.

When volleying near the net, get well down to it. It is easier to volley low balls

Nearly all volleying should be crisp. The ball should be smartly struck with a firm grip on the racket all the time. Near the net much of the work is so quick that



H. L. DOHERTY PLAYING A SMASH. BALL LEAVING RACKET.



P. A. VAILE PLAYING A SMASH.

well if one's eye is in the line of flight. One of the finest low volleyers in Australia is a persistent "croucher."

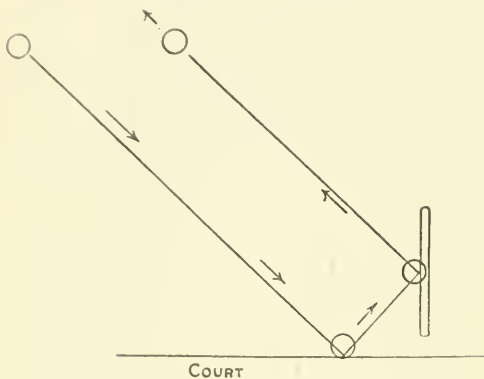
there is little time for swing or bothering about weight transference. When there is time, all the general rules apply, and will in time be quite naturally used. When there is not, the stroke is frequently made by a snap of the wrist, or a push with a very firm wrist. It really is a stab. Some of the Australians play these stab-shots very well. A very sharp angle and great pace can be got with these strokes.

It should be the constant aim of every volleyer to secure a position near enough to the net to enable him always to *volley downwards*. If one has to play the ball upwards, it is quite impossible to kill it.

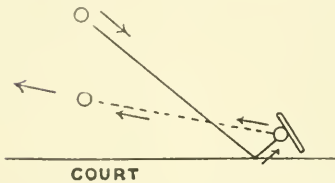
The **half-volley** is used practically only as a defensive stroke. It is, however, frequently most valuable as an offensive shot, for the time gained by half-volleying instead of waiting for the bound often means the difference between passing one's opponent and being cut off at the net.

The great secret of the half-volley is covering the bound. Fig. 9 shows clearly the principle involved. The drawings are

not to scale, but the futility of attempting to half-volley with an upright face is shown, as is also the method of correcting it. The half-volley cannot be advantageously em-



Vertical rigidly-held racket and natural rebound.



RACKET FORWARDLY INCLINED TO CORRECT UPWARD TENDENCY. DOTTED LINE SHOWS CORRECTED REBOUND.

ployed against a player who knows how to use cuts. The bound of the ball is rendered so uncertain that it becomes practically an impossibility to half-volley consistently well.

The stroke is frequently played without any follow through, a snap or wrist shot played with a push downward and a sudden check almost on the ball. At other times it is played with a beautiful free follow through, and is converted into practically a drive off a rising ball. This, however, is a very rare shot, and is not to be advised, for, under modern conditions, the half-volley should if possible always be converted into a volley.

The Lob.—This is one of the most neglected strokes in the game. It is one of the simplest—in fact, it is the first stroke one plays naturally, yet to play it consistently and well requires nerve and delicacy of touch. The height of a lob depends on the length of one's opponent. The best lob is the lowest, and all that is necessary is to clear one's opponent, but it is not advisable to cut it too fine. When one is playing with the sun behind one it is a good plan, when pressed, to lob fairly high to one's opponents. If, when one is against the sun, they retaliate, let the ball bound and kill it on the bound, or reply by another lob if they are, as they ought to be, in position at the net.

If one finds that one is lobbing too far, it is a good plan to toss them a little higher. Put some of the strength into height. Do not go for the side lines in lobbing. Confine your risk as much as possible to length. It will be enough. Many players find that they lob very accurately by cutting their lobs. There are practically three cut lobs—the forehand, the backhand, and the chop. The chop can be played on either hand, of course. It is, however, comparatively rare on the backhand, although it is, when well played, a most effective stroke. It is very curious to observe that the cut on a lob deceives a player more than in any other stroke. One does not appear to anticipate the false bound in the apparently innocent lob.

The Single Game.—A very great fault with many lawn tennis players is endeavouring to win outright off an unsuitable ball, instead of being content to return it with the object of putting the opponent at a disadvantage and perhaps obtaining a winning opening next stroke. This is very marked in the return of the service, which is so frequently slammed into the net a foot below the tape, even when the opposing player is on the base-line. A foot above the net would have given a fair length with a medium to fast lifting drive, so one has



THE LATE MR. H. S. MAHONY PLAYING A BACKHAND SMASH. The ball behind his racket is passing across from another court.

made an error of *two feet* in the trajectory in a very short distance. The main thing is to put the ball into play. One must be

able to do this consistently before one begins to think of driving very hard. Accuracy first and pace afterwards must be the motto of the beginner.

The proper way to play a single is to play from or close behind the base line, until one has either got one's opponent out of position, or has delivered such a well-placed service or return that one is justified in advancing to the net with the object of volleying the return. That is the genuine old English game, and modern tactics have shown us nothing better. It is fashionable nowadays to charge up to the net on every service, quite irrespective of its merit. This comes off a good deal, mainly on account of the poorness of the passing shots, but as a matter of tactics it is bad to go up on anything, service or otherwise, that does not warrant it. That is how the game ought

cross-court shot is a very nasty return for one's opponent to pick up. He gets to it, if at all, when it is very low, and he has to play it. It does not assist him at all as the fast ball does. Many players think that a ball down the player's backhand corner is quite the best to go in on, but it will be seen from Fig. 10 that this is not so. A player driving a ball from, say, six feet outside the base-line as at *C* to the extreme diagonals of the court at *A* and *B*, is practically covered by the man at the net *H*. If, however, the ball is at *D*, the player is driving it into the court, which it is never even over until it reaches *A*, and he has his quick-dropping backhand cross-court shot to *E*, so that he has practically both sides of the net open to him. One may say a player need not drive down the extreme diagonals. That is so. He may try to reach the side

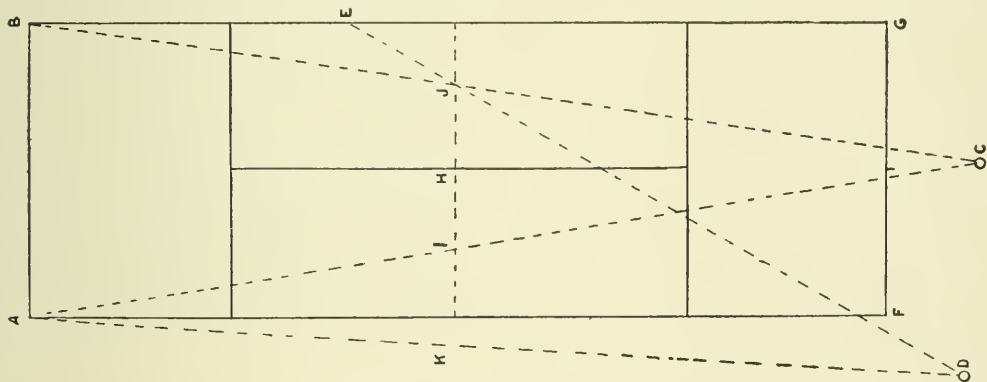


FIG. 10.—SHOWING VALUE OF CENTRE THEORY.

to be played, and is how it would be played by scientific players of equal skill, but it must not be forgotten that it often pays to "bustle" one's opponent at the net. The persistent rusher has much in his favour, but his methods must not be accepted as the true science of the game, which consists in choosing one's opportunity, and going in on it like a flash. It is bad to allow one's opponent to become accustomed to anything. He should not know whether one is going to remain on the base-line, or to charge up to the net. Keep him guessing. It is stimulating, and he will not play his strokes so accurately if one gives him plenty to think of each rest.

Return of the Service.—The two methods of returning the service that are most frequently used are side-line or cross-court drives, and they are both good, especially if one's opponent is running in on his service. If he is, the cross-court shot should be as sharp across as possible, and with plenty of lift, which makes it drop quickly. It need not be very fast. A slow

lines nearer the service line, but he will have a poor chance of escaping the man at the net with any except a first-class shot, if the attacking player is at *H*, and the striker-out at *C*, and, moreover, he is risking the side-lines all the time.

This centre theory is of great practical value in the single game. Its efficacy is attested by that great tactician, Mr. E. G. Meers, while M. Max Decugis, the famous French player, in his preface to the French edition of "Modern Lawn Tennis," describes in the most sportsmanlike manner, years after I had forgotten the circumstance, how by following my advice and using it, he beat the redoubtable A. W. Gore in the final for the Championship of London in 1904. It is not sufficiently used because players do not understand it well enough yet.

It must not be thought that in anything that has been said there is any attempt to discourage volleying, which is of the essence of the modern game, although it is carried to extremes by some of the leading players.

On the contrary, it may be laid down as a good general axiom: "When in doubt, race for the net, as, for instance, when one is caught a bit out of position in the three-quarter court. It is always easier to run up than to run back, and the moral effect of bustling one's opponent cannot be exaggerated.

How to Receive the Service.—The service may be so varied that it is hard to lay down any fixed rule. There are, however, certain general directions that are worth remembering. Always keep as nearly as possible diagonally opposite your opponent. Never be flat-footed. Be always on the balls

one the reply will quite often be weak. These are two strong points in favour of the centre drive. If one is playing the lifting drive, it is extremely hard for an opponent to say what returns will go out. When he has left a few, and seen them pounce down on the base-line, he will stop a few genuine wanderers.

The Cross-court Drive.—This stroke may be played either forehand or backhand, preferably with plenty of lift on it, and the more sharply one can put it across the court the better. As in the single game, so, and more so, in the double, the slow passing shot is a most useful and telling stroke.

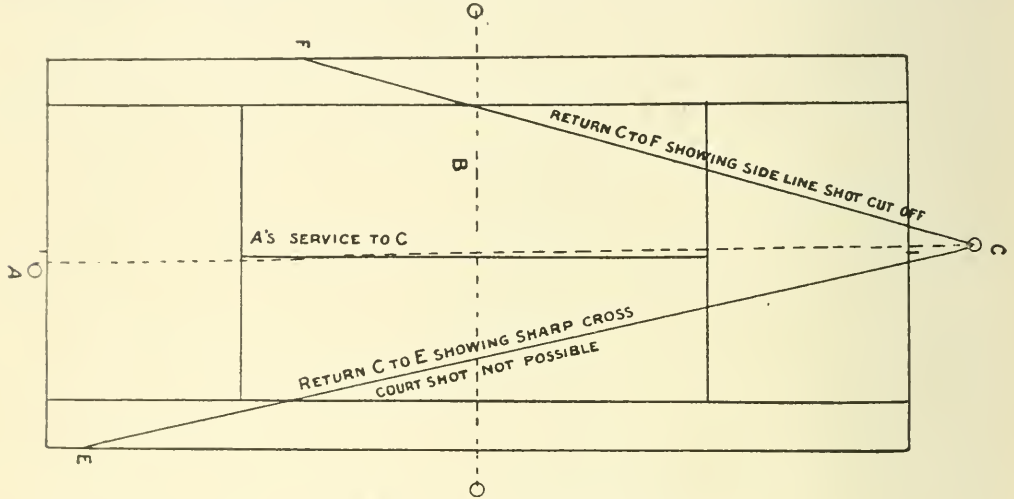


FIG. 11.—SHOWING VALUE OF CENTRING SERVICE.

of your toes with your knees ready flexed. Hold your racket in both hands, the splice resting in your left. Always be far enough back, for again it may be emphasised that it is always easier to advance than to retreat. Come in a little closer for the second service, for generally it will be slower.

The Double Game.—The principal strokes in the double game are: **The Centre Drive.**—This is probably the most useful return. One has not to risk the side line, and, so long as one escapes the server's partner and gets one's drive in before the server is quite in position, one has a good chance of scoring, and, moreover, if he has come up a bit wide, one has a good chance of going clean between one's opponents. There is also always on the striker-out's side the advantage of the uncertainty that exists as to which of his opponents ought to take this return; moreover, not only does the striker-out take no risk of the side line, but in the little time allowed the server in his run up he will often give one the benefit of the doubt as to the length of the return, and if this has been a very good

The Side-line Drive.—It must be remembered in going for this shot that the net here is about 6 in. higher than in the cross-court shot. One must not go for it too often, but it is good to get in a straight pass now and again. It tends to prevent the man at the net interfering too much with one's cross-court shots.

The lob is, of course, an indispensable shot in the double game. It is not used enough. Too much of it is sickening, but in its place it is a useful and scientific stroke. In a double, unless otherwise arranged, each player should attend to his own lobs.

The Service.—The service in a double is a great advantage. It is discounted a great deal in England by its stereotyped diagonal nature. There is no variety, and it comes in always on the good old diagonal. Not unnaturally it frequently goes back by the same road—with interest. Centre theory is of great importance in a double. Centring the service is a valuable means of scoring against nine pairs of ten. Fig. 11 shows the value of centring the service. It will be seen here that the side-line pass is cut

right out, and the player's cross-court shot woefully restricted. This is a match-winning point that should not be overlooked.



MRS. LAMBERT CHAMBERS PLAYING BACKHAND DRIVE WHILE RUNNING.

The server's partner always stands in while the service is being delivered. He should watch his partner serve if he has any variety of service. This is an important, but almost universally neglected point. It follows that one who has observed the flight and break of the ball must get to it more quickly than one who turns his back on it. Always be on the net in a double. Get up and hit down.

The gravest error in doubles of which English players are guilty is in the position of the striker-out's partner, who frequently stands in at the net while his partner is receiving. Nothing but perfect lawn tennis on the striker-out's part, which one does not very often see, can justify this stupid forma-

tion. It cost the Australian pair their match in the challenge round at Wimbledon last meeting. It has gone out a good deal, but recently I think there has been a tendency to reintroduce it.

The game in England is now in a most interesting condition. It is a period of transition from the game introduced by the Dohertys back to the genuine old English hard-hitting school. When the history of lawn tennis is written, the past ten years will be regarded as a hiatus in the true game. The Dohertys' hold of the racket and their production of their strokes are entirely personal. No other first-class player in the world uses the grips or produces the strokes of the game in the way that the Dohertys do. As a matter of fact, it is utterly impossible with an unchanged grip to play modern lawn tennis. It was probably a realisation of this that caused Messrs. R. F. and H. L. Doherty to abandon the game. The recent successes of Australasian lawn tennis players fortunately do not mean that English lawn tennis is dead; on the contrary, they stand for the renaissance of the genuine old English game, with its properly produced strokes and its forceful, sound tactics, *plus* the American service.

A most significant fact is that England, with her population of over 40,000,000 people, has not, since H. L. Doherty's win to 1911, produced a champion. Australasia, with about an eighth of this population, has produced two, while in the United States of America there are many promising aspirants with form practically equal to that of the champions.

The forehand stroke of the English ladies is played in a different manner from that of the men. They have not the strength to waste, so they play the natural stroke and use the hold advocated by Dr. Dwight and myself.

The laws of the game require revision and careful drafting. England and America recently passed a law with regard to the service. It is now a legal service if the ball pitch in any portion of the half-court diagonally opposite to that from which the server delivered his service or on any line thereof *except the base line!*

P. A. VAILE.

WINNERS OF THE LAWN TENNIS CHAMPIONSHIPS.

CHAMPIONS.

| | | | |
|-----------------------|-----------------------|----------------------|-----------------------|
| 1877. S. W. Gore. | 1886. W. Renshaw. | *1895. W. Baddeley. | 1903. H. L. Doherty. |
| 1878. P. F. Hadow. | *1887. H. F. Lawford. | 1896. H. S. Mahony. | 1904. H. L. Doherty. |
| *1879. J. T. Hartley. | 1888. E. Renshaw. | 1897. R. F. Doherty. | 1905. H. L. Doherty. |
| 1880. J. T. Hartley. | 1889. W. Renshaw. | 1898. R. F. Doherty. | 1906. H. L. Doherty. |
| 1881. W. Renshaw. | 1890. W. J. Hamilton. | 1899. R. F. Doherty. | *1907. N. E. Brookes. |
| 1882. W. Renshaw. | *1891. W. Baddeley. | 1900. R. F. Doherty. | *1908. A. W. Gore. |
| 1883. W. Renshaw. | 1892. W. Baddeley. | 1901. A. W. Gore. | 1909. A. W. Gore. |
| 1884. W. Renshaw. | :893. J. Pim. | 1902. H. L. Doherty. | 1910. A. F. Wilding. |
| 1885. W. Renshaw. | 1894. J. Pim. | | |

* The holder did not defend the title.

WINNERS OF THE LAWN TENNIS CHAMPIONSHIPS (*continued*).

ALL COMERS' SINGLES.

| | | | |
|----------------------|-----------------------|----------------------|-------------------------|
| 1877. S. W. Gore. | 1886. H. F. Lawford. | 1895. W. Baddeley. | 1903. F. L. Riseley. |
| 1878. P. F. Hadow. | 1887. H. F. Lawford. | 1896. H. S. Mahony. | 1904. F. L. Riseley. |
| 1879. J. T. Hartley. | 1888. E. Renshaw. | 1897. R. F. Doherty. | 1905. N. E. Brookes. |
| 1880. H. F. Lawford. | 1889. W. Renshaw. | 1898. H. L. Doherty. | 1906. F. L. Riseley. |
| 1881. W. Renshaw. | 1890. W. J. Hamilton. | 1899. A. W. Gore. | 1907. N. E. Brookes. |
| 1882. E. Renshaw. | 1891. W. Baddeley. | 1900. S. H. Smith. | 1908. A. W. Gore. |
| 1883. E. Renshaw. | 1892. J. Pim. | 1901. A. W. Gore. | 1909. M. J. G. Ritchie. |
| 1884. H. F. Lawford. | 1893. J. Pim. | 1902. H. L. Doherty. | 1910. A. F. Wilding. |
| 1885. H. F. Lawford. | 1894. W. Baddeley. | | |

LADY CHAMPIONS.

| | | |
|-------------------------|------------------------|------------------------------|
| 1884. Miss Maud Watson. | 1893. Miss Dod. | 1902. Miss M. E. Robb. |
| 1885. Miss Maud Watson. | *1894. Mrs. Hillyard. | *1903. Miss D. K. Douglass. |
| 1886. Miss Bingley. | *1895. Miss C. Cooper. | 1904. Miss D. K. Douglass. |
| 1887. Miss Dod. | 1896. Miss C. Cooper. | 1905. Miss M. Sutton. |
| 1888. Miss Dod. | 1897. Mrs. Hillyard. | 1906. Miss D. K. Douglass. |
| *1889. Mrs. Hillyard. | *1898. Miss C. Cooper. | 1907. Miss M. Sutton. |
| *1890. Miss Rice. | 1899. Mrs. Hillyard. | *1908. Mrs. Sterry. |
| *1891. Miss Dod. | 1900. Mrs. Hillyard. | *1909. Miss D. Boothby. |
| 1892. Miss Dod. | 1901. Mrs. Sterry. | 1910. Mrs. Lambert Chambers. |

* The holder did not defend the title.

DOUBLES CHAMPIONS.

| | |
|---|--|
| 1879. L. R. Erskine and H. F. Lawford. | 1895. W. Baddeley and H. Baddeley. |
| 1880. W. Renshaw and E. Renshaw. | 1896. W. Baddeley and H. Baddeley. |
| 1881. W. Renshaw and E. Renshaw. | 1897. R. F. Doherty and H. L. Doherty. |
| 1882. J. T. Hartley and R. T. Richardson. | 1898. R. F. Doherty and H. L. Doherty. |
| 1883. C. W. Grinstead and C. E. Weldon. | 1899. R. F. Doherty and H. L. Doherty. |
| 1884. W. Renshaw and E. Renshaw. | 1900. R. F. Doherty and H. L. Doherty. |
| 1885. W. Renshaw and E. Renshaw. | 1901. R. F. Doherty and H. L. Doherty. |
| 1886. W. Renshaw and E. Renshaw. | 1902. S. H. Smith and F. L. Riseley. |
| *1887. P. B. Lyon and H. W. Wilberforce. | 1903. R. F. Doherty and H. L. Doherty. |
| 1888. W. Renshaw and E. Renshaw. | 1904. R. F. Doherty and H. L. Doherty. |
| 1889. W. Renshaw and E. Renshaw. | 1905. R. F. Doherty and H. L. Doherty. |
| *1890. J. Pim and F. O. Stoker. | 1906. S. H. Smith and F. L. Riseley. |
| 1891. W. Baddeley and H. Baddeley. | *1907. N. E. Brookes and A. F. Wilding. |
| 1892. H. S. Barlow and E. W. Lewis. | *1908. A. F. Wilding and M. J. G. Ritchie. |
| 1893. J. Pim and F. O. Stoker. | *1909. A. W. Gore and H. Roger Barrett. |
| 1894. W. Baddeley and H. Baddeley. | 1910. A. F. Wilding and M. J. G. Ritchie. |

MIXED DOUBLES CHAMPIONS.

| | |
|---|--|
| 1888. E. Renshaw and Mrs. Hillyard. | 1900. H. L. Doherty and Miss C. Cooper. |
| 1889. J. C. Kay and Miss Dod. | *1901. S. H. Smith and Miss Martin. |
| *1890. J. Baldwin and Miss K. Hill. | 1902. S. H. Smith and Miss Martin. |
| *1891. J. C. Kay and Miss Jackson. | 1903. F. L. Riseley and Miss D. K. Douglass. |
| *1892. A. Dod and Miss Dod. | 1904. S. H. Smith and Miss E. W. Thomson. |
| 1893. W. Baddeley and Mrs. Hillyard. | 1905. S. H. Smith and Miss E. W. Thomson. |
| 1894. H. S. Mahony and Miss C. Cooper. | 1906. F. L. Riseley and Miss D. K. Douglass. |
| 1895. H. S. Mahony and Miss C. Cooper. | *1907. N. E. Brookes and Mrs. Hillyard. |
| 1896. H. S. Mahony and Miss C. Cooper. | *1908. X. E. Casdagli and Mrs. Sterry. |
| 1897. H. S. Mahony and Miss C. Cooper. | *1909. X. E. Casdagli and Miss Garfit. |
| 1898. H. S. Mahony and Miss C. Cooper. | 1910. J. C. Parke and Mrs. Luard. |
| 1899. C. H. L. Cazalet and Miss M. E. Robb. | |

LADIES' DOUBLES CHAMPIONS.

| | |
|--|---|
| 1885. Mrs. Watts and Miss Bracewell. | 1898. Miss Steedman and Miss R. Dyas. |
| 1886. Miss Dod and Miss M. Langrishe. | 1899. Mrs. Durlacher and Miss Steedman. |
| 1887. Miss Dod and Miss M. Langrishe. | 1900. Mrs. Pickering and Miss Robb. |
| 1888. Miss Dod and Miss M. Langrishe. | 1901. Mrs. Pickering and Miss Robb. |
| 1889. Miss M. Steedman and Miss B. Steedman. | 1902. Mrs. Pickering and Miss Robb. |
| 1890. Miss M. Steedman and Miss B. Steedman. | 1903. Miss D. K. Douglass and Miss E. W. Thomson. |
| 1891. Miss L. Marriott and Miss M. Marriott. | 1904. Miss D. K. Douglass and Miss E. W. Thomson. |
| 1892. Miss Jackson and Miss Crofton. | 1905. Miss C. M. Wilson and Miss H. Lane. |
| 1893. Mrs. Hillyard and Miss Steedman. | 1906. Mrs. Hillyard and Miss C. Meyer. |
| 1894. Mrs. Hillyard and Miss Steedman. | 1907. Mrs. Hillyard and Miss C. Meyer. |
| 1895. Mrs. Hillyard and Miss Steedman. | 1908. Mrs. Sterry and Miss Garfit. |
| 1896. Mrs. Hillyard and Miss Steedman. | 1909. Miss H. Aitchison and Mrs. Tuckey. |
| 1897. Mrs. Hillyard and Mrs. Pickering. | 1910. Mrs. Hudleston and Miss Garfit. |

* The holders did not defend the title.

THE LAWS OF LAWN TENNIS.

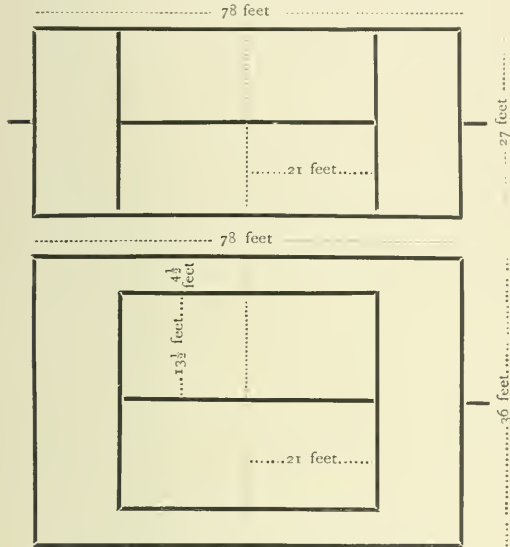
THE SINGLE-HANDED GAME.

1. For the single-handed game, the Court is 27 ft. in width, and 78 ft. in length. It is divided across the middle by a net, the ends of which are attached to the tops of two posts, which stand

3 ft. outside the Court on each side. The height of the net is 3 ft. 6 in. at the posts, and 3 ft. at the centre. At each end of the Court, parallel with the net, and at a distance of 39 ft. from it, are drawn the *Base-Lines*, the extremities of which are connected by the *Side-Lines*. Half-way between the *Side-lines* and parallel with them, is

drawn the *Half-Court-Line*, dividing the space on each side of the net into two equal parts, called the *Right* and *Left Courts*. On each side of the net, at a distance of 21 ft. from it, and parallel with it, are drawn the *Service-Lines*. The marking of the part of the *Half-Court-Line* between the *Service-Lines* and the *Base-Lines* may be omitted, with the exception of a small portion at the centre of each *Base-Line*, as indicated in the plans appended.

PLANS OF COURTS.



2. The balls shall not be less than $2\frac{1}{2}$ in., nor more than $2\frac{3}{16}$ in. in diameter; and not less than $1\frac{1}{8}$ oz. nor more than 2 oz. in weight.

3. In matches where Umpires are appointed, their decision shall be final; but, where a Referee is appointed, an appeal shall lie to him from the decision of an Umpire on a question of law, and in all such cases the decision of the Referee shall be final.

4. The choice of sides and the right to be *server* or *striker out* during the first games shall be decided by toss; provided that, if the winner of the toss choose the right to be *server* or *striker out* the other player shall have the choice of sides, and *vice versa*; and provided that the winner of the toss may, if he prefer it, require the other player to make the first choice.

5. The players shall stand on opposite sides of the net; the player who first delivers the ball shall be called the *Server*, the other the *Striker-out*.

6. At the end of the first game, the *Striker-out* shall become *Server*, and the *Server* shall become *Striker-out*; and so on alternately in the subsequent games of the set.

7. The *Server* shall before commencing to serve stand with both feet at rest on the ground behind (*i.e.*, further from the net than) the *base-line*, and within the limits of the imaginary continuation of the *Half-Court* and *side-lines*, and thereafter the *Server* shall not run, walk, hop, or jump before the service has been delivered, but the *Server* may raise one foot from (and, if desired, replace it on) the ground, provided that both feet are kept behind the *base-line* until the service has been delivered.

8. The service shall be delivered from the right and left courts alternately, beginning, from the right in every game, even though odds be given or owed, and the ball served shall drop within

the *Service-Line*, *Half-Court-Line*, and *Side-Line* of the Court, which is diagonally opposite to that from which it was served, or upon any such line.

9. It is a *fault* if the *Server* commit any breach of Law 7, or if the service be delivered from the wrong Court, or if the ball served drop in the net or beyond the *Service-Line*, or if it drop out of Court or in the wrong Court. If the *Server*, in attempting to serve, miss the ball altogether, it does not count a *fault*; but if the ball be touched, no matter how slightly, by the racket, a service is thereby delivered, and the laws governing the service at once apply.

10. A *fault* may not be taken.

11. After a *fault*, the *Server* shall serve again from the same Court from which he served that *fault*, unless it was a *fault* because served from the wrong Court.

12. A *fault* may not be claimed after the next service has been delivered.

13. The service may not be *volleyed*, *i.e.*, taken before it touches the ground, even though the ball be clearly outside the *Service Court*.

14. The *Server* shall not serve until the *Striker-out* is ready. If the latter attempt to return the service, but fail, he loses the stroke. If, however, the *Striker-out* signify that he is not ready after the service has been delivered, but before the ball touch the ground, he may not claim a *fault* because the ball ultimately drops outside the *Service Court*.

15. A ball is *in-play* from the moment at which it is delivered in service (unless a *fault*) until it has been volleyed by the *Striker-out* in his first stroke, or has dropped in the net or out of Court, or has touched either of the players or anything that he wears or carries, except his racket, in the act of striking, or has been struck by either of the players with his racket more than once consecutively, or has been volleyed before it has passed over the net, or has failed to pass over the net before its first bound (except as provided in Law 17), or has touched the ground twice consecutively on either side of the net, though the second time may be out of Court.

16. It is a *let* if the ball served touch the net, provided the service be otherwise good; or if a service or *fault* be delivered when the *Striker-out* is not ready. In case a player is obstructed by any accident not within his control, the ball shall be considered a *let*; but where a permanent fixture of the Court is the cause of the accident, the point shall be counted. The benches and chairs placed around the Court and their occupants, and the *Umpire* and *Linesmen*, shall be considered permanent fixtures. If, however, a ball in play strike a permanent fixture of the Court (other than the net or posts) before it touches the ground, the point is lost; if after it has touched the ground, the point shall be counted. In case of a *let*, the service or stroke counts for nothing, and the *server* shall serve again. A *let* does not annul a previous *fault*.

17. It is a good return—

(a) If a ball touch the net or post, provided that it passes over either and drops into the Court;

(b) If a ball served or returned, drop into the proper Court and screw or be blown back over the net, and the player whose turn it is to strike reach over the net and play the ball, provided that neither he nor any part of his clothes or racket touch the net, and that the stroke be otherwise good;

(c) If a ball be returned outside the post, either above or below the level of the top of the net, even though it touch the post, provided that it drop into the proper Court;

(d) If a player's racket pass over the net after he has returned the ball, provided the ball pass over the net before being played and be properly returned;

(e) If a player succeed in returning a ball, served or in play, which strikes a ball lying in the Court.

18. The Server wins a stroke, if the Striker-out volley the service, or fail to return the service or the ball in-play (except in the case of a let), or return the service or ball in-play so that it drop outside any of the lines which bound his opponent's Court, or otherwise lose a stroke, as provided by Law 20.

19. The Striker-out wins a stroke, if the Server serve two consecutive faults, or fail to return the ball in-play (except in the case of a let), or return the ball in-play so that it drop outside any of the lines which bound his opponent's Court, or otherwise lose a stroke, as provided by Law 20.

20. Either player loses a stroke, if the ball in-play touch him or anything that he wears or carries, except his racket in the act of striking; or if he volley the ball (unless he thereby makes a good return) no matter whether he is standing within the precincts of the Court or outside them; or if he touch or strike the ball in-play with his racket more than once consecutively; or if he or his racket (in his hand or otherwise) touch the net or any of its supports while the ball is in-play; or if he volley the ball before it has passed the net.

21. On either player winning his first stroke, the score is called 15 for that player; on either player winning his second stroke, the score is called 30 for that player; on either player winning his third stroke, the score is called 40 for that player; and the fourth stroke won by either player is scored game for that player; except as below:—

If both players have won three strokes, the score is called deuce; and the next stroke won by either player is scored advantage for that player. If the same player win the next stroke, he wins the game; if he lose the next stroke, the score is again called deuce; and so on until either player win the two strokes immediately following the score at deuce, when the game is scored for that player.

22. The player who first wins six games wins a set; except as below:—

If both players win five games, the score is called games-all; and the next game won by either player is scored advantage-game for that player. If the same player win the next game, he wins the set; if he lose the next game, the score is again called games-all; and so on until either player win the two games immediately following the score of games-all, when he wins the set.

Note.—Players may agree not to play advantage-sets, but to decide the set by one game after arriving at the score of games-all.

23. The players shall change sides at the end of the first, third, and every subsequent alternate game of each set, and at the end of each set, unless the number of games in such set be even. It shall, however, be open to the players by mutual consent and notification to the Umpire before the opening of the second game of the match to change sides instead at the end of every set until the odd and concluding set, in which they shall change sides at the end of the first, third, and every subsequent alternate game of such set.

24. When a series of sets is played, the player who was Server in the last game of one set shall be Striker-out in the first game of the next.

ODDS.

25. Odds are *received* in each group of six games, in the first place, in the *earliest* possible *even* games; that is to say, a receiver of one-sixth receives a stroke in the second game of each group of six; a receiver of two-sixths, in the second and fourth games; and a receiver of three-sixths, in the second, fourth, and sixth games.

When the even games are exhausted, odds are then received in the *earliest* possible odd games; that is to say, a receiver of four-sixths receives his strokes, over and above a receiver of three-sixths, in the first game of each group of six; and a receiver of five-sixths in the first and third games.

The positions in which strokes are *received* are shown in the following table:—

| | 1st Game. | 2nd Game. | 3rd Game. | 4th Game. | 5th Game. | 6th Game. |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1/6 of 15. | 0 | 15 | 0 | 0 | 0 | 0 |
| 2/6 of 15. | 0 | 15 | 0 | 15 | 0 | 0 |
| 3/6 of 15. | 0 | 15 | 0 | 15 | 0 | 15 |
| 4/6 of 15. | 15 | 15 | 0 | 15 | 0 | 15 |
| 5/6 of 15. | 15 | 15 | 15 | 15 | 0 | 15 |

Example.—A player receiving four-sixths of fifteen receives nothing in the third and fifth games, and fifteen in the first, second, fourth, and sixth games of a set.

Note.—The table is not carried beyond the sixth game, as in the next and every succeeding six games the odds recur in the same positions.

The above odds may be given in augmentation of other received odds.

Fifteen is one stroke given at the beginning of every game of a set.

Thirty is two strokes given at the beginning of every game of a set.

Forty is three strokes given at the beginning of every game of a set.

26. Odds are *owed* in each group of six games in the first place in the *latest* possible *odd* games; that is to say, an over of one-sixth owes a stroke in the fifth game of each group of six; an over of two-sixths, in the fifth and third games; and an over of three-sixths, in the fifth, third, and first games.

When the odd games are exhausted, odds are then owed in the *latest* possible *even* game; that is to say, an over of four-sixths owes his strokes, over and above an over of three-sixths, in the sixth game of each group of six; and an over of five-sixths, in the sixth and fourth games. The positions in which strokes are *owed* are shown in the following table:—

| | 1st Game. | 2nd Game. | 3rd Game. | 4th Game. | 5th Game. | 6th Game. |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1/6 of 15. | 0 | 0 | 0 | 0 | 15 | 0 |
| 2/6 of 15. | 0 | 0 | 15 | 0 | 15 | 0 |
| 3/6 of 15. | 15 | 0 | 15 | 0 | 15 | 0 |
| 4/6 of 15. | 15 | 0 | 15 | 0 | 15 | 15 |
| 5/6 of 15. | 15 | 0 | 15 | 15 | 15 | 15 |



THROWING A LAZO. FIRST POSITION.

Probably more misconception exists as to the use and capabilities of the lazo than in regard to any other equally well-known implement in the whole field of sport. Though the dispeller of popular errors is

as unpopular an individual as the proverbial peacemaker, it may not be without use to give a slight account of the lazo, its management and capabilities.

In the Argentine Republic, in Southern Brazil, and in the Republic of Uruguay, lazos are made of raw hide plaited in four strands. In Chile they are of raw hide, twisted into a three-strand rope. Their length, in all four countries, ranges from sixty to eighty, or, at the outside, ninety feet. In general they are about the thickness of the little finger of a man's hand. In Chile they are a little thicker, owing to the looser method of construction. In the above-mentioned countries (with the exception of Chile) at the extreme end of the lazo is spliced a ring of about two ounces in weight. At the end retained in the hand is a button formed like a Turk's head knot, and a strap of raw hide serving as a button-hole. This button is fastened into a strong iron ring placed just behind the rider's thigh in the circingle, which forms the girth of the South American saddle, called "*recado*" in the Pampas, and "*enjalma*" in Chile.

In the latter country no ring is used, but at both ends there is a button and strap. The length of the lazo determines the extent of the throw, and as an ordinary lazo is about sixty-six feet in length, it follows that eighteen, or, at the most, twenty yards, is the outside limit at which an animal can be



THROWING A LAZO. SECOND POSITION.

caught by it, and that only when thrown from a horse galloping. On foot, twelve to fifteen yards is considered a good throw. To throw the lazo it is necessary to make a noose at one end of the rope, from two to five yards in circumference. The iron

to catch the two fore feet of a running animal or to catch a fore or hind foot, or in many other ways.

Lazos in South America are kept soft and pliable by frequent greasing.

In Mexico and South America lazos are



ROPING A HORSE.

ring should be allowed to hang about five feet from the hand. Then, gathering the slack of the rope into small coils, the lazoer swings the lazo round his head several times, taking care that the noose in circling round his head keeps open, and lets it go when the right hand is just over the right ear. No strength is required in throwing when on horseback, and much less when on foot than a spectator might imagine.

When the lazo has settled over the horns of the animal (if a bullock) or round the neck (if a horse), care must be taken to keep the animal lazoed always on the off side of your horse. On no account should it be allowed to cross to the near side, nor should the lazo be allowed to touch the horse ridden, either in throwing or in "working" the lazoed animal. Neglect of this precaution has cost many a man his life, as even a tame horse when touched by the lazo, and still more when entangled in it, is apt to buck or throw himself down. The lazo should be kept taut, which is accomplished by keeping your horse always bearing to the near side. There is no danger of being pulled over, as the weight of the horse, plus the rider and saddle, exceeds that of any bullock to be found in prairies or pampas.

On foot, the lazo is used to catch the feet of animals or to catch animals in a corral. It can be used with great accuracy

made either of horsehair or of the fibres of the aloe and other plants, and in Texas and California of hemp. In no case in these countries is a ring used. Mexicans generally use a button and strap, and Texans and Californians merely tie a bow-line on a bight, and pass the other end of



ROPING A MAN. FIRST POSITION.

the rope through the bight to form the noose. The lazo used in Mexico and North America seldom exceeds sixty feet in length and is often shorter. It is made fast

to the high pommel of the Mexican saddle, and, being thus in front of the rider, can be thrown on the "near" as well as on the "off" side, or, if the lazoed animal crosses, the lazo can be shifted over the horse's head with little danger.

Mexicans and Texans are probably not so skilful on horseback as the South Americans, but more dexterous than they in the use of the lazo on foot. Technically speaking, the lazo is hardly a sport, as it is rarely used for amusement, but it is a difficult, a dangerous, and a picturesque exercise, and to acquire its use in perfection a man must be a skilful horseman, pos-

esses. This species is characterised by the ground-colour of the fur being generally some shade of yellow, and by the black rosettes usually having no black spot in the central area. Its range includes the greater part of Africa, Asia Minor, Persia, Baluchistan, India, Assam, Ceylon, Burma, Siam, the Malay Peninsula, Sumatra, Java, and China. Apparently the name **Panther** properly belongs to one of the African races, in most of which the spots are small and a large number of them solid. North and East African leopards are, however, large-spotted, like the Asiatic races. There is a very small leopard (*F. p. nauopardus*) in



ROPING A MAN. SECOND POSITION.

sessed above all of good hands, and must have practised from his earliest youth.

In guerilla warfare the lazo is a useful weapon, and can be used, moreover, to drag a gun or wagon out of mud or through a river, for, by attaching the lazo to the gun carriage or wagon, four or five men can instantly add the strength of their horses to that of the team. The Spaniards say of the guitar that it requires no science, but only strength in the wrists and perseverance; and the same may be said of the lazo, if we add judgment, a cool head, a firm seat, and a horse that can turn upon a Mexican's "poblano" hat.

R. B. CUNNINGHAME GRAHAM.

LEOPARDS AND PANTHERS.—DISTRIBUTION OF.—In spite of the great difference in size between the animals popularly known as the Leopard and Panther, both are now invariably included by zoologists in the single species *Felis pardus*, of which, however, there are several local

Somaliland. In the Albany district of South Africa occurs a dark variety in which there is often a distinct black stripe down the middle of the back, and the spots elsewhere are much broken up and very numerous. Whether this form indicates a distinct race, or only a dark variety, is uncertain. In India and the Malay countries there is a large and a small variety, the former generally known as the Panther, and the latter as the Leopard. Both have the spots large, with a great tendency to form rosettes; and both must be regarded as constituting a single race, which is the typical representative of the species (*F. pardus typica*). To this race must likewise be referred the **Asiatic Black Leopard**, most frequently met with in elevated districts in Southern India and the Malay Peninsula. It is not a distinct race, but merely a black, or "melanistic" variety, the spots clearly showing in certain lights. Black leopards also occur rarely in North and East Africa.

Much more distinct is the **Persian**

Leopard (*F. pardus tulliana*), distinguished by its light colour, the large size of the spots, the length of the fur, and the great thickness of the tail. In all these respects this race forms a transition towards the Snow-Leopard. A fourth very distinct race is the **Manchurian Leopard** (*F. pardus villosa*) from Northern China, a mounted specimen of which is exhibited in the British Museum. This is a large, stoutly-built animal, characterised by the long light-coloured fur, the moderately thick tail, and the confluence of the spots to form large jet black rosettes, differing

thick fur, the white ground-colour, the large size of the spots, which, with the exception of those on the head, are somewhat ill-defined, and the great thickness and length of the tail, which scarcely tapers from root to tip, and is nearly three-quarters the total length of the head and body. Other distinctive features are afforded by the skull; the large yellowish spot on the otherwise black ears is also a characteristic mark of the species. The Snow-Leopard is an inhabitant of all the higher ranges of Central Asia, including the inner Himalaya, the Altai, and the Tian Shan. Its distribu-



SNOW-LEOPARD.

from those of the Jaguar mainly by the absence of the black centre. The muzzle, too, is shorter than in the Indian Leopard, and the entire animal has a massive appearance, very similar to that of the Manchurian Tiger; northern races of widely spread species very generally exhibiting the same peculiarity. This race is mainly known by flattened trade-skins, which are imported in considerable numbers from China; its exact geographical limits are unknown, but it certainly inhabits Manchuria, and not improbably, further south, gradually passes into the ordinary Indian race, through the Séistan leopard. Siamese leopards often exhibit small spots in the centre of the rosettes, like those of jaguars.

The **Ounce**, or **Snow-Leopard** (*Felis uncia*), although showing some resemblance to the Persian Leopard, is classed as a distinct species, characterised by the long

tional area thus extends from Gilgit and Hunza through Baltistan, Zanskar, and Ladak to Turkestan, Tibet, Trans-Baikalia, Amurland, and North-Western China. How far its southern limits extend is not precisely known; but it certainly occurs in the Pangi district of the upper Chinab valley. Whereas in the greater part of the Himalaya it does not descend below 9,000 ft. above the sea level, and ranges up to 16,000 and 20,000, in Gilgit it has been found in winter as low as 6,000 ft., and further north it doubtless occurs at still lower elevations.

The third specific representative of the leopard group is the **Jaguar** (*F. onca*); the **Puma** (*F. concolor*) being an apparently distinct type. Both are American; and since each has a separate article (*q.v.*), it will suffice to state that the former is distinguished from most Old World leopards

by the presence of black spots in the middle of the rosettes, and that in the latter the spots have practically disappeared, although frequently visible in certain lights. The numerous kinds of Puma which have been named by American naturalists must be regarded merely as local races. Another member of the group is the **Clouded Leopard** (*F. nebulosa*), distinguished by the long tail and the broad black-bordered markings on the fur of the body, and apparently allied to certain Central Asiatic cats, by which it is connected with the South American ocelot (*F. pardalis*). It occurs at elevations up to 7,000 ft. in the south-eastern Himalaya and Assam, and extends thence to the hilly districts of Burma, Siam, the Malay Peninsula, Java, and Borneo. In Formosa it is represented by a shorter-tailed race (*F. nebulosa brachyurus*). The **Hunting Leopard**, or **Chita** (*q.v.*), has, of course, nothing to do with the true Leopard, but represents by itself the genus *Cynalurus*.

R. LYDEKKER.

LEOPARD, AFRICA (*Felis pardus*).—**Nomenclature**.—The greatest possible confusion has long prevailed concerning the nomenclature of the various spotted cats—the panther, leopard, cheetah, puma, and jaguar, having from time to time been mixed up in the minds of writers upon the subject.

In North America the uniformly coloured puma is often styled "panther," the term applied by Buffon to the jaguar of South America; in India "panther" is the name given to the large, and "leopard" to the smaller, variety of *Felis pardus*.

Sir J. E. Tennent tells us that in Ceylon the leopard is frequently called *cheetah*—the latter word, I believe, merely meaning "spotted." I think it quite likely that the term "leopard"—lion-panther—was originally applied to the cheetah by the ancients, the panther-like *tout ensemble*, combined with the maned neck of the cheetah, being sufficient to account for this application of the term.

In South Africa the Boers and many colonists still call the cheetah "luipaard."

However, it is now generally admitted that there is but one true species of large spotted cats in Africa, viz., the leopard (the cheetah being of course placed in a different group). Notwithstanding the apparently wide difference in size, coloration, and habits between the large and small varieties, the frequent occurrence of forms intermediate between them establishes the identity of species.

The **Hill** or **Kloof Leopard** is common on the mountain ranges in all parts of Africa in which I have hunted, and amongst the kloofs and krantzies of the foot-hills, practically wherever it can obtain plenty of cover, water, and food.

It preys principally upon the small game which abound in such localities—bush-buck, bush-pig, duikers, and klipspringers, and at a pinch even the little hyrax affords it a meal. Monkeys are occasionally caught, while, if there are any farms about on the terrace-lands, foals, donkeys, goats, sheep, and dogs are amongst the leopard's victims.

The average total length of the male hill leopard is 6 ft. 5 in. or 6 ft. 6 in. (though this length I have often seen much exceeded), the tail being usually about 2 ft. 10 in., shoulder height 2 ft. 5 in., girth of forearm, 12 to 13½ in. His girth and muscular development are immense, the head somewhat long and narrow. The average length of the leopardess is 6 ft. 2–3 in. The fur is long, the ground-colour usually a rich, dark orange buff, paling on flanks and inner portions of limbs; the chest and belly are pure white. Bases of ears black. The spots are dark brown or black, arranged in the form of open rosettes around a centre of ground-colour darker than elsewhere.

These open rosettes occur only on the back, sides, and upper portions of hind limbs, those on the chest, forearm, flanks, belly, and thighs being solid and of large size, while on the face, head, neck, and lower limbs the spots are very small. The most typical forms of this variety can be recognised at once by the manner in which the spots on the back run into one another, forming more or less broken stripes, long, broad, and dark, continued down the tail, the tip of which is always black; both the rosettes and solid spots all over the body are very close-set.

The **Low Country Leopard** is at first sight a very different beast, higher on the legs, longer in body, less muscular, and of gaunt appearance. He inhabits the dense cover of reeds, grass, or thorn-thickets along the banks of the principal streams, and is often found in low stony hills, covered with brush, adjacent to water.

He has far wider choice in the matter of food and less trouble to secure it, as in the Low Country game, both big and small, is plentiful.

This fact accounts for the marked difference in outward appearance between him and his congener; the latter attains great muscular development from the necessity



After E. Caldwell.

LEOPARD.

of constantly climbing hills, krantzes, kloofs, and even trees in pursuit of its prey; the former, on the contrary, takes life more easily, usually seizing its prey when it comes to the water, and is altogether a lazier animal.

Average length 6 ft. 10 in. to 7 ft., the tail occupying 2 ft. 6 in., shoulder height 2 ft. 7 in. or 8 in. Fur short, close and sleek; head short, round and heavy; limbs long, and less muscular than those of the hill leopard. Ground-colour pale fulvous, but subject to much variation. In the typical animal the spots, though of a similar nature to those of the hill leopard, *never* run into bars or lines, but are always *widely set* one from another. In the intermediate forms, however, found commonly amongst the lowest foot-hills and throughout all the Low Country, so variable are the markings and measurements that in most cases it is impossible to determine to which variety any particular one belongs. All are, in fact, but modifications of one widely distributed type.

Tracking.—As an object of sport I consider the leopard has seldom had fair play. They are extremely difficult to find, but once this is accomplished, their pluck and savage nature will fully reward the sportsman. Good dogs, I consider, are almost an absolute necessity, especially in the hill country. The best for use in this country is a cross between the rough "Boer-dog" and a greyhound. He will be plucky, strong, with good staying power, a keen nose, and will have a turn of speed. Very large dogs are quite useless, for they cannot get through the under-wood and dense thorny thickets which abound in the kloofs, and into which leopards invariably retreat. Dogs that show too eager a desire to run forward contrary to orders should be promptly checked, and, if disobedient, should either be led by a boy or drafted out of one's "leopard-pack." Such dogs are apt to come to close quarters with the leopard too soon and unsupported, and may either get killed or permit the leopard to escape before the sportsman can get up.

In the summer months, *i.e.*, during the rainy season, December to April, leopards are difficult to find, whether in the hills or on the plains, owing to the length of the grass and denseness of the vegetation; but during the dry season, more especially when the grass is burnt off, it only requires patience and perseverance to bring them to bag. In the hill country, wherever leopards are of frequent occurrence, they will often be met with in the early mornings, and until the sun is an hour or more up, on the

edges of kloofs and forest tracks, and on the long open grassy spurs so common to the broken country at the foot of a mountain range.

They delight in sunning themselves on the rocks, and playing about in the cool dewy grass under the genial rays of the early sun. In the Low Country, also, the banks of rivers and small watercourses in the early morning are the most likely places in which to look for them.

Watching at Kills.—As a rule, however, leopards, like lions, are found by means of their "kills," a careful examination of which will soon tell the sportsman whether they are the work of a lion, leopard, hyæna, or cheetah. If the spoor can be made out, that will of course decide it at once¹; otherwise the carcase itself must be examined. With the exception of the hyæna, all these animals drag their prey some distance from the spot where it was killed—the hyæna *only drags portions*, when dismembered. The hyæna also eats meat, bones, skin, entrails, in fact everything indiscriminately; the other three disembowel their kill, and tear off large portions of skin with their teeth before eating. The cheetah disembowels in a rough, dirty fashion, *frequently eating some of the entrails, never burying them*; after devouring the viscera, he tackles the head, biting off the ears and nose, and lacerating the throat. The lion and leopard disembowel *neatly*, and bury the entrails; both then devour the viscera, but whereas the lion then sets to work upon the buttocks or inside of the hind legs, the leopard invariably tackles the breast-bone, brisket, and soft ends of the rib-bones. The hill leopard very seldom returns to its kill if once actually disturbed thereat; otherwise, provided the kill has not been unduly tampered with, it may be expected to return on the following night. The Low Country leopard, on the contrary—possibly because it fears man less, not having so frequently come in contact with him—displays the utmost audacity in returning again to its kill, no matter how much it may have been interfered with. In Central Africa the hill leopards are equally bold and audacious; a good deal depends upon how much or how little reason they may have had to fear man.

In all cases, however, I advise the *utmost* caution and skill in dealing with these creatures, for they are beyond question the

¹ Both hyæna and cheetah leave the imprints of their nails on the ground, the former deeply, the latter slightly. A full-grown male leopard's spoor is 4 in. in diameter, front feet—hind feet 3½ in. in diameter.

wariest brutes in the world. Supposing the leopard's kill has been found early in the morning, say any time before the dew is dry upon the grass; the sportsman then has two alternatives before him: he can either follow up the leopard at once with the help of his dogs, or he can set to work and construct a "*scherm*" (shelter of branches) from which to watch for the leopard at night on its return to the kill.

In the first event he should lose no time in getting his dogs together, and obtaining the assistance of two good native spoorers. I consider the latter invaluable, even though a man may have had so many years' experience amongst wild game as to have become

they are sufficiently trained to keep close up or go "to heel" when ordered. The steadiest dog still keeps the spoor, and the sportsman must now be all eyes, examining critically every heap of rocks, every ravine crossed, every thorn-thicket, and the lower limbs of the larger trees. If the approach has been—as it should be—silent and cautious, the leopard will jump up at close quarters, and the dogs must be instantly released. They will then quickly bring him to bay, or if he bolts, will follow him up and "tree him." It is well to provide each dog with a broad and somewhat tightly-fitting leather collar; it may save them from an ugly mauling.



AFRICAN LEOPARD.

as proficient in this branch of forest-craft as nine out of ten natives themselves.

The sportsman is too heavily handicapped if forced to keep his eyes constantly on the spoor; he requires to be free to keep a sharp look-out for the game, and to use his rifle instantly. Four good dogs such as I have described are better than a whole pack of doubtful ones; if they know their work they will lose no time in getting on the spoor, and with their aid and that of the natives, good progress can be made.

If the dew is on the grass, so much the better; it will then be easier to spoor the game across the open stretches of long grass and scrub.

When by the excited action of the dogs it becomes evident the game is near (usually, if his drinking place is found, it is safe to expect a leopard to lie up within a few hundred yards of it) three of them should be taken in hand and led, unless

Should the sportsman decide to watch by night (by moonlight, of course, from choice) he must study the prevailing wind, and also note carefully the direction taken by the leopard when leaving its kill, as from that direction it will surely return. These points noted, he can erect his screen—a 2½ feet breast-work of interlaced branches is sufficient—which should be about 20 to 25 feet distant from the kill; the latter must be handled as little as possible, and firmly lashed by the neck to a tree by means of a light chain or strong *riem*. It can, with advantage, be hung up about 5 feet from the ground, while another good plan, especially if the night is dark, and there seems but a poor chance of obtaining a shot, is to lash it to a log of wood about 8 feet in length and 4 inches in diameter. If the leopard seizes the kill, unseen by the watcher, he drags it away, log and all, but thereby leaves a spoor which can be

followed at earliest dawn, when the animal can often be shot at the carcase. Under any circumstances, there is great risk of the leopard winding one, for, as a rule, before approaching its kill, it makes a complete circuit round the spot, to test the wind. If, however, the watcher gets his chance he must keep cool, seize his *first* good opportunity, and *fire low*.

When the nature of the ground is such as to permit of the "schirm" being erected on higher ground than that where the kill lies, such as on the bank of a creek, top of an ant-heap or a pile of rocks, then the sportsman's chances of success are at least doubled. Watching from any height in a tree is almost useless; it is difficult to see an animal on the ground, and, besides, a leopard, unlike a lion, always *examines the trees* when approaching a kill, far more critically than he does objects on the ground.

A yet more certain plan, and in fact the only one to be adopted in case the leopard fails to revisit its kill on the first night, is to hang the latter well up in a tree, and then tether a goat on the spot, tying a piece of string to one ear, the other end of the string being led into the "schirm"; an occasional pull on this will cause the goat to bleat "to order"—a temptation few leopards can resist. On the leopard's approach, the goat tugs and strains at its tether, usually bleating loudly at first; then, standing stiffly at the end of the rope and staring hard in the direction from which the leopard is approaching, it becomes quite silent. The shot is best taken after the goat is seized, but sometimes a leopard gives a good chance when creeping in on its victim. On this account the ground should be cleared as much as possible round the bait; on no account should the latter be tethered less than 30 ft. distant from any heavy cover. Judgment and caution must be exercised from first to last; the branches for the "schirm" must be cut quite 100 yards from where the bait is to be placed, and in fact every endeavour must be made to retain the former natural appearance of the spot, even to artfully concealing the "schirm" by throwing branches loosely in front of it.

I have frequently used Brock's blue lights for shooting on dark nights, with fair measure of success, the plan adopted being to fasten one or more of the lights to a bush or tree, behind and above my right shoulder, pointing in the direction from which the game is expected. Thus placed, the light when struck shows up the rifle sights well, as also any object in front for

a distance of 25 to 30 yards, so that if lit up when the leopard is eating at the carcase, there is ample time, if one is quick, to put a bullet in the brute's chest as he springs to his feet and stares at the unwonted glare. Of course, they do not always stand thus, frequently bolting precipitately, but one must take the chance of it.

Following a wounded leopard is most risky work; he will hide anywhere, for scarcely any cover is so small and insignificant but he will make himself invisible in it. Leopards seldom give any warning of their proximity in such a case, as does a lion, but will fly out at dogs or man with implacable fury and lightning speed; one must be smart with the rifle then or stand by for a mauling.

A smooth bore, loaded with AAA shot, should stop any leopard in its charge at close quarters, but I consider the use of such a weapon quite unsportsmanlike. A wounded leopard, unless closely pursued by dogs, never takes to a tree, but if not too badly hit will travel a great distance before lying up. One should get quickly on the spoor, and even then, without dogs, there will be many checks, as the loosely set skin frequently covers up the bullet hole and prevents external bleeding.

The same general rules apply to hunting the Low Country leopard, but the latter are usually more difficult to spoor from a kill, not only because if found in fly country one seldom has any dogs in camp, but also owing to the nature of the ground traversed. A leopard scarcely leaves any trace of his passage either through long grass, reeds, or over the short stiff "wire-grass" and strong rubble of many of the Low Country ridges; whereas spoor is fairly easy to follow over the damp, soft soil of the kloofs. The Low Country leopard, however, seldom travels far from its kill, especially if water is handy; and a systematic search through all the most likely and unlikely cover within a radius of 300 yards from the kill usually proves successful; in fact, it is not at all an unusual thing to find this animal lying at his kill throughout the day.

Rifle and Ammunition.—Any light, accurately sighted double rifle with a slightly hollowed conical lead projectile of *not less* than 360 grains will account for a leopard.

I have on most occasions used a Gibb's Metford. It is a perfect weapon for leopard shooting; but in kloofs and dense bush I often use a double 12 rifle, a wound from which leaves a good blood spoor. Owing to the weight of its projectile the shock to the animal is great, and prevents its going any great distance after being hit.

The .303 rifle should be a deadly weapon for leopards, if a reliable expanding bullet is used.

Aim should always be taken for the shoulder, if the animal is broadside on, and for the centre of the chest or the junction of neck and shoulder if facing or quarter face on.

Although I invariably use ivory bead foresights, I do not consider them "quite the thing" for bush shooting. A small enamel bead-sight, which if necessary can be made to slip over the ordinary sight, is more opaque and therefore gives better results; for moonlight nights these enamel sights are excellent.

For work in dense and thorny bush, no material will be found to answer so well or to wear so long as gabardine, which is practically thorn proof. A close-fitting cloth cap is the best headgear; a broad-brimmed felt hat or a helmet is knocked off too easily by the twigs.

FRED. V. KIRBY.

IN SOMALILAND.—Leopards and panthers are so cunning, so stealthy in their habits, so easily concealed, and they live in such broken and intricate ground, that they can seldom be systematically hunted like other kinds of large game. Moreover, they live chiefly in stony hills, where tracking their light footsteps is next to impossible. Leopards are seen now and then by daylight when the sportsman is in pursuit of other game, but they generally disappear before a shot can be fired. They turn up at the most unexpected times and places, but are most often heard of in the hunting countries of North-east Africa, in the neighbourhood of the grazing grounds of the flocks of the nomads, when the kraals are pitched at the foot of the rugged hills or on the edge of broken country intersected by ravines. In the afternoons, and about an hour before sunset, as the flocks are being driven homewards, the leopards sneak out from their rocky hiding places to strike down any lagging sheep or goat.

There are exceptions, however, and a kill may occur at any time when the flocks are about, and attacks by night are bold and frequent, the victims being dragged out through the thorn fences of the kraals.

If darkness is setting in when the kill occurs, by the time the news gets to the sportsman's camp it is too late to do anything. But if a kill takes place early in the afternoon, a not uncommon occurrence, there is time to erect a small screen of brushwood down wind and within a few yards of the carcase, behind which the

sportsman can hide. The leopard will almost surely return to such a kill at sunset, and can be easily shot. In a case of this kind it is important not to touch the carcase or even approach it too closely, as the human taint hanging about would be quite enough to excite suspicion of a trap. The attacks of leopards are very varied in character. On one occasion the writer, when following a wounded antelope, found that a leopard had taken up the chase, leaving its tracks over those of the antelope; and when a little later the antelope was discovered lying dead, a leopard, which had been drinking its blood, bounded away. This occurring at about 4 p.m., the writer sat in the shade of a bush thirty yards from the carcase for an hour, at the end of which



SOMALI LEOPARD.

time the leopard returned boldly to the kill and was shot.

On occasions leopards were shot by watching over a goat tied up as a living bait at night. A screen was erected, if possible down wind, and a little above the bait, the latter being tied to a heavy log of wood: it is a mistake to tie it to a stake fixed in the ground, as unless the leopard can drag his kill a little way he will suspect a trap and bound off. The best time to shoot is when the leopard is lying on the victim drinking its blood, or is dragging it slowly along. A half-grown kid, which will bleat loudly, is the best.

The writer found it a good plan to take post just as the men were finishing work on the screen. They had instructions when going away to make plenty of noise, talking loudly, so as to give the impression that no one remained behind. On one occasion when this ruse was practised, the men having only just walked away, and while they were still only two hundred yards distant, the leopard walked boldly up, and was shot by the writer, who had remained in ambush.

On another occasion he sat behind a

screen of brushwood, watching a pool of water before sunset, at a time when most of the other streams and pools in the neighbourhood were dry. The leopard came to drink while it was still twilight, and was shot, stumbling away to die in a ravine close by, where he was found half an hour later by the aid of a lantern.

Leopards are very bold and enterprising when they have made up their minds to attack, and it is well known that in civilised neighbourhoods they will enter houses; and many a time has the writer's camp been attacked and a goat killed within the thorn fence, in spite of the presence of an armed sentry. On one occasion the brute was seen to creep under the outer fly of a "Cabul" tent within a few yards of where the writer was standing, and, springing over a circle of sleeping men, seize a goat which had been tethered close to the camp fire. An approach was made on another night along the branch of a tree overhanging camp, followed by a perpendicular drop on the goat, which, however, it had no time to kill before it was driven away.

The leopard will charge against any odds when wounded. Once when following one by the light of a faint moon, accompanied by a dozen natives armed with rifles, the writer was charged by a leopard, which sprang on the next man to him. The man held down his assailant by the throat till it could be shot. This animal had first attracted attention two evenings before by prowling round camp, emitting at intervals the peculiar rasping growl, something like the sound of sawing of wood, which is so often heard echoing through the hills, even in the day-time, where leopards are common. It can be heard at a great distance. In this case a goat was tied up on the first night, but, on springing, the leopard caught sight of the ambushed sportsman, promptly let go the hold on the goat's neck, and bounded away. The same tactics were resorted to on the second night, but the writer, forewarned, fired a snapshot at the beast while in its spring by which it was disembowelled. It crawled, however, into a bushy hill and died fighting, as above described. Moonlight tracking is not recommended where dangerous game is concerned; the lights and shadows are uncertain, and accurate aim is difficult; in the case related it was only resorted to in order to prevent the valuable skin from being spoilt by hyænas.

Examples are numerous in the experience of most sportsmen of leopards turning up at unexpected times and places. The writer once came upon one lying on its side

asleep at three on a hot afternoon in full view, on the open level sand of a river-bed, where a recent freshet had left the surface damp, and a high overhanging bank cast a cool shadow. Sometimes they were sighted for a moment in forest country, to bound away without giving a shot, and once a leopard was found asleep in the shade cast by the body of a dead elephant, just as a party with axes arrived to cut out the ivory. On another occasion a shot at one of a herd of gazelles was spoilt by the charge of three leopards, which scattered them. Once when the sportsman's caravan was on the march, the man driving the milch-goats happening to lag behind, the head of a leopard, which had evidently been following, was seen over a bush, but its owner, on finding itself observed, sprang away.

When a leopard or panther has carried off a goat and can be traced to one of the boulder-strewn hills in which they live, there are two ways of bringing it to bag.

One plan is to follow the tracks, if possible, or the trail where the carcase has been dragged along, till the leopard's cave is discovered. Very likely the remains of the meat will be found at the cave mouth. Then choose a convenient spot not far away at the foot of the hill, erect a zeriba or utilise a bush as a screen, and watch over a live goat for half an hour before sunset. It is not worth while waiting long after sunset, as by that time any leopard about will probably have gone further afield to prowl round the kraals.

Another way is for the sportsman, having found the cave, to post himself early in the afternoon on a pinnacle of rock above it and watch on the chance of catching a glimpse of the animal when he comes out for his afternoon ramble; after the sleep he will probably have taken during the heat of the day. Several men may be posted on the tops of the largest boulders in spots commanding the whole of the broken ground, so that if he is on the move he will probably be seen; and when seen his progress can be followed by signals passed along by the men; then with judgment and good wind on the part of the sportsman a shot may be obtained. It involves a good deal of jumping from rock to rock where a fall would be disastrous, and rubber tennis shoes are the best in dry weather.

Somalis sometimes kill leopards, as well as hyænas, at the wells, by leaving poison in the rough clay troughs which still contain a little muddy liquid after the flocks have been watered. Wild animals, being unable to climb down to drink from the

deeper wells, seem often to depend on these troughs, which are situated at the surface of the ground.

The range of the leopard, in North-east Africa at any rate, is not confined to any locality; it is most common in Somaliland, in the Golis Mountains, and their continuations east and west. It is rather rare on the flat stoneless interior plateau, and possibly altogether absent on the open treeless grass prairies. It is universally common where broken ground, intersected by ravines, is combined with the presence of goat and sheep kraals. It is seldom seen in the maritime plain, though common in the interior plains behind the low maritime ranges. It is, as before pointed out, so unexpectedly found that the only methods of hunting it, promising substantial probability of success, are by watching over water, over a kill, or over a living bait.

When driven by a line of beaters, leopards often escape observation by crouching or taking to the branches of a tree till they have passed; and it must be remembered that a platform in a tree is little protection against such a good climber, and in India many a sportsman has been pulled out of a tree.

When it offers a good chance, a leopard, being a small and thin-skinned animal, can be killed with comparative ease, and a double .450 express rifle should be a good weapon, but some writers recommend a double 12 bore gun, with S.S.G. shot, for use at close quarters. Being savage, vindictive, and fearless above almost any other game animal, they require straight and quick shooting. There are many occasions on record where a good knife, or a double .577 pistol, would have been useful carried in the belt, for in a charge the rifle may be knocked out of the sportsman's hand, and a leopard is not too powerful an animal to be met in this way as a last resort.

The Somalis call all leopards "*shabl*," but they affect to believe in the existence of a large kind, rare and inhabiting the highest hills, possessing supernatural powers, and the ability to change itself into a human being at will. This animal, if we strip it from exaggeration and superstition, is probably the larger heavily built leopard, which would be called a panther in India. These fine hill specimens sometimes take to man-eating, and when they do they are most destructive, one upon the Golis range in Somaliland having been credited, by native report, with a hundred human victims. The small Somali race is mentioned in Mr. Lydekker's article.

H. G. C. SWAYNE.

IN INDIA.—In India the names panther, leopard, and chita are indifferently applied to the present species. The proper Hindustani name is "*tendwa*," but it is frequently called chita by the natives, though this latter name is more appropriately applied to the hunting leopard (*Cynalurus jubatus*), a totally different animal. There can be no doubt that there exist two phases of the leopard in India, one larger than the other; the term "panther" being applied to the larger, and "leopard" to the smaller form. The so-called leopard rarely exceeds 6 feet in length from the nose to tip of the tail, while the panther measures from 6 feet to nearly 8 feet, more usually a few inches under or over 7 feet, but there is, of course, a complete transition from one type to the other; certain other alleged points of difference being of no value.

The leopard is found throughout India wherever there is jungle of any extent, but is partial to rocky hills; its favourite haunts being in the cavities among the rocks, where it lies up during the day, issuing forth at evening in search of food. At night time it does not seem to mind the vicinity of man, and prowls close round the villages in search of any stray dog or goat. Leopards feed on cattle, goats, dogs, deer, pigs, monkeys, hares, peacocks, and any smaller bird or animal that they can get hold of. They are very fond of dogs, and many a good dog has been carried off by them. When sportsmen are lying out for tigers, leopards frequently take the bait intended for the larger animal. Many instances have occurred of panthers carrying the animals they have killed into a tree and concealing them in the branches. They occasionally go up into trees to sit during the day, but this is exceptional, as they usually prefer to remain on the ground. In one well authenticated instance a panther was seen ascending a tree in the course of a beat to look about him; and it is well known that they have, when wounded, gone up the tree and pulled down their assailant sitting in it. Sometimes in a beat it is believed that panthers ascend a tree and remain hidden there until the beat has passed. They have also been observed treed by wild dogs. When wounded and followed on foot, they are, if their wound disinclines them to travel, almost certain to charge; they are very courageous in these circumstances, and will go at one man after another with astonishing rapidity.

The panther has a wonderful knack of concealing himself. The smallest depression of the ground and the shortest of grass

suffice to render him invisible. Conspicuous as he is when walking, the moment he has crouched in the yellow grass and flickering shade it is impossible to see him before he makes his charge. Of course, if he does not intend to charge, as he moves to go

are seen, and about sunset, or shortly after, the robber may come. Another method is to sit over the carcass of a kill, and wait for the panther's return. Panthers may likewise be occasionally seen and shot when out stalking, but it is not possible to track



INDIAN LEOPARD OR PANTHER.

away you can shoot him easily enough. The wounds inflicted by the panther, though not so deep as those made by the larger *Felida*, are frequently fatal, blood-poisoning being a common sequel.

The usual mode of shooting is by driving them towards the gun by a number of beaters, but it is often impossible to induce the panther to leave his hole in the rocks, where he sits listening to the din. If there are no rocks, he is lying under a bush or in the grass in the shade of a tree; nevertheless, he sometimes manages in some wonderful way to slip away unseen, or, what is not unlikely, sits close and lets the beat pass him by. Another way is to tie up a goat near the rocks where the panther is supposed to be. The goat bleats for his comrades, and the panther is attracted and comes out. From 3 p.m. to sunset is the best time. Or a goat can be tied just outside a village, where the tracks of a panther

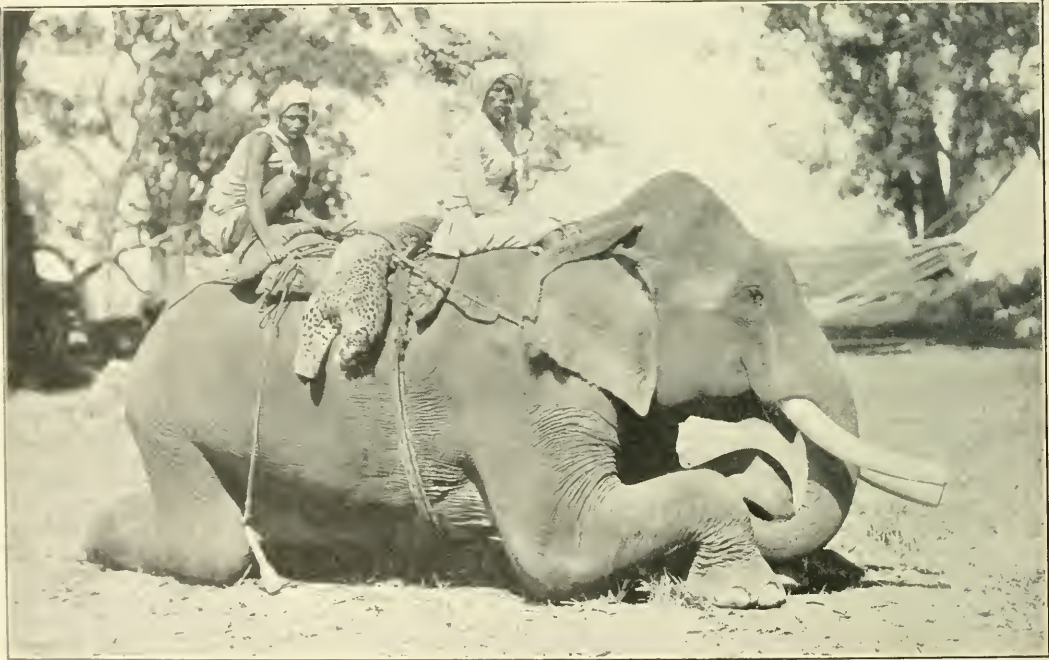
them up. It is mere chance, walking them up, and rarely occurs. They bring forth their young usually in April and May, and as a rule produce two cubs, which accompany the mother until nearly full grown. Man-eating is not so common among leopards as among tigers, but when they take to the habit they become a terrible scourge, entering the villages at night and seizing man, woman, or child as they lie asleep. One male panther, in the writer's own experience, in the Hyderabad districts, killed in less than a fortnight two women, two men, and one boy, and had killed several others before. In every case the victim was seized by the throat when asleep. This panther's career ended in a trap: he was of the large variety, and in full vigour. It also transpired that he was accompanied by a female, whose tracks, however, had not on any previous occasion been observed. On the night of his capture, the female

seized a man at the same village, who succumbed afterwards to his wounds, though they were of a trifling character. In the twelve months afterwards she only killed two persons, so there can be no doubt that the male was the chief offender. There are two ways of trapping panthers; one by a box-like cage with a falling door, in one end of which a goat is placed for bait, and in this the panther is taken alive. In the other mode, a heavy triangular framework of wood, loaded with stones, is supported by an arrangement something like a "figure-of-four" trap. The ground beneath is excavated a few inches to the shape of the triangular frame, which fits into the excavation when it falls. In the centre a small hole is dug, in which a kid is placed with its legs tied; this is covered with a dry palm leaf; a string attached to the trigger which lets the erection fall is fastened inside the hole, and when the panther comes, he scrapes with his paw at the palm-leaf, so

The track of the adult male is rounder than that of the female, the impression left by the foot of the latter being oval in shape. Black panthers are rare in India. G. P. Sanderson mentions that a black female in the Zoological Society's Garden at Amsterdam had two cubs, one black and one of the ordinary colour, but nothing was known of the male parent. The converse case of an ordinary female with one black cub among others of ordinary hue has been seen, it is believed, in India, though chapter and verse for this statement cannot be given.

J. D. INVERARITY.

LEOPARD SPEARING. — Spearing leopards is a sport to which some Indian rajas are extremely partial. The leopard is caught in the forest in a cage-like structure made of natural boughs, with an inner compartment baited with a live goat; and, being transferred to a smaller cage, is taken without delay, so that it may lose



THE RETURN TO CAMP.

as to get at the kid, and pulls the string, when the whole weight of the frame and stones descends and crushes him to the ground. If not killed by the fall, he is easily despatched, as he cannot move. The man-eater referred to was caught in a trap of this description placed in a shed in the middle of the village, and close to a hut from which he had taken a girl a week previously.

none of its courage or activity, to an open plain, where it is loosed with ample law, in the presence of sportsmen mounted, armed with boar-spears. If it makes for the forest, it affords a spirited chase before it is speared; and if it crouches, awaiting the attack, it ordinarily makes good its spring on the first assailant, so that it is not speared without some danger to horse and man.

LICENCES. — **Dog Licences.** — An annual licence, formerly costing 5s. (30 & 31 Vict. c. 5), but now costing 7s. 6d. (41 Vict. c. 15), is required to be taken out for every dog more than six months old (except *sheep dogs*, used exclusively for sheep, *blind men's dogs*, and *hounds* otherwise paid for), under a penalty of £5 and costs for each dog so kept. The penalty for not producing a licence within a reasonable time after request by Excise officer or police constable is £5 (Dog Licence Act, 1867, sect. 9).

The penalty for using a dog without a licence to kill or take game is £20, under 23 & 24 Vic. c. 90 sec. 4, entitled "An Act to repeal the duties on Game Certificates and Certificates to kill game, and to impose in lieu thereof Duties on Excise Licences and Certificates for the like purpose."

Game Licences.—After repeated discussions in Parliament, the necessity of any qualification for killing game was by 1 & 2 Will. IV. c. 32 abolished, and the right was made to depend merely on the payment of an annual tax called a "game certificate,"¹ still so called in Ireland, but now termed in England a "licence to kill game."

This licence is required to be taken out by every person using a dog, gun, net, or "other engine," for taking or killing "game" (elsewhere defined), or any woodcocks, snipes, quail, landrail, rabbits, or deer.

No licence, however, is required for netting or snaring woodcocks and snipes; for killing rabbits in a warren; for coursing or hunting hares, or for hunting deer; and the following persons are also exempted from taking out a game licence, viz., members of the Royal Family; His Majesty's game-keepers; persons assisting *without guns* in the killing of game by licensed persons; and owners or occupiers of enclosed land killing hares on their own enclosed land. Under the Ground Game Act, 1880 (43 & 44 Vic. c. 47) the occupier and persons authorised by him to kill ground game are not for that purpose required to take out a licence to kill game, but it is expressly enacted (sec. 4) that they must hold a 10s. gun licence, under the provisions of the Gun Licence Act, 1870 (33 & 34 Vict. c. 57).

The duties to be paid for game licences vary according to the period for which the licence is required. For the whole season the duty is £3; until October 31st £2; and after November 1st to end of season

(February 2nd) £2; while a licence for fourteen consecutive days (inclusive of Sundays) at any time during the season may be obtained on payment of £1. The cost of a game-keeper's licence is only £2 for the whole season. Subject to the exemptions above mentioned, the penalty for searching for, or killing "game" without a licence, is a fine not exceeding £5 (under 1 & 2 Will. IV. c. 32), and for killing "game," woodcock, snipe, quail, landrail, rabbit, or deer without a licence £20 (under the Licensing Act 23 & 24 Vict. c. 90), while any person discovered in pursuit of "game," &c., and refusing to give his name and address, or to produce his licence to persons authorised to require its production, or producing a fictitious or expired licence, or giving a fictitious name, is also liable to a penalty of £20.

Licences to deal in Game.—Formerly under the provisions of the principal Game Act (sect. 18), licences to deal in game were granted by Justices of the Peace at special sessions held for the purpose; but by the Local Government Act, 1894 (56 & 57 Vict. c. 73), such licensing was transferred to the District Councils (sect. 27), to whom all duties are now payable, and this applies to a county borough as if it were an urban district, and as if the county borough were a District Council (sect. 32).

A District Council licence must be produced to the Commissioners of Inland Revenue before an Excise licence to deal in game will be issued (Game Licence Act, 1860, sect. 15). A game-dealer can buy game only from a person holding an annual licence (£3) to kill or take game, and the latter can only sell to a licensed game-dealer; for the Game Licence Act, 1860 (sect. 13) expressly provides that no person may sell game to a licensed dealer except the holder of a £3 game licence, and this applies to game alive or dead, wild or tame. The granting of a licence to deal in game to any carrier or higgler, or to any inn-keeper, is prohibited by sect. 18 of the principal Game Act, but an innkeeper may sell game to visitors for consumption on his own premises.

Every licensed dealer in game is obliged (under sect. 18) to put up a notice board in front of his house, shop, or stall showing his Christian name and surname, followed by the words "Licensed to deal in game."

Gun Licences.—Until August, 1870, no duty was payable by any person using a gun for any other purpose than killing game.

In that month, however, the "Gun Licence Act," 1870 (33 & 34 Vict. c. 57)

¹ Certificates were first required to be taken out by persons qualified to kill game by statute 25 Geo. III. c. 50.

came into operation, and by its provisions no one (except those exempted from duty as above mentioned) may use or carry a gun without a licence costing 10s., under a penalty of £10. This licence, however, is not required to be applied for by persons who have already taken out a game licence, so long as that game licence remains in force; nor does the "Gun Licence Act" apply to persons in the army, navy, volunteers, or constabulary using their firearms in the performance of their duty, or to persons carrying a gun to scare birds from the crops, or to kill vermin, or carrying a gun for the holder of a game licence or gun licence.

The term "gun" includes a firearm of any description, and an air gun, or any other kind of gun, from which any shot, bullet, or other missile can be discharged (sect. 2). Under this section it has been held that a toy pistol is a gun within the meaning of the Act (*Campbell v. Hadley*, 40 J. P. 756), but not a catapult.

Proceedings under this Act cannot be instituted by private individuals, but only by the Commissioners of Inland Revenue, inasmuch as the Act was passed for the purpose of raising imperial revenue.

J. E. HARTING.

[See also GAME LAWS.]

LIFE-SAVING.—[See SWIMMING.]

LION—SOUTH AFRICA (*Felis leo*).—Although I believe that it is now the opinion of most modern naturalists that there is no specific difference between the African lion and his Asiatic relative, and that therefore there is but one species of this animal in the world, whether it be found in North-Western India or in Persia, or in any district of the vast African continent; and although I myself consider the opposite view, that several species of lions exist, to be quite untenable; yet I think it possible that these animals may vary to some extent in character even in different districts of the same continent. I will therefore preface what I am about to write concerning them by saying that my observations have been made solely in Southern and South-Eastern Africa, and my notes, therefore, will be descriptive of the lion as I have found him in those districts.

When the Dutch first landed at the Cape of Good Hope, lions must have been very numerous in the Cape Peninsula, as the following entry occurs in the diary of the first Governor of the country: "This night the lions roared as if they would take the fort by storm," the said fort standing on

the site of what is now Cape Town. Long after this date, in the early years of the nineteenth century, lions were still plentiful in many parts of the Cape Colony. But as the abounding game on which they lived was killed off, and the country settled by the ever advancing European colonists, there was no food left for the great carnivora but the flocks and herds of the human intruders. On these the lions feasted freely, and sometimes they were able to kill and eat one of the disturbers of their peace; but teeth and claws, though good weapons in their way, are no match for firearms, and so the lions were gradually destroyed, and now one must travel many a hundred miles inland from Cape Town in order to meet with one of these grand brutes in his wild state.

Where the carcass is, there will be the vultures, and at the present day in Africa where there is game, there too will lions be found; few and far between where the beasts on which they prey are scarce and scattered, but numerous in districts where wild animals still abound. How numerous both game and lions once were in South Africa may be judged when I mention that the Rev. Robert Moffat has left it on record that he once saw in one day, when travelling on the eastern border of what is now British Bechuanaland, nine different troops or families of the latter.

It is undoubtedly more usual to come across several lions together than one by itself; and I think I may say that in undisturbed parts of the country, where game is abundant, it is quite the exception to find a lion or a lioness alone. Two or three male lions often hunt together, though family parties are, I think, more frequently met with. The grown-up members of such parties may consist of one old male and from one to four females; but should two or more of these females have cubs of different ages at the same time, the family party may become a veritable troop of lions, amongst which at a little distance the more mature of the rising generation will be scarcely distinguishable from their mothers, whom they do not leave until they are old enough to hunt for themselves. From my own experience I should say that it is very unusual to find more than one mature male amongst a family party of lions, though such a master of the harem may tolerate the company of one or two of his sons until they become old enough to aspire to the affections of one of his wives. Then there is probably a row, and the young lion quits his father's household and goes out into the world, either alone or accompanied by

one or more of the ladies who have caused the trouble. At times, however, undoubtedly two or even three male lions, each with his own females, fraternise and hunt together; but the passions of love and jealousy must always, I fancy, cause such alliances to be of a very temporary character.

Man-eaters.—When through old age the powers of a lion begin to fail, he meets with no consideration at the hands of his

a herd of buffaloes approach his lair, and he has neither the agility nor the strength to pull down any of the antelopes that he can see feeding in the plain near him. His only chance is to lie hidden close to some pool of water, in the hope of being able to pounce on a young wild hog. Failing that he must try to kill a porcupine, and fill his mouth and feet with its sharp quills before he can obtain a meal, or else endeavour to find a tortoise and gnaw through its hard



AFRICAN LIONS HUNTING.

[From a drawing by E. Caldwell.]

fellows, by whom he is driven away to lead a solitary life of hardship only to be terminated by death from starvation, or, worse still, by the cruel fangs of the very hyænas to whose carrion-eating tribe he had been as a king in the days of his prime. Does the old lion, I wonder, lying gaunt and mangy, tired and hungry, with shrunken muscles, broken teeth, and worn-out claws, ever remember in his solitude the halcyon times of his earlier career? If so, bitter indeed must be his thoughts. In the days of his strength, not so many years ago, he could seize a buffalo by the nose and break its neck with one swift powerful jerk, or drop a zebra in its tracks with a bite behind the ears. Now he must slink away should

shell for the sake of the mouthful of meat within. But day by day he must become weaker, and at last creep into some hiding place and die of starvation, or support the last humiliation of having his poor wasted limbs torn to pieces by wild dogs or hyænas. An old lioness suffers the same hard fate, her sex not protecting her from the neglect or even active hostility of her fellows in her extreme old age.

In some parts of Southern Africa, where there is still a fair quantity of game, and where, therefore, there are lions about, there are also natives living in small communities, whose otherwise monotonous existence is sometimes relieved by the presence of one of these latter animals that has

become so old and comparatively weak as to be unable to kill game. Such an old lion or lioness, having failed for days perhaps to procure food for itself, may at last in its hunger and despair resolve to visit the habitations of the evil-smelling, two-legged creatures of whom it has always hitherto had a strange and unaccountable dread. Let us suppose that an old lioness



FOSTER'S LION.

in the last stage of emaciation has reached a small enclosure in Northern Mashonaland in which there are some half dozen native huts. It is night, and the famished brute lies watching the light of the fires and listening to the murmur of the human voices and the bleating of the goats. But she is very old and very weak, and lacks the strength and the courage to try to force an entrance into the enclosure, and endeavour to carry off a man or a goat; and so, when day breaks, she is still lying watching.

Presently the poles forming the gate of the enclosure are taken down, and a small troop of goats is driven out, and the hungry, desperate, watching beast notes that the creature who drives them is very small—a little boy, in fact, of but seven or eight years of age. All that day the goats and their shepherd are followed and watched by a cruel pair of hungry-looking yellow eyes, but not till they are returning home in the dusk of the evening does the watcher at last make up her mind to act. With stealthy step she creeps up behind the little

boy as he whistles gaily to his home-returning flock, and is almost upon him before her whereabouts is discovered. The despairing shriek of the child and the low purring growl of the savage beast as she springs upon him are simultaneous.

That evening the goats come up to the kraal alone somewhat later than usual, for when their little shepherd was seized by the lioness they had loitered to browse; and would not have come home at all had not the nannies, whose kids had been kept behind when they went out to feed in the morning, led the way. Search is made for the missing shepherd, but it has grown too dark to note any trace of the brief struggle on the path, and the body has been dragged away into the bush. The next day, however, guessing what has happened, all the men in the village turn out with guns and assegais, and the lioness is soon found lying growling by all that remains of the boy that is not inside her. She is killed there and then without difficulty, and her mangy carcase is burnt on a great fire; and so ends this little tragedy of wild life.

The foregoing is no fancy picture, but the tale of what once happened close to my camp, as well as it could be elucidated by the tracks on the ground, which showed that the lioness had been round the kraal the night before she killed the boy, and had been near the goats as they were feeding during the daytime.

This lioness was not very formidable, as she was extremely old. I once came on one even weaker still from hunger and old age. This animal had been hanging round a Batonga kraal on the Zambesi, the inhabitants of which had no guns, and she had killed a goat or two before my arrival. I came on her early one morning, not far from the native village, as she was lying in wait. On seeing me approach, she left the patch of reeds in which she had been hiding, and walked across the path I was following, on her way to a wooded ridge; but so weak was she that twice in the space of one hundred yards her hind quarters gave way, and she swung over into a sitting position, and when I had shot her I found that she was nothing more than a few fleshless bones with a skin stretched over them. Her teeth were worn down to stumps, and her claws all cracked and broken.

It often happens, however, that an old lion takes to preying on human beings long before he has become actually decrepit, and such an animal may prove a very dangerous neighbour to a native kraal. Having gone hungry for several days through failing to kill game, he comes to

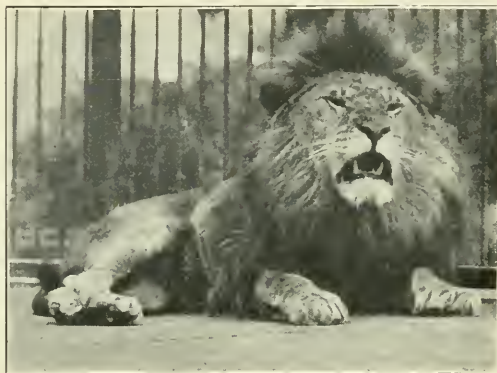
a native village ripe for mischief, and perhaps has the luck to kill a nice plump native woman working in her maize field or going to fetch water, the very first day. He is astonished at the ease with which his first human victim was killed, and has also probably found the flesh really tasty; and he very naturally says, "No more running after strong wary brutes with sharp horns for me," and from that time till the day of his death he becomes a man-eater. His career may be cut short very soon, and in a district in which there is a considerable native population it is pretty certain to be so, as African natives usually combine to kill a man-eating lion; but I have known some of these dangerous brutes to become very cunning, and to do a great deal of mischief before they were destroyed. I have, too, seen several small abandoned villages in Northern Mashonaland, which I was assured had been deserted by their inhabitants because of the depredations of man-eating lions.

I have known cases where native men were seized and killed by lions in broad daylight; but such cases are, I think, very rare, man-eaters doing their work as a rule at night or in the dusk of the evening; and I think it may be taken as a general rule that in the daytime, or even on a bright moonlight night, lions will give way before the presence of man. I have on many occasions come upon lions feeding on the carcase of an animal they had only just killed, and at a time when they might reasonably be supposed to have been hungry; yet they invariably relinquished their prey and retreated. Exceptional cases to the contrary have doubtless occurred, but they are so few as to prove the rule.

Lions, however, have different ways of retreating before human beings, and my experience on this point is as follows:—In a country where much shooting has been done, and in which lions have been much disturbed, they will be found to have developed a great fear of man, and will not only retreat before him, but run off directly they become aware of his presence at such a pace that if he is on foot he will never get a shot at them. In districts, however, where they have never been interfered with, and where, in fact, they have grown to consider themselves the lords of creation, as the natives from time to time encountered kept out of their way, they behave very differently. Should you come on a family of lions in such a district, they will all stand and look at you with lowered heads, and one or two will perhaps growl and twitch their tails; but the rest will probably walk slowly away, to be followed soon by

their more sullen companions, who, however, will keep on halting and looking threateningly back at you; but they will keep on retreating, and finally disappear in the grass or reeds or bushes.

By day, therefore, if he is not interfered with, a lion cannot be called either bold or savage. By night, however, and especially on a dark rainy night, it is a different matter, and a hungry lion will at such a time often show himself to be a most daring and resolute animal. In my own experience I have known a lion enter a strongly fenced camp three times in one night



LION IN CAPTIVITY, SHOWING THE HEAVY MANE.

through the narrow opening left as a doorway, on each occasion carrying off the skin of a sable antelope. The first time he came in, the fire in the middle of the camp had burnt rather low; but it was then made up, and was blazing brightly when he passed within a few yards of it, on his second and third raids. I have also known horses to be seized that were tied to the wheel of a waggon outspanned for the night, and oxen attacked and killed whilst tied up to the yokes. Such incidents, indeed, are, or perhaps I ought to say were, of constant occurrence in the history of travel in the interior of South Africa; but the country is fast becoming denuded of game along the main roads, and the lions have moved back with the game, or else have been shot by the owners of the cattle they had killed.

Though man is not the natural food of the lion, and though the latter would doubtless prefer the meat of a buffalo, zebra, horse, or donkey, yet I do not think he would ever hesitate to kill and eat a human being, if he happened to meet one on a dark night, and was really hungry. Therefore I consider it more or less risky to walk along a road on a moonless night in any part of South Africa where there are lions about. One might do so twenty times without meeting a lion, and one might meet

and pass several lions before coming across a really hungry one. But when at last that hungry animal was encountered, nothing could save one, as the lion would spring upon his unhappy victim from behind, and crush in his skull at one bite with such lightning-like rapidity that all resistance or evasion would be out of the question.

During the construction of the Beira Railway, in South-East Africa, lions were very troublesome, and often carried off men from the native working parties at nights. Indeed, Mr. A. L. Lawley, under whose superintendence the line was constructed, informed me that although he could not give me the exact number of men he had lost in this way, he believed it to be between thirty and thirty-five.

Methods of Killing and Devouring their Prey.—Lions have no invariable method of killing their prey, but act in accordance with circumstances and the nature of the animal attacked. However, they appear to know that wounds inflicted on the head, throat, and back of the neck are the most speedily fatal to life, as these are the spots selected for their death-dealing bites.

It is my experience that in South Africa lions do not strike their victims a crushing blow with their paws, but use their claws primarily to hold their prey whilst they kill it with their teeth, although, of course, terrible claw gashes are often inflicted on any soft-skinned animal they may seize. Zebras, horses, and donkeys are usually killed by bites behind the ears or under the throat; whilst an ox, buffalo, or horned antelope is seized by the nose with one paw, and the claws of the other are driven deep into its withers. At the same time its head is jerked in under it, and its neck either at once dislocated by the enormous strength of the lion, or else the weight of the latter causes it to stumble and fall with its head pulled under it in such a way that it breaks its own neck.

I do not say that this method of killing horned game is invariable with lions, but I have known a large ox to be killed very neatly by a single lion in this manner, and I have found the claw marks on the muzzles of many other oxen, as well as buffaloes and horned antelopes that had been killed by these animals, and therefore imagine that they were killed in the same way. A single lion kills his game neatly and quickly, whilst I have known a party of lions to maul an ox in a disgraceful manner before they killed it. I imagine that this was because the younger members of the party were still learning their trade,

and in their eagerness and inexperience bit wherever they could lay hold.

When once a lion or lions have killed an animal, they open the carcase at the point where the skin is thinnest—that is, just in front of where the thigh joins the belly, at once eating this thin skin and the thin layer of flesh attached to it. Then they drag out the entrails and paunch through the opening thus made. This operation is performed with extraordinary neatness and cleanliness, the contents of the paunch and entrails never being spilt over the meat, as they always are when a Kaffir has the cutting up of a beast to do. The offal which has thus been removed from the carcase is dragged away to a little distance, and covered with earth and grass, which is scratched up over it, often so profusely that it is quite hidden from sight. Then the feast commences. First the liver, kidneys, heart, and lungs are eaten; then the carcase is again torn open at the anus and the soft meat of the buttocks eaten. The meat is torn off and eaten in great lumps with the skin attached. The lion is not a bone eater, but likes soft juicy meat, although, if an animal that he has killed is in good condition, he will eat all the fatty bones as well as the meat and fat of the brisket, and also gnaw off the ends of all the ribs, but no attempt is ever made to crunch any of the larger bones.

It used to be a popular fallacy, and possibly is so still, that the lion is a clean feeder, and will not touch carrion, or indeed feed on the flesh of any animal which he has not killed himself. The fact is that he is quite the reverse of choice or delicate as regards food. Should he come across a dead animal of any kind, killed by a human hunter, he will not go a step further to look for game, but will make a meal forthwith on the carcase that chance has thrown in his way. Nor is he at all particular as to the condition of such a carcase; as long as there is any meat left on it he will eat it, and I have known lions to feast night after night on the putrid carcasses of elephants in preference to killing fresh meat for themselves, although game of all kinds was abundant in the immediate neighbourhood. Although the lion habitually preys upon every kind of South African game with the exception of the elephant, rhinoceros, and hippopotamus, yet in a well-stocked game country, where he can take his choice, his taste seems to incline to the buffalo and Burchell's zebra rather than to any of the antelope tribe. Whether it is that these animals are less wary, and therefore more easily caught than antelopes,

I do not know, but it is certain that wherever large herds of buffaloes still exist—I speak of herds of two or three hundred animals together—lions will be found following them about, just as the grey prairie wolves are said to have hung constantly upon the outskirts of the great herds of bison which once roamed over the wide plains of North America. Thus, wherever buffaloes and Burchell's zebras to-day still exist in large numbers, as in the country to the north and south of the lower course of the river Pungwé, there also one may expect to find lions numerous.

Specific Characters and Habits.—It has often been asserted that in South Africa, and in other portions of that continent as

will be found to differ one from another to an extraordinary degree in the development of their manes, if the extreme forms are taken.

Speaking generally, the wild lion of Southern Africa has a poor mane, covering little more than the neck and chest, with a tag on the top, extending backwards between the shoulder blades, and lions with long full black manes covering the whole shoulder as well as the neck are quite exceptional. In the course of five and twenty years spent in the interior of Southern Africa, I have seen a large number of wild lion skins; but although amongst these were a few with heavy manes which also had tufts of long dark hair in the flanks, yet



A YOUNG LIONESS.

well, I believe, there exist three distinct types of lion, each of which possesses such well defined characteristics as to entitle it to be ranked as a sub-species or constant variety, if not as a true species. This assertion will not, however, stand the test of careful and exhaustive investigation; for, although I grant that there is a wide superficial difference between a lion with a full black mane, and the animal that is so destitute of mane as to look more like a lioness than a lion, whilst the third so-called species—that is, the lion with the full yellow mane differs considerably in appearance from either, it will yet be found that if a large number of lion skins be examined, they can be arranged in a series showing every stage of variation in the length and abundance and colour of the mane, from the comparatively poor-looking beast, with little or no mane at all, to the magnificent animal whose whole neck, chest, and shoulders are covered with a luxuriant growth of soft silky black hair. Then again you do not find different types of lions each inhabiting a well-defined area; throughout South Africa, wherever these animals occur, they

until the other day I never saw the skin of a wild lion with the whole belly covered with long hair, as is constantly the case with menagerie animals.

The history of the skin in question is that it is that of a lion which was killed in South Africa some eighty years ago, very much further south (and, if on one of the high plateaux of the Cape Colony, the Orange Free State, or the Southern Transvaal, in a country where the cold is much more severe in winter) than in any part of South Africa where lions exist to-day. This bears out the opinion I have always held that the luxuriant growth of mane, which is general amongst the lions which one sees in the menageries of Western Europe, is due to climate—to the influence of cold and damp. The theory that the manes of wild lions get destroyed by thorns will not hold water, as on the high plateaux of Matabeleland and Mashonaland, where there are no thorns or thick bush of any sort, I have seen many lions with very poor manes; but, on the other hand, it is on these same high plateaux where the climate is cold in the winter and never excessively hot, that the

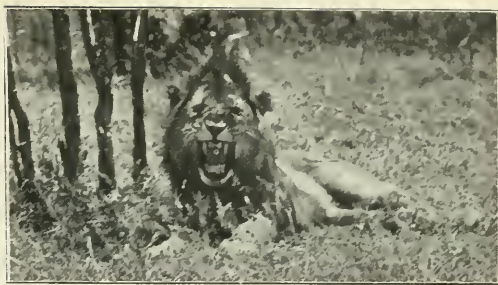
finest wild lion skins I have seen—with the exception of the one I have mentioned, whose original owner was shot some eighty years ago, much further south—were obtained, and I do not believe that in the hot coast lands of South-Eastern Africa lions ever develop the long flowing manes that are occasionally met with on the colder plateaux of the interior.

Besides the variation in the growth and coloration of their manes, lions also differ considerably in the colour of their coats, some being light yellow, and others of a much darker shade. I once killed a lioness which was just about to give birth to three cubs, which I took out of her womb fully developed and quite alive. Two of these little creatures were males and the third a female. The latter, and one of the males, were very dark, almost blackish in general colour, whilst the other male was yellow; and I believe that had these lion cubs lived to be born and had they reached maturity, they would have become, the one a dark-coated, dark-maned lion, and the other a yellow-maned animal, each representing a so-called variety or species.

In captivity, lionesses frequently give birth to from four to six cubs, but in a wild state the usual number is certainly three, and of these a large number, for some reason or other, never reach maturity. Possibly they die in teething, as it is rare to see a lioness with more than two well-grown cubs, whilst, often, apparently only one out of the original three is reared. Some natural law must of necessity exist to keep within bounds the numbers of such destructive animals; otherwise in course of time they would in parts of Africa have become more numerous than the game on which they preyed, as they were absolutely masters of the situation in uninhabited districts before the advent of European sportsmen, the few scattered natives they happened to meet never interfering with them. They would thus at last have exterminated all the wild animals they were capable of killing, and would then have been forced to prey upon one another, with the final result of the battle between the Kilkenny cats. If we take a district, however, like the country north and south of the Pungwé river, which may be said to have been in the hands of nature from times immemorial, until within the last few years, we find that no such catastrophe has occurred, the balance of nature having been maintained in such a way that, although lions were very numerous, their numbers had been kept down by natural law to a figure strictly proportionate to that of the game on which they lived.

Measurements.—As to the size and weight attained to by wild lions, I am sorry that I have not the series of statistics which I might have had had I carefully measured and weighed all those animals which have fallen to my rifle. What appeared to me to be a very large lion, which was, I think, the largest, though perhaps not the heaviest, of those I have killed, stood 3 feet 8 inches in perpendicular height at the shoulder, whilst the length in a straight line between two pegs, one of which was driven into the ground at his nose and the other at the end of his tail, was 9 feet 11 inches. His weight was 410 pounds, but he might have weighed considerably more once, as he was an old animal, a good deal past his prime, though his coat was in very good order, and he carried a handsome mane. The pegged-out skin of this lion measured 11 feet 9 inches from the nose to the tip of the tail. The greatest length of a pegged-out skin I have ever known was 12 feet 3 inches, and it is the exception for the pegged-out skins of South African lions to measure more than 11 feet. The skull of the large lion I have mentioned as standing 3 feet 8 inches at the shoulder, which is now in the collection of the British Museum of Natural History, measures 15 inches in length and 10½ inches in breadth, and weighs 5½ pounds now that it is thoroughly dried out and cleaned.

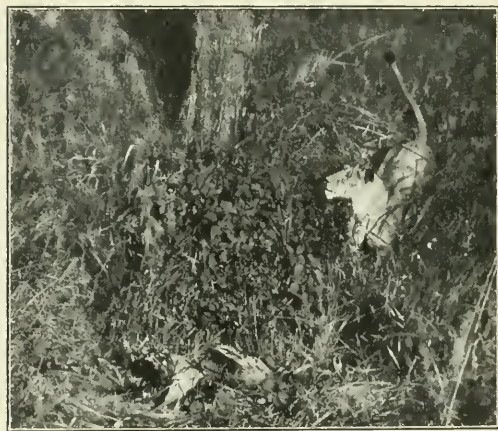
The Roar.—One of the most notable characteristics of the lion is his roar, which is one of the grandest and most awe-inspiring sounds in nature. But fully to appreciate this magnificent music of the wilderness one must hear several lions roaring in unison, in the immediate vicinity of one's camp; and it is quite possible to have passed several years in the hunting grounds of Africa without having met with such an experience, although lions would of course frequently have been heard roaring at a distance of a mile away and upwards. The volume of sound produced by four or five lions all roaring together more than a mile away will, even at that distance, be so great as to make one believe that they are within one hundred yards; but when they are really close, the hiss of their breath can be heard at the end of the grunts with which each lion concludes his actual roaring. To compare the booming call of the male ostrich with the roar of the lion appears to me altogether unjust to the latter, as an ostrich calling three hundred yards away could only be mistaken for a lion roaring in the far distance, and could never be mistaken at all by an experienced ear, as the ostrich has only three notes, the first two short and the third long drawn out; and



WOUNDED LIONS.



A LION PHOTOGRAPHED BY FLASHLIGHT.



A LIONESS APPROACHING HER KILL.



[Photographs by A. Radclyffe Dugmore.]
THE ENTRANCE TO A SERIES OF LIONS' DENS.

although the quality of the sound is somewhat similar, the call as a whole is absolutely different from the roaring of the lion, which, beginning with a low humming purr, rises gradually into a magnificent volume of sound, and then dies down and ends in a few short hissing grunts. In my opinion, lions roar freely only when full and satisfied; and when going down to drink in this pleasant frame of mind they often stop at intervals of about ten minutes and, after indulging in a good roar, again proceed on their way. At other times they will roar all night long intermittently round the carcass of an animal on which they are feasting. Usually, therefore, I consider that the loud roaring of lions denotes a sense of satisfaction; but sometimes it must mean defiance, as I remember once hearing lions roaring loudly some three miles from my camp, and on riding out at daylight to look for them, found first of all a single big male, and then another male in the possession of four females, which I feel sure the former was anxious to annex, and the latter determined to hold for his own, each of them giving vent to his feelings by roaring, in which the females very likely joined.

When a lion comes prowling round an encampment or a wagon outspanned in the wilderness, with intent to seize an ox or horse, or some other domestic animal, he does not make a sound, and his presence is generally first realised when he has actually got hold of his victim. I presume therefore that the same very natural tactics are pursued when he is hunting for game, and that at such times also he does not go about announcing his whereabouts by roaring.

Sometimes I have heard lions emit a kind of low purring growl, which it is very difficult to locate. Such low growls I fancy sound a note of disappointment at not being able to find game, or of chagrin after being baffled, perhaps by the watchfulness of dogs, in an attempt to raid an encampment.

Characteristics when Hunted.—When a lion stands at bay, he holds his head low down between his shoulders, and, with his eyes fixed on his adversary, gives vent to a quick succession of deep grunting roars, twitching his tail all the time from side to side with little nervous jerks. Should he suddenly throw his tail in the air straight and stiff as a bar of steel, then look out, for he means coming. I have never known a lion throw his tail up thus two or three times in quick succession without immediately charging, though I have seen many charge without this preliminary warning. When a lion stands at bay, it is worthy of

remark that he does not snarl like a leopard, but holds his mouth slightly open, the great canine teeth of the upper jaw being nearly hidden by the heavy jowl. But his eyes scintillate like living fire, and altogether his appearance is most determined and business-like. When he actually charges, he does so to an accompaniment of hoarse, grunting roars. He does not come on with great bounds, but at a heavy gallop, and rather rushes on to than springs upon his prey. I have been chased many times when on horseback by lions, most of which had not been wounded but only irritated by being interfered with. These lions usually turned and stood at bay when the horse was still some distance from them, and, when they charged, the horse always had a start of from sixty to over one hundred yards. At first I think the lions always gained, and sometimes got up pretty close; but not being able to maintain the speed of their first rush, they soon began to lose ground, and as they saw the horse gradually drawing away from them, gave up the pursuit in disgust. The horses I was riding on these occasions were not racers, but good smart animals with a fair turn of speed. A slow, heavily built horse would doubtless be unable to get away from a lion, though, even should he be overtaken, he would not necessarily be pulled down, as I know of many instances when a horse has got away (sometimes with a rider on his back) after having been seized on either side of the hind quarters by the claws of its pursuer. This is not very wonderful, as it must be remembered that both horse and lion are going at their utmost speed. As the latter draws up close under the tail of the former, he is just able by a great effort to raise his fore quarters from the ground, and clutch the hind quarters of the horse with his armed paws. But the knife-like sharpness of his claws prevents his making good his hold on the body of a heavy animal going at great speed. They tear long deep gashes through skin and flesh as if they were razors, but they seldom hold in such a stern chase; and the horse goes on, possibly a trifle quicker than before, whilst the lion falls heavily back, and loses so much ground that it seldom renews the chase.

Time was when no man dare cast a slur upon the courage of a lion; and even now a brave man is popularly said to be "as brave as a lion." Dr. Livingstone was the first, I think, who deposed the king of beasts from his high estate, making him out to be the veriest cur, and even going so far as to say that in appearance he was only "somewhat larger than the largest dog."



From a Photograph by A. Radcliffe Digmore.

LIONESS.

Since then some other writers and talkers have followed suit, and nowadays it is not uncommon to hear the lion spoken of as a cowardly brute that can be hunted and killed with far less danger than is likely to be incurred in shooting buffaloes.

With this estimate I cannot agree. Some lions doubtless are cowardly, but I have known others that were just the opposite; and if the average character of his species be taken, I unhesitatingly say that, speaking generally, the lion, at any rate in South and South-Eastern Africa, is a far more dangerous animal to meddle with than a buffalo. True, many men have been killed or badly hurt by wounded buffaloes—or, perhaps, by buffaloes unwounded by them, indeed, but smarting under wounds inflicted by other hunters or by lions—but not nearly so many in the parts of Africa I am acquainted with, as have been killed or mauled by lions: and yet for every lion that has been killed in South Africa during the last twenty-five years, at least fifty buffaloes have been accounted for. This is a point that is usually forgotten or ignored by those who depreciate the courage of the lion, as is the following fact—namely, that inexperienced sportsmen, and sometimes men who ought to know better, will often take liberties with a wounded buffalo that they would not attempt with a lion.

Once he is wounded, the African buffalo becomes a vicious animal that it is highly dangerous to follow into long grass, high reeds, or thick bush. But it is often done, and the astonishing thing is that more accidents do not happen than actually occur under such circumstances. Few men, however, would be mad enough to follow a wounded lion into really dense cover without dogs. A buffalo will seldom charge unless he sees his pursuer close to him; but a lion, if vicious, will often charge from a distance of over a hundred yards. Then, too, should there be a tree handy, a buffalo can be evaded by swinging one's body a few feet off the ground, but it would be impossible to get high enough up a tree to save oneself from a charging lion. These opinions regarding the relative danger of lion and buffalo hunting I put forward with all deference; but I may remark that I have had a considerable experience with lions and a very large experience with buffaloes, whose character I think I know as well as most people, having killed well over 200 of them, mostly on foot. I do not think that there is much danger in attacking a lion or lions in the first instance, although, should there be several of them together, it is always on the cards that when one is fired at, another of the party will instantly charge,

a contingency which, though it has never happened to myself, has befallen men I have known, sometimes with very disagreeable results. The great thing is to be cool and careful, and endeavour to give a lion a deadly wound with the first shot. He usually gives one a good chance, standing broadside on, with head turned sideways, quietly scanning the intruder on his preserves; or, if he has been chased on horseback and brought to bay, facing directly towards his pursuer, with lowered head, growling savagely.

In the second case no time should be lost in dismounting and firing, as it is impossible to tell at what instant he may make up his mind to charge. If he is fairly hit, all the charging is taken out of him for the moment, and if shot through the heart or lungs he will succumb very quickly. If not instantly floored with a broken back or neck, or unless the shot has shattered one of its hind legs (in which latter case the wounded animal will spin round, biting at the injured part), he will turn and run for it, and every effort should then be made to keep him in sight, as he will soon stop and hide behind a small bush or tuft of grass (and it is extraordinary in what thin and scanty cover a lion can conceal himself) and may be expected to charge if followed up.

Some dogs are of the utmost service in lion-hunting, but such animals must be trained to the work, and be both bold and cautious at the same time. A very plucky dog is useless, as he just rushes in and is instantly killed. What is wanted is a dog that will run close up to a lion barking furiously, but not attempting to tackle him. Such an animal will soon bring a lion to bay, and not only divert his attention from the hunter, but also let the latter know where he is, and very likely bring the furious brute charging out of thick cover at the heels of his insignificant assailant. Such dogs are, however, rare, and, to a hunter, worth their weight in gold.

Armament.—As for the best rifle for lion shooting, that is a subject upon which almost everyone has his own opinion. Large-bore rifles are certainly not necessary, as a lion is not only a thin-skinned animal without heavy bones, but is also much less tenacious of life than any of the African antelopes. I have killed most of my lions with a 450-bore rifle, by Gibbs, of Bristol, using a hollow-pointed 360-grain bullet and 100 grains black powder; but should I ever kill another of these grand brutes, which I am afraid is unlikely, it will be with one of the new small-bore rifles, which, on account of their low tra-

jectory and great killing powers with a good form of bullet, I should now be inclined to use against all but the heaviest classes of game, in preference to any other weapon.

F. C. SELOUS.

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IN SOMALILAND.—There are plenty of lions still to be found in the unexplored parts of the Somali plateau, and in Gallaland, but owing to the attacks of sportsmen they are rare within the explored parts of the coast belt.

To be sure of getting them, it is necessary to march from 150 to 200 miles inland, and

about half a mile apart, with others dotted about further away, the writer has generally sent out parties before sunrise in every direction, each composed of one or two camelmen, to bring in news from the kraals. If a lion has been heard to roar during the night, a party has also been sent in that direction from camp to search for tracks on all the soft ground, for it is well known by natives that a lion, being an animal with comparatively tender feet, will not choose rocky ground for his midnight prowling when he can get a stretch of sand. It is probable on this account that in the old days,



A FINE LION SHOT IN SOMALILAND. NOTE THE ALMOST TOTAL ABSENCE OF MANE.

then to strike into unexplored territory, the arrangements being, of course, formidable and expensive, including, as they do, a suitable armed escort.

As some of the best lion-ground is far from water, several camels must be devoted to its transport. There should be enough water to supply the caravan, which may number from 20 to 50 camels, and nearly as many men, for 7 or 8 days. The camels, of course, can do without water for 10 days or so. Once established in good sporting country, water may be sent for if the nearest wells are not more than 30 miles distant, and the camels may be watered at the same time.

The pursuit of lion-hunting is distinct from other sports in its character. Unlike tiger-hunting, which can be undertaken with the help of elephants and beaters, the hunting of Somali lions is carried out by tracking on foot, or with a steady shooting pony. It is necessary for the sportsman to live a great deal among the kraals of the nomads, for lions follow them, and it is only there that information can be obtained.

Pitching the camp between two kraals,

1884 to 1887, when in Somaliland lions were plentiful in the broken country of the coast belt, which is intersected by dry sandy river-beds, these were dotted for miles with the footprints of lions which had promenaded all night up and down in small troops, lying in the reed-beds by day. The writer once counted the footprints of eight lions together, only one, however, being a full-grown male.

Considering the number of lions that were about, there was very little of the roaring at night and molesting of hunters' camps that we hear so much of in accounts from South Africa.

When, after the early breakfast, news has been collected from the various kraals—there may be a story of a lion having taken a sheep from one kraal by dragging it through the thorn zeriba, or an ox or a camel, missed the evening before, may be found to have been eaten by lions when searched for in the morning—the sportsman starts out for the scene of the depredation with a guide and two hunters, and a man to carry the waterbottle and a haversack of eatables and spare ammunition. Opinions

differ as to weapons, but the writer, who is an advocate of the larger bores, prefers, in ordinary open jungle where shots may be got at from 50 to 150 yards, a double .577 Express rifle to be carried in his own hand, and a ten-bore "Paradox" gun in the hands of an attendant, who should keep close up. The other native hunter may carry a light Snider and do the tracking.

When organising the caravan at the coast, a cartridge-belt should be given to each of the hunters, to carry the ordinary escort cartridges and one or two cartridges for each of the spare sporting rifles. Thus, whatever rapid changes are made among gun-bearers, each man is fully armed.

When about to track a wounded lion through thick cover, the weapons might change hands, for the ten-bore "Paradox" would be the best to stop a charge in bush when the lion might be first seen when from 10 to 30 yards away.

The tracks made during the night and the trail where the victim has been dragged over the sand having been found, the party starts at a fast walk. Rubber tennis shoes are the best for this work, and natives should leave any conspicuously white parts of their clothing behind them, also take off their noisy sandals, and only talk in whispers. The hunters should keep the track until the presence of vultures in a tree, a jackal running across the path, or perhaps a growl, proclaims that the lion is close in front. From the indications, the natives will know whether the lion is still at his meal, or has been disturbed, or is sleeping in a bush close by. If the lion is still at the carcase, he may afford a steady shot before he sees the hunter; or if he bounds away with a growl before being sighted, a dash forward where the bushes are thinnest may give a hurried shot as he makes off. By daylight he will usually, however, be lying up not far away from the carcase in a patch of *durr* grass, a kind which grows about 5 feet high; and if there is a spreading mimosa tree in the centre of the patch, and if, after "ringing" the patch (that is, making a complete circuit), it is found that there are tracks of entrance but none of exit, the lion will be resting under that mimosa.

There are now two courses open to the sportsman—to creep cautiously in with the ten-bore and try to get a shot at the lion while asleep, the result being that he will almost certainly spring away with a loud "whoof" before he can be sighted—or, the better plan, to post oneself on the further edge of the patch, down wind, and, if possible, in the shade, where one is less conspicuous, with one hunter, and send the

other men round to shout and give the lion their wind from a distance, and so drive him out. A third way is to burn the patch of grass, if it is dry enough.

In the course of a long track there will be many such patches of *durr* grass in the high, stoneless plateau country, which is the best lion-ground. There will be strips of sand between the different patches, and tracks are plainly visible outside the grass. If, after having sent men round to "ring" a patch, it is found that there are tracks both of entrance and exit, the lion has evidently gone on, and no time need be wasted, the interior of the patch may be left unexamined, and the tracks may be taken up in the sand beyond. Many patches will be "ringed" in this way, perhaps for miles, and it may be past noon before the absence of exit tracks shows that the lion has halted. It is hot and tiring work for the hunters, but if the lion has had a full meal the night before, he is certain to halt at last, and, if he has not got on to stony ground, he will be found. Then with straight shooting, and well-drilled followers—they should be cautioned not to rush forward, native-like, and get in the way either before or after the first shot—the lion is no very difficult beast to kill.

It is the pent-up excitement after several hours of tracking, the eagerness of the natives, the glare, the intermittent views of the dull-coloured animal through dark, thick thorn-bushes, that all militate against good shooting. A wounded lion will get to the thickest mimosa jungles he can find, where the hunters have to stoop under low, gloomy arches of the spreading and thorny *khansa*. The party must go in single file, and the pursuit becomes one of considerable danger and excitement.

The place to hit a lion is anywhere in the chest, if in front, or behind the shoulders, if broadside-on. The head-shot in front is uncertain, being liable to glance. A lion hit in the lungs will probably survive some minutes, and if followed up will be found lying dead. Lions have sometimes great vitality for a few seconds, having been known to continue a charge for some distance though hit through the heart, and this adds to the danger of following them through dense jungle. Most of the larger animals such as elephants or rhinoceroses, can be avoided by dodging, but little escapes the quick eyes of the cat tribe, and the only thing to do in case of a charge is to stand still and shoot straight.

In the vast wilderness of Ogaden, all broken ground covered with bush, which gradually slopes down from the waterless Somali plateau to the Webbe Shabeyle

river, 400 miles inland, lions are numerous, but are harder to bag than those of the flat stoneless plateau country. The sport is here varied by constantly losing the tracks on stony ground or in almost impenetrable thorn-bush, and the odds are in favour of the lion's escape. This country is infested with man-eaters. In such districts much may be done by constructing a zeriba or thorn-shelter, with a loop-hole from which to shoot, and a living bait—donkeys are the best—tied up within 6 feet, in front of the loop-hole. The sportsman is shut into this at sunset with bedding, water-bottle, &c., and one attendant, and is let out by pulling in the thorn-branches from outside, in the morning. It is a safe and often successful way of bagging lions, but it is not very interesting, and if it should happen to rain it is a very uncomfortable way of spending the night. Another plan is to spread the bed some 16 feet from the ground, on the flat top of one of the larger mimosa trees.

For night-watching, starlight nights are the best, for lions seem to prefer not to attack the bait by moonlight. One night the writer tied up a camel as a bait, the moon being due to set half an hour before dawn. Nothing happened during the night, but in the dark half-hour the lion attacked the camel, biting it through the neck. The watchers were asleep, and, waking up noisily, drove the lion away before a shot could be fired. It is generally accepted that it is best not to fire till the lion has struck down the bait and is busily engaged on the carcase, affording a certain shot. A ten-bore "Paradox" gun would be a good weapon for this sort of work.

At times of drought, say in the *Jilal* season of Somaliland, from January to March, when one pool may be used by all the game for many miles round, watching over water may be successful if the presence of tracks shows that it is frequented by lions.

It is, moreover, interesting in itself, by reason of the antelopes, other small mammals, and birds which come to drink, and may be watched at leisure and their habits observed. The writer has not found even the strongest moonlight deter animals from drinking, and once bagged in this manner a rhinoceros and a lioness on the same night, and a hyæna and leopard on another occasion at another pool.

In the Somali waterless plateau, the mimosa forests, sometimes thick and sometimes more open and park-like, are varied by wide open treeless grass plains, called *ban*, and these are roamed over by herds of oryx and Scemmerring's gazelles. Lions

lie up on the edge of the bush by day, hunting out in the open plains by night, and horsemen escorting the droves of camels to pasture in the early morning sometimes find a lion returning to the bush to lie up for the day. Lions, like all cats, though capable of great speed for short distances, are easily winded, and they can be ridden to a standstill; when vedettes should be posted over them, and messengers sent to the nearest sportsman's camp. When attacked in this way, lions are very apt to charge, for the simple reason that they cannot sneak away unobserved as they would do in the bush. A handy pony is useful for this work, steady and able to stand fire.

Somalis hunt the lion by mobbing it on horseback in the open, throwing the spear and shooting poisoned arrows at it; but more commonly the "Midgans," who are the archers, creep up to it in bush and shoot it when busy over a kill. Skins of lions killed by natives are often rendered worthless by the numerous spear-holes inflicted after death.

On account of the comparative openness of the African bush, lions are probably more often seen by daylight than are tigers in an Indian jungle. They appear also to be less careful of concealment, and are therefore easier to find and kill on foot. The writer once found an unwounded lion asleep under a solitary mimosa bush in the open, in broad daylight. It is doubtful whether a tiger would be caught napping in this way. From some personal experience of both, and from knowledge of many individual experiences of friends, the writer has formed the opinion that a lion is rather more prone to charge than a tiger when followed on foot.

The hunting of lions, involving as it does much camping among native kraals waiting for news, in the dusty proximity of herds of camels and cattle and flocks of sheep, if carried out systematically, can seldom be combined with the pursuit of elephants, rhinoceroses, or the finer kinds of antelopes, such as kudu, all of which avoid the neighbourhood of the kraals. When lion-hunting, an occasional leopard, oryx, or gazelle may be bagged; and when, after the rarer game, or when merely travelling, a lion can be picked up now and then.

In systematic lion-hunting near the kraals, there are many fruitless hunts, false intelligence being constantly brought in to the sportsman's camp with a view to "bakshish," and all news should be carefully sifted before it is acted upon. A good lion skin measures about 10 feet 2 inches from nose to tip of tail.

II. G. C. SWAYNE.

LOCAL SPORTS.—How certain local sports and pastimes originated and became identified with particular districts it is impossible to say and difficult to conjecture. On the other hand, there are athletic and sporting diversions, peculiar to a district, which are clearly the productions of special environment. To this class belong fell racing, tossing the caber, and sheep-dog

loosed, and after criticism on the day's transactions and show of stock has been exhausted, marvellous instances are adduced of the sagacity of certain of the curs reposing upon the sanded floor in working their sheep. A match is made, in which Long Ambrose's dog and Scotty Sam's shall attempt to drive a certain number of sheep through a certain gap and pen them within



LOCAL SPORTS: THE ANNUAL MEETING AT GRASMERE.

[Photo. by Sport and General.

trials, which, amongst other sports, are hereafter briefly described. The student of his Dickens will recall how Mr. Wemmick, out for a professed stroll, exclaimed, "Halloa! Here's a church! Let's go in! Halloa! Here's a couple of pair of gloves! Let's put 'em on! Halloa! Here's Miss Skiffins! Let's have a wedding!" If such a series of contingencies could bring about a wedding, how naturally should the physical surroundings of the north-west dales of England, coupled with man's instinctive love of contest, suggest the fell race! Halloa! Here's a steep and trackless hillside! Halloa! Here's a prominent point upon it! Halloa! Here's a set of hardy dalesmen, sound in wind and limb, and sure of foot among their native scars! Let's see which of them can first scramble up to that point and down again! And so the fell race is organised.

Now, step into the room of the village inn at the close of a big north-country sheep fair. Under the genial influence of the cup that cheers—and occasionally inebriates—the tongues of convivial shepherds are

a certain time. And so the sheep-dog trial is instituted.

Next, watch the brawny wood-cutters felling the larches and firs in the wild Highland glen! In the glory of his strength a young kilted giant balances the trunk of a young tree for a moment in his arms, and heaves it as far as he can in the direction of the waiting waggon. Enviously another stalwart attempts to out-throw him. And so tossing the caber is established.

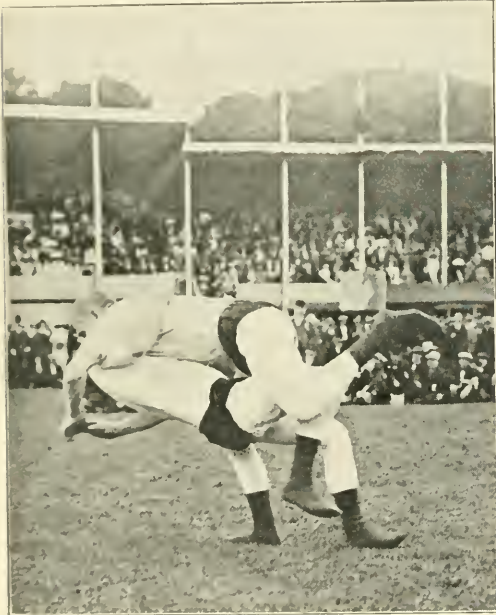
Local sports are closely associated with the village feast—the old-time village feast

When toil remitting lent its turn to play,
And all the village train, from labour free,
Led up their sports beneath the spreading tree—
While many a pastime circled in the shade,
The young contending as the old surveyed,
And many a gamble frolick'd o'er the ground,
And sleights of art and feats of strength went round.—GOLDSMITH.

Having once taken root in a certain district, the comparative isolation of the district kept a sport alive through many generations. Speaking generally, as villages have been brought into easier touch with the outer world, many of the local features of

their sports have vanished. Enthusiasm for the more widely known national games has penetrated the length and breadth of the land, and the village lads now play league cricket and football on the greens where their fathers exhibited their prowess in purely local forms of athletics. The hill-and-dale portions of our island, though not so difficult of access as they were a very short time ago, still remain the most remote from the hustle of modern life, and here it is, consequently, that the greatest share of local sports survive.

Though it must be, reluctantly, confessed that local sports are, on the whole, in a state of appreciable decline, the same agency



(Photo, by Sport and General.
CUMBERLAND WRESTLING.

which has killed many has been the means of raising others to a degree of favourable notoriety they would never otherwise have attained. Increased facilities for travelling have popularised meetings of once local interest only into important holiday attractions, drawing spectators from every part of the country. This is the case with regard to the two leading Lakeland festivals, the Grasmere and the Ullswater Sports, and, over the border, the highland gatherings at Braemar, Inverness, and Bridge of Allan. Grasmere presents a typical instance. For close on sixty years the sports have been held, the leading features being the "guides' race," the hound trail, and the wrestling in the Cumberland style. In the earlier days this annual event was intended to keep alive these sports locally, and this it did, the spec-

tators being drawn most largely from the neighbourhood. But of late years the Grasmere Sports have become a fashionable and popular function attended by thousands of spectators from other districts. These, struck by the novelty, to them, or intrinsic merit of various items in the programme, have been so enamoured of them that they have established them in their own districts, and thus we have seen quite a boom in recent times in fell racing, hound trails, and Cumberland wrestling. In respect to the last named (described under the general head of wrestling), the controlling body of which is the Association Governing Cumberland and Westmorland Style of Wrestling, in 1910 wrestling academies were established at Great Clifton, Workington, Ryton-on-Tyne, Middleton-in-Teesdale, Bolton-le-Sands, Milnthorpe, Newchurch, Newcastle-on-Tyne, and Chopwell, making in all about thirty academies under the Association. The meetings of the Associations are held alternately in Cumberland, Durham, Westmorland, Northumberland, Yorkshire, and Lancashire. Four hundred meetings have registered or affiliated with the Association, amongst them, showing the wide range of the sport, Blackpool, Ullswater, Grasmere, Keighley, Carlisle, Clitheroe, Bridge of Allan, Morpeth, Aberdeen, Jedburgh, Aspatria, Hawick, and Alnwick.

Like the jingling match and the back-sword play, so graphically described in "Tom Brown's School Days," many of the old English sports—most of them, in fact—have gone beyond recall. In some cases it is best that they have, but there remain others, typical of the dogged pertinacity and the grit and gristle of the Britisher, that might to the glory of the nation be preserved from the extinction that threatens them.

Arrow Throwing.—It is understood that the negroes have some reputation for stick throwing. Indeed, in the old days at Wimbledon a darkey was to be seen practising the art, propelling his stick into the air or at a mark for what reward might be bestowed upon him by the spectators. Also in quiet parts of London and in various provincial localities a wandering negro has at odd times been seen fingering the flying wand. Akin to this pastime is the sport of arrow throwing, popular among the industrial masses of the North of England, especially in the Bradford district, though the game attracts a great number of followers in Lancashire. To any one ignorant of the nature of the sport, "arrow throwing" is something of a misnomer, for the shaft propelled is unfeathered and unshod; it is nothing more than a thin round wand

of deal or ash, pointed at one end. Deal is the material most in favour. This stick, about a yard long, is thrown, or slung, by hand with the aid of a piece of string, which is knotted at the end. The knot is laid against the shaft rather more than half-way up, the string is then passed round the shaft, over the knot, and brought down the shaft to its point. Of course, it is only by keeping the string taut that the player can retain it in position. To do this he wraps the surplus length round his hand, holding the arrow with his finger and thumb at its point. As he lets go the point in his throw, the string gets in its work, releases itself, and the arrow speeds away. Each competitor is allowed a certain number of throws, and the distance achieved with his longest throw wins, or loses, for him the stakes. As in knur and spell and billets, the ground is marked out in "scores," in this case each "score" being actually twenty yards. In this sport strength and stature count for little, many of the best arrow throwers being men under the average height. It might be supposed that a light, unwinged stick was incapable of propulsion to any great distance—and, indeed, in the hands of a novice it is—but the average expert, playing down the wind, will throw his arrow ten or twelve score yards, and throws of as many as fourteen score yards are sometimes made. In South Yorkshire arrow throwing has declined considerably during the last decade. Here, formerly, feathered arrows were used in the manner above described, and throws of over 300 yards have been made.

Billets, or Billeting.—A compromise between knur and spell (described on a subsequent page) and the familiar boyish game of tip-cat, billeting, though by no means so popular as it once was, is still played in the North of England, the old home of the sport being the moorland borderland of Lancashire and Yorkshire skirting the manufacturing districts between Halifax and Todmorden. The billeting-stick consists of a pliant shaft, to which is spliced the cylindrical head, nine or ten inches in length, and grooved with a longitudinal niche to hold the billet. Unlike the knur and spell pommel, the billeting-stick has no flattened striking surface. The billet itself is also a wooden cylinder, preferably of box, though occasionally it may be fashioned from "hollin"—the wild holly—cut from an old tree in which age has toughened the timber. Also the billet may vary in size from two inches in length to six, and in weight from anything up to seven ounces. Three inches, however, is the size that finds most favour among the

players. A line is marked on the turf, and behind this the competitors stand, while the ground in front of the line is marked out in "scores" as in knur and spell, but with this difference, that in billeting each "score" measures only ten yards. Toeing the mark, each competitor in turn holds out his stick with the billet reposing upon its head, the groove, or "nick," keeping it from rolling off prematurely. The inexperienced player is wont to toss the billet in the air and attempt to strike it as it falls to a convenient level, but this method is detrimental to the chances of a long knock, for the billet thus served is prone to spin, and spin is fatal alike to distance and direction. The old hand at the game gently tilts his billeting-stick until the billet rolls off, and then, as it is revolving slowly—not spinning endways—in its fall, hits it smartly away. Ten "score" is a good distance to hit the billet at one stroke, but the crack billetter will sometimes accomplish twelve "score."

Bowling.—During the nineteenth century there was popular in the rural districts of Ireland a game of the strenuous type known as bowling. The players, two, four, or six of whom competed, were armed with metal balls weighing four or five pounds each, which they hurled along the country roads, honours going to him who in the stipulated number of bowls covered the greatest distance. Injuries to cattle and other accidents were, however, of such frequent occurrence that in the 'sixties the sport was peremptorily stopped by an order from Dublin Castle, and if it is now practised at all it is surreptitiously on lonely ways of the secluded districts in the West, or on private ground. The writer remembers having seen, nearly forty years ago, a somewhat similar, but far less dangerous, game played on the rural roads in England by the native rustics, discs cut from large turnips taking the place of the metal balls.

Off the roads, bowling of a nature very similar to the once popular Irish game is still enthusiastically practised by the miners in the eastern portions of Durham and Northumberland, where suitable courses, such as seaside links, are available. The two principal grounds are the Newcastle Town Moor and the Blyth Links. Here crowds of miners assemble, some to play themselves, others to watch the matches arranged between various experts. Large stakes are bowled for, and a great deal of money changes hands through the medium of the ubiquitous bookmaker. The courses are usually about a mile long, and the bowls, spheres of stone or "potshare," vary in weight according to handicap. The bowls commonly employed are from 16 oz. to

32 oz., but heavier weights are occasionally used. Each competitor in turn takes a sharp run to the mark, and hurls his bowl forward with an underhand delivery after the manner of the ancient athlete throwing the discus. The winner is the bowler who covers the entire length of the course in the least number of throws.

Caber, Tossing the.—Essentially a Scottish exercise and a feat necessitating the display of abnormal strength, tossing the caber is one of the most popular items in the athletic programmes at the Highland gatherings. The typical caber is the trunk of a larch tree, stripped of its branches,



(Photo. by Sport and General.)
TOSsing THE CABER.

the top lopped off at a point where it measures about three inches in diameter. Almost any beam of suitable dimensions may be made to serve, but the pole selected must taper pretty regularly, one end being much thicker and heavier than the other. The average caber is about twenty feet in length. It is customary, however, to commence with the caber considerably longer than this—so long and heavy that none of the competitors can manipulate it. Then, in order to bring it to dimensions compatible with the powers of the contestants, pieces are consecutively sawn off the thick end until the most appropriate length is found. Now a brawny kilted Highlander steps forward to uphold the honour of his clan. The caber, which lies on the sward at his feet, is raised for him into an upright position, the smaller end upon the ground. Placing his shoulder against it to preserve its vertical position, he gingerly stoops, works his hands under the

end, and carefully raises the pole until his hands are waist-high. Next comes a ticklish point in the feat; the performer initiates a forward movement, at the same time maintaining the more or less perpendicular poise of the caber; his tottering steps quicken into a run, and, summoning every quivering fibre to one stupendous effort—calves, thighs, loins, arms, and chest joining in one instantaneous demonstration of their utmost united prowess—he makes his bid for victory. As he rises on his toes, with head thrown back and chest expanded, the caber leaves his upraised hands and flies through the air—upward—forward. If the toss be a good one, the caber steadily makes one turn “head over heels.” It comes to earth thick end first, and its impetus carries the small end over until it lies pointing straight and true away from the tosser. The longest toss and the straightest fall proclaim the winner.

Cumberland Wrestling.—[See general article on WRESTLING.]

Fell Racing.—Next to the wrestling competitions the most popular event at such leading Lakeland sports as the Grasmere (where it is called the “guides’ race”) and Ullswater meetings is the fell race, while at scores of less important athletic gatherings held in connection with the local village feasts throughout the dales of Cumberland, Westmorland, and North-West Yorkshire, it is the “star” event on the programme. The conditions under which the fell race is run are simple. A prominent point on a near-by steep and rugged eminence, a mile to a mile and a half from the starting mark, is selected as the turning point and indicated by a flag. Round this flag the runner must go and return to the starting point, choosing whatever route he likes in coming and going. Obviously, fell racing, necessitating, as it does, the presence of a dizzying slope sweeping swiftly skyward from the near vicinity of the arena, must ever remain a local sport. In the course of the outward journey the ascent may be anything from five hundred to a thousand feet, and a three-mile course, out and home, will be run in something under twenty minutes. It is one of the most punishing races organised, and, though a few of the runners—generally old hands at the game, and in the pink of training—will breast the winning tape with unflinching stride and head erect, the majority of the runners totter in in an obvious state of semi-collapse. The first prize varies in value from, say, a sovereign at some local village sports to £10 and a silver bowl at the Grasmere meeting—and the winner earns it.

At the word "Go!" or the crack of the pistol, the competitors, a dozen or a score of them, are off in a bunch, over the walls of the lower pastures, stringing out into single file as they attack the steeper scarps that set the stoutest hearts a-thumping. Up they go, now at a sling trot along some narrow sheep-path, now scrambling on all fours up some rugged rocky staircase of the Titans; here threading through the mazy

like the wind before it has the chance to do him harm. The pace is terrific—superbly daring. It is on record that a fell racer at Grasmere cleared in his descent a chasm which upon measurement was found to be 22 ft. in width. Yet, sensationally reckless as the exhibition may appear, the danger is minimised by the runners' familiarity with the nature of the ground they traverse, and, miraculous as it may seem,



FELL RACING: "GUIDES' RACE" AT GRASMERE.

[Photo. by Sport and General.

tangle of hazel scrub; there skirting the patch of small yielding scree over which good progress upward is impracticable; and yonder zig-zagging the boulder-strewn and rock-scarred brow that leads to the flag. Far below in the valley the crowd of spectators watch breathlessly as the leaders round the turning point and commence the descent. And what a descent it is! Down the headlong steeps the runners hurl themselves. From crag to crag they skip like antelopes; they plunge and dive through slippery beds of bracken concealing a thousand pitfalls. No need now to dodge the yielding scree; over the treacherous waste of sharp, loose stones they bounce and bound with giant strides, each man the centre of a clattering avalanche of flying stones. Now a man is down, and rolls a dozen yards before he can pick himself up and get into his dare-devil stride once more; there another trips in an overlooked rabbit-snare set on a precipitous slope of short and slippery grass, and accomplishes the next thirty yards in a wild glissade on his back. Topping a six-foot wall of loosely built limestone, the leader brings down a ton of rugged masonry at his heels, but he is away

serious accidents in fell racing are unknown.

The time occupied in the descent is usually a little over a third of that taken for the ascent. The fell runner who at the present time has the greatest number of wins to his credit is E. H. Dalzell, of Keswick.

Gaelic Football.—Although the Rugby game has a firm hold on the football-loving classes of Ireland, and the Association code is growing in favour with the artisan sportsman, Gaelic football is the game of the Irish Catholic masses—in many instances the Sunday game, when the surroundings of a popular match resemble those of a race meeting. The game itself differs very materially from the football seen on English and Scottish enclosures, and in some of its features bears a resemblance to hurling, the ground being of the same dimensions and the same number of players constituting a team. Scrimmaging is unknown; so is handling, except that a player may strike the ball, or may catch it with his hands, but in the latter case the ball must be struck away or kicked at once. Instead of, as in Rugby or Association, the players of each side playing behind the ball and moving, more or less, in a body as the ball

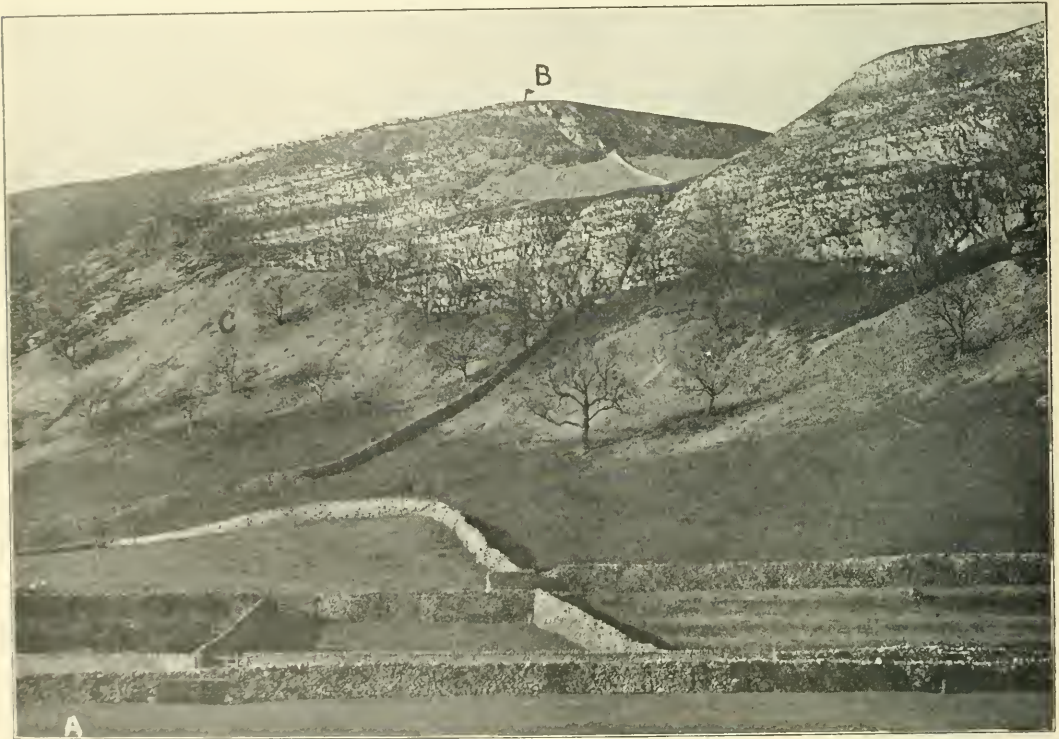
travels, the Gaelic football teams range themselves the whole length of the ground, maintaining defined positions as do the fielders at cricket, and only play the ball as it comes into their vicinity. The ball, which is a round one, is thrown up in the centre of the ground at the start by the referee; whenever it crosses the side lines it is thrown into play again in any direction by a man on the side opposite to that of the man who kicked it over; and when a goal or a point has been scored, it is kicked into play from a seven-yards square in front of the goal by the goalkeeper. Infringements of the rules are penalised by the award of free kicks to the other side.

Guides' Race.—[See FELL RACING.]

Handball.—The Irish form of the game usually known as fives, handball was formerly one of the most favoured recreations in the Sister Isle, where all the principal

Tyrone in October, 1879, and he doubts very much if any other contest of importance has been held in Ireland since.

Hop, Skip, and Jump.—Called also hop, step, and jump, and, in the vernacular of the North of England, "'op, stride, an' loup," the hop, skip, and jump is an athletic effort confined in regular practice to Ireland, Scotland, and the North of England, where it is one of the usual features of village sports. The performance consists of a series of three springs made from a running start. Supposing that the competitor leaves the mark off his right foot, he alights at the end of the first spring on his right foot. This constitutes the hop. Then, without touching the ground with his left foot, he makes a second spring, alighting on his left foot. That is the skip or step, after which, without touching ground with his right foot, he makes his third spring,



COURSE FOR THE FELL RACE AT THE UPPER WHARFEDALE SHOW.

[Photo. by W. Carter Platts.]

A is the field from which the start is made; B, the flag at the turning-point; C, beds of scree, which are carefully avoided in the ascent, but traversed headlong in the descent.

towns had their "courts" or "alleys," which were in constant demand. To-day the game is all but extinct, save, perhaps, in the case of a few schools where high-standing walls still remain, and where it is played in a perfunctory manner by the boys. The last handball match of which the writer has any cognisance was played in County

alighting on both feet. That is the jump. With these three, the whole of which are, without pause, accomplished with the impetus of the run, first-rate performers will cover 45 ft. and upwards, the record—an Irish one created by D. Shanahan—standing at 50 ft. 0½ in. In certain parts of Yorkshire a variety of the hop, step, and jump

is practised, in which some of the springs are made with the legs crossed, a condition which, when attempted by the novice, may be safely depended upon to brighten with joyous hilarity an otherwise tedious spectacle.

Hound Trails.—The sport of hound trailing, widely popular throughout Cum-

they start upon their task, the most careful attention is given to their diet. One veteran's practice was to nurture his dogs for some time previous to a big event on eggs, boiled and raw, pounded up with bread baked with eggs but minus yeast and salt, liberally sprinkled with sugar-candy and dried fruits, and enriched with good



THE HOUND TRAIL, GRASMERE SPORTS: THE START.

[Photo. by Sport and General.

berland, Westmorland, Lancashire, and the West of Yorkshire, may be seen at its best at the Grasmere and the Ullswater Sports and at Ingleton on the occasion of the annual sheep-dog trials. At these meetings foxhounds are employed and mountainous courses selected over the adjoining fells, which enable the spectator with a decent pair of field glasses to see a large share of the game. The dogs are specially trained to the sport, and are taken from meeting to meeting. Elsewhere, on the outskirts of the Lancashire and Yorkshire industrial districts, hound trails, often promoted by the proprietors of various public-houses, are run by dogs in whose veins the blue blood of canine aristocracy does not run pure and undefiled, and in such instances the trail is frequently a circular one, laid from the particular hostel interested, out and home again; or it is laid from one public-house to another.

At the meetings specified, however, as well as at scores of others brought off in the fell country, hound trailing is a sport followed for itself, and is free from the taint of pot-house speculation. That the hounds may be in the best condition when

sherry. This, with roast leg of mutton, practically constituted the hound's diet while in training. Anyhow, the hounds, when brought on the ground, face the starter as fit as the proverbial fiddle.

Away goes the man with the aniseed rag, trailing his odoriferous appendage over eight or nine miles of rugged hillside—up among the “winding scars” and scrambles of rocky scree, over the rough piled-up walls of mountain limestone that border the higher pastures, adown the tangled gorge and across the foaming burn, until he completes the circuit. Then the hounds, straining at their leashes, are loosed, and away they stream on the track of the familiar scent that never leads to a kill. Keenly followed by the gaze of the spectators below, they keep the line without a falter, flying the obstacles, and resisting—and occasionally succumbing to—the temptations of a refreshing gulp or two at the cooling streams they encounter while heated in the chase. Sometimes the pack is strung out; sometimes it could be covered with the table-cloth of the hunting man's parlance. It is a glorious sight—this never-slackening burst in the hunt after nothing, and very

often it is impossible to pick the winner until the leading dogs have topped the last fence and raced over the winning line, while the crowd cheer lustily and the band breaks out in a violent eruption of "D'ye ken John Peel?" In 1910 the ten-miles course at the Grasmere Sports was covered in 35 min. 10 sec., and the nine-miles course at the Ullswater Sports in 29 min. 54 $\frac{1}{5}$ sec.

Hurling.—The national game of Ireland is undoubtedly hurling, although, like many another old and honoured national institution, it is fast falling into a state of senile decay. Yet it has lived to a ripe old age, for the classic delvers in ancient Gaelic lore trace the game back to the "year of the world 3,370," and proclaim it to have been a royal diversion before the legions of old Rome set foot on British soil. As a stake is now supposed to add interest to a sporting contest, so, it is said, in the early days of Gaelic hurling, zest was occasionally imparted to the game by the fact that the players were literally playing for their lives, the losers being promptly despatched for their lack of success. Great games in Irish history also loom large in the early records of hurling—Cahir Mor, Cormac MacArt, Finn MacCool, Roderick O'Connor, the last High King of Ireland in the twelfth century. Later other local royalties kept the hurley ball rolling, and certain fairs did much to hand it down to modern times. Of late years, however, football has to an overwhelming extent superseded the ancient game, and it is now rarely seen in Ireland, except in Tipperary and Limerick, with, possibly, one district in Wexford. Its survival in these districts is due in a great measure to local respect for the memory of "the 1798 men"—the year of the rebellion—for it was the "1798 hurlers" who held Limerick and Wexford in the early stages of the struggle.

Hurling bears a strong resemblance in general to hockey, being played on a field about 150 yards in length by 84 yards in width. The goals, facing each other as in hockey or football, are marked by posts 21 ft. apart, carrying a cross-bar 8 ft. from the ground, the object of each side being, of course, to drive the ball through their opponents' goal. Besides goals, "points" are scored. On each side of the goal, and on the goal line, is a point post, which must not be less than 16 ft. in height, and when the ball is driven between these point posts—including its passage over, instead of under, the cross-bar of the goal—a "point" is scored. Each player is provided with a hurley, a club approximating in form and purpose the hockey stick, and the remaining

essential implement is the ball, known as the "slitter," of leather-covered cork wrapped with yarn, which is about 5 in. in diameter, and 7 oz. in weight. It is usual for seventeen players to form a team, though the number may be varied by agreement.

A spin of a coin decides which team has the choice of goals, after which the opposing players face each other across the field of play along the middle line. The referee throws the ball into play between the two lines of players, and the game commences. Now the ball crosses the side line (corresponding to the touch line in football), and the sidesman, who plays a part somewhat similar to that of the touch-line judge in Rugby football, tosses it back into play. Here a player gets in a mighty stroke by meeting the ball in air with his hurley; there another catches it fairly and squarely on the hop; yonder a third raises it from the ground with a smart pat, and, swinging his hurley, hits it as it reaches a convenient height, and sends it flying far towards the goal. It is not permissible to lift the ball from the ground with the hand, but one may catch it in the air provided he instantly plays it with his hurley. Likewise in scrimmages, when hurleys are interlocked, the foot may be used to move the ball. After a goal or point has been scored, the goalkeeper returns the ball into play, in doing which he may handle it. Breaches of the rules are penalised at the discretion of the referee, who may give the side opposing the offender a "free puck" or stroke. This is utilised either by striking the ball from the ground or by raising it with the hurley into the air and hitting it as it descends. The game is a fast one, and when the play is of an open character is by no means an uninteresting one from the spectator's point of view.

In quite a different form, hurling survives in a few parishes in the Duchy of Cornwall. The following account of this style of the game is contributed by Mr. L. C. R. Cameron: Formerly it was the national game of the Cornish race, being ranked by the historian Polwhele with hunting, hawking, cock-fighting, and wrestling as one of the principal recreations of the people of his days. Its antiquity is shown by the name bestowed on certain groups of stones in East Cornwall of the same period as Stonehenge, now denominated The Hurlers, and by the fact that the mottoes engraved upon the silver balls used in the game—which are to-day replicas of those preserved in various country houses—are invariably in the Cornish language, the favourite motto, per-

haps, being *Guare whieg yw guare teg*, or "Fair play is good play."

The game was formerly played on the parish feast day, the anniversary of the saint to whom the church was dedicated, and this custom is still observed at St. Ives, where the annual hurling match between those who live in the town and those who live in the country parts of the parish is held on the fifth Monday after Christmas, and at St. Columb Major, where Shrove Tuesday is hurling day. At Newquay and other summer resorts matches are arranged each year during the seaside season between residents and visitors, in which, though the goals may not be so many miles apart as in the original game, all the other rules are strictly observed.

At one time the squire of one parish frequently led its inhabitants against the squire of an adjoining parish, the goals being the respective residences of these gentlemen. At other times the church steeple or some equally prominent landmark was the goal, as is the case at the present day.

The game differs from other games played with a ball to goals in that victory rests with the side that conveys the ball to its own goal, in place of forcing it through that of its opponents.

The sides may consist of any number of men and lads—it is much too arduous a game for the participation of boys and women—provided they belong to the parishes contending. At the hour fixed for the match—usually at midday—the ball (which is a sphere of pear wood thickly coated with silver, on which armorial bearings and Cornish mottoes are engraved, and a little less in size than a cricket ball) is thrown into the air. A scrimmage or struggle then ensues for its capture. Directly a player succeeds in securing the ball he makes his way out of the crowd either by force or strategy, and, once clear of the press, sets off running in the direction of his own goal, which may be two or three or even five or six miles away.

The object of the inhabitants of the opposing parish is to overtake or waylay the runner, re-capture the ball, and convey it with all speed in the reverse direction. The principal rules are: (1) That the holder of the ball for the time being may not conceal it, but must carry it so that at least a third of the shining silver surface is visible; (2) that on being overtaken and thrown to the ground he must not retain the ball, but is bound to hurl it as far forward in the direction of his own goal as he can; (3) that no striking or "butting" is permissible

between the players. Outside these, and the rule that only the inhabitants of a given parish may play for that parish, a wide scope and latitude is allowed to the players. The man with the ball may go in any direction and for as many miles as he cares to run, fetching his goal eventually by a wide circuit, and using every topographical advantage, such as hedges, ditches, hills, valleys, covert, gorse, streams, and so forth, to facilitate his object. On the other hand, his opponents may equally scour the country in all directions, posting look-outs and scouts to signal his whereabouts by the cries "Ware East!" or "Ware West!" as the case may be. Formerly, mounted players fulfilled this function, and even caught the hurled ball and rode on with it towards the goal; but in a deep bank and hedge country like Cornwall they were nearly always cut off at a gate, lane, or bridge by the foot players, flung by the leg from their horses, and compelled to hurl or relinquish the ball. The most skilful player is he who, seeing the ball hurled, can run forward, catch it, and, by knowledge of the country, by speed, wind, and agility, get away with it towards his goal, and who, when overtaken or intercepted, possesses the skill and judgment to hurl it forward so that it may be caught and carried on by one of his own side. The ball once brought to the goal, the match is ended, and the silver sphere remains the property of the winners. Formerly it was presented to the squire whose house was the goal, and paid for by him in unlimited ale for all the players. Hurling comes nearest of all games to being a field sport, with a human quarry constantly changing, who can, however, by merely hurling the ball forward, cease to be "hunted" and become "hunter" whenever he so chooses. In 1664 a body of one hundred Cornish gentlemen is recorded to have given an exhibition match before Oliver Cromwell in Hyde Park, playing fifty a-side; but the game evidently did not "catch on" with Londoners.

Another form of hurling was current in the eastern part of Cornwall, which seems to have been a sort of precursor of Rugby football, since it was played by fifteen a-side, and to goals consisting of two pairs of bushes pitched two hundred yards apart, with guards (or goalkeepers), through which a player of the opposing side endeavoured to run with the ball. Wrestling and *butting*, or the thrusting of an adversary in the chest with the closed fist by the man bearing the ball, were allowed, though "butting" and "handfasting beneath the girdle" were forbidden those who were "hurlers against the ball." There was

also a forerunner of the modern "off-side" rule in the law forbidding "fore-balling"—that is, the throwing of the ball, by the hurler who had been "handfasted," to one of his side who was nearer to the adversaries' goal than he was. "The least breach of these laws," says Carew quaintly, "the hurlers take for a just cause of going together by the ears, but with their fists only," adding, "these hurling matches are mostly used at weddings." East Cornish hurling or "hurling to two goals," as it was called, is quite extinct, its place having been taken by Rugby football, and Cornish hurling to-day, is the sport formerly distinguished as "hurling to the country" as described above. In the parishes where it is still played it attracts large crowds of spectators,

and shape, while an ancient barn-door, invalidated out of active service, can usually be found whereon to pin the fair white target. The coveted prize takes the form of a copper kettle—hence the popular designation of the competition—provided out of the entrance fees of, perhaps, six-pence each. Should funds prove abundant, a tea-pot may be added as a second prize. Almost everybody in the hamlet enters for the shoot—young or old, gaffer or gammer, halt or blind—for, the law insisting that nobody shall actually fire at the target without possessing a gun licence, much of the shooting is done by deputy, marksmen of repute firing a dozen times as the representatives of a dozen different entrants. On the village green or in some convenient field,



A NORTH-COUNTRY KETTLE SHOOT.

[Photo. by W. Carter Platts.

hurling days being practically observed as public holidays.

Kettle Shoot, The.—One of the chief features of many village feast sports held in the remote dales that furrow the great Pennine moors and uplands, the Kettle Shoot, is, in all probability, a modernised survival of the ancient sport of "Shooting at the Popinjay," graphically described in Scott's "Old Mortality." At first with bows and arrows, and later with single-ball carbines, the marksmen of their day tried their skill in friendly rivalry by shooting at a gaily feathered stuffed parrot, or "popinjay," suspended from a pole. To-day the popinjay is unknown in the dale hamlets, and the carbine has long rusted itself out of local existence. However, there are few moorland farmers who do not possess, and know how to use, a double-barrelled "twelve-bore," and as for a mark—well, the local universal provider at the village shop will for a few pence supply a bundle of white envelopes of uniform size

and backed by a speculative and appreciative "gallery," the shooters quickly follow one another at the firing line, and discharge their pieces loaded for them by the officials of the sports, at the envelope pinned upon the old door which has been reared against a wall. After each shot the appointed marker hurries to the target, takes down the envelope, counts the pellet marks in it, and replaces it with a new one, while the scorer jots down the figures. The fact that the previous highest score is known adds a zest to the interest as each shooter takes aim, pretty much as, under the discarded system, the declaration of the "state of the poll" kept the electioneering enthusiasm at fever heat in the old days. Eventually the marksman who has put most pellet marks into the envelope is declared the winner of the kettle.

Knur and Spell.—Known in the vernacular as "knur-laiking," knur and spell, though practically a mystery to the south-countryman, and little more than a name to

the well-to-do sportsman of the north, holds steady sway over the humble sporting masses of the crowded districts of the West Riding of Yorkshire and the adjoining Lancashire hives of industry. Especially is it popular as a Saturday or holiday sport in the South Yorkshire coalfields, where—not without reason—I have heard it dubbed "colliers' golf." Formerly the winner in a knur and spell match was the competitor who could strike his knur the greatest aggregate distance in a certain number of attempts or "rises." Matches of this description are still common, the aggregate system of scoring being the one usually adopted when the players are of markedly different calibre and handicapping is necessary. But the style of knur and spell which now commands the greatest favour is the "long knock" contest, which is heralded in the local Press by some such announcement as: "To-day, at — Grounds, A. B—, of C—, will play D. E—, of F—, at Long Knock for £40 a side, 20 rises with $\frac{1}{2}$ oz. pot knurs."

Let the reader imagine a huge, rough, common-like enclosure, at one end of which the assistants of the respective players are setting the spells. It is a delicate operation, critically watched by a crowd of connoisseurs. Spades quickly level a patch of ground, and the spring spell—somewhat reminiscent of a rat-trap without the jaws—is firmly spiked down into position with due regard to the attached spirit-level. Next, the spring of the spell, at the end of which is a small brass cup to hold the knur, is adjusted by thumbscrews, so that when released by a touch of the pommel on the trigger, it will toss the knur a distance of six feet forward. Now an endless string, measured with strict accuracy to the length of the player's stroke and other important factors, is placed round the spot where the knur falls and the spell. The slack of the string is then pulled out at right angles to the spell, and a peg is driven into the ground at the spot thus found. Against this peg the player places his right toe, and if all the adjustments have been correctly effected, then, when he touches the trigger and swings his pommel, the latter will come into contact with the knur exactly at the desired point in its airy flight. In days gone by, wooden knurs were in common use, small spheres of boxwood. They are still occasionally employed, but the general practice to-day is to play with porcelain knurs—"potties"—the regulation weight being half an ounce, and their size about an inch in diameter. The pommel is similar in shape to, but considerably less in size

than, a half-pint beer bottle, flattened on the striking surface, and a favourite pommel is treasured by its owner as the billiard enthusiast treasures his pet cue. To resist the terrific impact with a small, hard body like a pot knur, the pommel has to be carefully prepared, and it is made of beech, faced with pressed maple, the whole head, though so small, weighing between four and five ounces. This is spliced to a tapered pliant ash shaft, the total length of the striking apparatus for a man possessing an ordinary reach being about four feet four inches.

Stripped to his shirt and trousers, the



[Photo, by W. Carter Platts.

AT A KNUR AND SPELL MATCH: THE STRIKER IS IN THE ACT OF TOUCHING THE TRIGGER.

striker toes his peg, and, with his pommel, measures his distance from the spell upon which his "pottie" reposes. He gives a preliminary waggle as though to reassure himself of the exact amount of resilience in the shaft. He indulges in a false rise or two to test the correctness of the regulated throw of the spring. The spectators crowd round barely out of reach of the swing of the pommel, and gaze admiringly. They critically watch him spit on his hands and brace himself for his effort. They lean forward and glue their eyes on the cupped knur. It is a moment of electric intensity. The pommel tips the catch of the spell, the knur is tossed up, and the pommel swings through the air with a mighty swish, smiting the "pottie" with a smart thwack! The next instant the crowd, with one accord, are pointing and gazing heavenwards; the

striker, wildly brandishing his pommel, is prancing down the field after the flying knur, fervently urging it to "Get forrard! get forrard!" and away in the distance a numerous body of scouts watch for the fall of the knur. The stroke has let loose a babel of tongues. Backers of the striker, allowing the wish to be father to the thought, yell out their firm conviction that the knock is "Ovver ten score! ovver ten score!" while the supporters of his rivals deride such liberal estimates with sarcastic allusions to firing marbles as far. Eventually the knur drops, the best and the worst

feet, and eight inches, made on the Gun Club Grounds, Lightcliffe, near Halifax, in the same year. These distances appear almost incredible, but it must be borne in mind that it is the practice of the "knur-laikers" to play with the wind, and a snoring gale may add very materially to the length of the knock.

Lancashire Wrestling.—[See *general article on WRESTLING.*]

Round-the-Town Race.—At a few village sports in rural regions where the police regard with an indulgent eye the transformation of the public highway into a temporary race track, the round-the-town race evokes enthusiastic interest, and provides, for any city-dweller who may chance to witness it, a quaint spectacle. The course is laid through the streets of the hamlet, making roughly a circuit of the "town," and may be anything from half a mile to a mile in length. A shorter course is mapped out for the women's and boys' round-the-town races, for the ladies are nothing loth to show the lightness of their heels as they flash with a whirl of skirts and twinkling ankles past the cottage doors.

Running for the Ribbons.—Practically extinct, though some half-hearted attempts to revive it have been made, running for the ribbons was, a generation or two ago, the great athletic adjunct to a village wedding in the Yorkshire dales. Almost immediately after the ceremony was over in the sacred building, the young men of the neighbourhood lined up at the church gates, stripped to their shirts and trousers, and at the word "Go!" dashed off. The goal was the new home of the happy couple, and here the blushing bride pinned a bunch of gaily coloured ribbons to the hat of the winner, who strutted about the village for the rest of the day, crowned with laurels—or, at any rate, ribbons—the hero of the hour.

Sheep-dog Trials.—Twenty years ago sheep-dog trials were almost unknown, save locally among the Welsh and North of England uplands, the nurseries of the sport. Of late the southern and eastern counties, the Midlands, and the West of England, have given more or less enthusiastic welcome to the diversion, while over the border Scottish clubs and societies have been formed for its promotion. With the fashionable gathering at Tring and the important meeting at Llangollen in the first week of August, the season gets into full swing, and during the next three months sheep-dog trials are now run almost daily in various parts of the country before great concourses of spectators, some of the best-



[Photo, by] W. Carter Platts.

ROUND-THE-TOWN RACE: THE START.

are known—for the ground is marked out into "scores" (of yards) to facilitate measurement—and the striker resumes his coat until his turn comes round once more.

The question "What is the longest 'long knock' that has ever been made?" will probably ere now have suggested itself to the reader. In the contests referred to, it is quite a common occurrence for the players to drive their knurs eight, nine, and ten score yards, while knocks of eleven score and twelve score are less often reported. These distances, however, do not nearly approach the record, which, for pot knurs, stands at fifteen score yards and fourteen feet. This distance was accomplished by Joe Machin, of Grinnerside, on the Queen's Grounds, Barnsley, in 1899. Even a greater distance than this has been struck with a wooden knur, the record for which is eighteen score yards, thirty-seven

known competitors travelling from meeting to meeting with their specially trained dogs.

The object of the competitor is to "work" his dog by signals, so that the intelligent brute drives the sheep allotted to him over a prescribed course of, perhaps, six or eight hundred yards in length, plentifully strewn with obstacles which must be negotiated in a stipulated manner, and finally pens the sheep in a tiny enclosure within a given time. At the big meetings valuable prizes are offered, the entrants

which they must be driven; yonder the cross-passages, known to the elect as the "Maltese cross," through whose intricacies the sheep must be piloted, first straight ahead, and afterwards transversely; and, lastly, the three hurdles, set in a triangle to form a pen with a narrow opening, in which they must be finally secured within the time allowed for the whole round. For the passage of the Maltese cross, and, again, for the final penning, the shepherd may leave his post in the centre of the ground, and assist his dog in any way short of



SHEEP-DOG TRIALS: PENNING THE SHEEP.

[Photo. by W. Carter Platts.]

often number forty or fifty, and the highest honours go to the competitor making the most points. Three sheep are allotted to each dog, and to add to the sporting chance two sheep are frequently taken from one flock, while the third is taken from another; for, though sheep from the same flock almost invariably run together, sheep from different flocks possess a strong disposition to keep aloof from each other, and the dog's task in keeping the trio together is rendered more difficult. The three sheep are turned loose at one end of the vast arena, and at a signal from the shepherd, whose movements are restricted to a short rope's length of a post in the centre of the course, the alert cur bounds away, "gathers" the wondering trio, and duly proceeds to marshal them round the course, successively putting them through the various obstacles. Here are the flag-poles, round and between which the woolly charges must be gently urged; there the gaps between hurdles, through

actually touching the sheep. Even then the task is an exasperating one, for in the Maltese cross the characteristic perversity of sheep will seldom permit them to come out by the right exit when they go in by the right entrance, and it prompts them to leave by the correct exit only when they have gone in by the illegitimate entrance, while the animals' powers of irritation lead them rambling a dozen times round the pen—a thousand spectators hanging breathlessly on the issue and the time-keeper checking off the precious seconds—without once perceiving that there is an entrance to it—an entrance which they immediately discover and cheerfully utilise the moment after the stipulated time for penning is exceeded.

The double-dog stake is now a popular feature of many of the meetings. In this event three sheep are released at one end of the field, while three others are turned out at the opposite end of the enclosure.

Then the shepherd, from his central post, works a pair of dogs simultaneously, each animal bringing his respective trio of sheep through certain obstacles to the middle of the field, where the two little flocks join, and are then put through the rest of the course by the dogs working together, until, all other obstacles having been overcome, the six sheep are separated into the original trios—each dog taking his own lot—and penned in separate pens.

By the exercise of monumental patience, the dogs are trained to act with the precision of automata, instantly obeying any of eight or nine signals given by whistling, gesture, or voice. The natural exuberance of the collie must be held under severe restraint, and all his actions be governed by the signal of command. At this whistle or that wave of the stick the dog must advance, retire, stop, move quicker, move slower, sheer off to the left, come in to the right—in short, go through almost all the movements in a set of quadrilles to the tune his master calls.

We often hear the complaint that the local agricultural show, pure and simple, will not pay its way, and that the addition of some sporting form of spectacular diversion is absolutely necessary to draw the crowd. Here sheep-dog trials have done much of late years to save many an old and honoured north-country agricultural society from total extinction. Indeed, at some of the shows the casual observer may be excused for wondering whether the sheep-dog trials form one of the secondary attractions of the agricultural show, or the agricultural exhibition is merely one of the side shows of the sheep-dog trials.

Wallops.—Only in certain secluded valleys in North-West Yorkshire, very far indeed from the madding crowd, has the writer come across a variation of the game of skittles, or nine-pins, known by the curious name of wallops. Where it is played it is extremely popular. With rudely fashioned tackle the rustic juveniles play it on the roads when school is over, when the children of a more conventional outer world are playing marbles or whiptop, while at the local sports meetings competitions are held for adult players, and considerable dexterity is displayed. It is usual to include events for lady players. The walloping-stick is of tough wood, some four feet in length and about an inch in thickness; and the skittles, nine in number, measure about nine inches in height. These pins are set up in the form of a square of such dimensions that, with an exceptionally good throw, it is possible to bring them all

down with one stroke of the missile. The player stands at a mark ten or a dozen yards from the skittles, and hurls his walloping-stick at them with a swing, the object being to sweep the square with the broadside of the flying stick. This is very difficult of accomplishment, the stick, apparently flying straight for the pins, is guided by the Imp of the Perverse into miraculously swinging harmlessly by the majority of them or bounding over them. Each player is allowed two throws, but the pins he knocks down at his first attempt are not set up again until he has made his second effort, and the winner is, of course, he who overturns the greatest number of skittles.

W. CARTER PLATTS.

LYNX.—Though the lynx affords as handsome a trophy as sportsmen need desire, yet it cannot be regarded as a regular beast of chase. That is, the lynx is never



CANADIAN LYNX.

made a separate object of pursuit, but rather forms a subsidiary object, ever welcome, while hunting other game. His strictly nocturnal habits—truly feline—his relative scarcity, and the wild character of his haunts, leave the chance of a shot altogether too precarious were lynx alone the hunter's sole objective.

In Europe are found two species: the larger northern lynx (*Felis lynx*), ranging throughout Scandinavia, Russia, and the north-continental countries; and the small spotted lynx (*F. pardina*), confined to the warmer latitudes by the Mediterranean, and is especially common in Spain.

Of the **Northern Lynx** few are ever shot by British sportsmen. In my own experience of several seasons spent in the northern forests, I have never chanced

to see, much less shoot, a lynx, though on several occasions I came across recent spoor. Similar luck, I believe, befalls most Anglo-Norsk hunters, and the few lynxes (*Goup*, in Norwegian) that are killed in that country are mostly secured in winter, when they can be followed on *ski*, or snow-runners. The total killed, on which the Government reward of twenty kroner was paid, was returned in the three years 1893, 1894, and 1895 at fifty-six, forty-four, and eighty respectively.

The northern lynx is a scarce beast, nowhere localised, whose home is in the wildest mountain-forest, where his stronghold is among the crevices of some bare rock-scaur that projects above the trees. There the beast, curled up among shaggy heather or dwarf-birch, passes the day on an open ledge which overlooks the woods and commands a view of approaching prey, or danger. The wolf, on the other hand, sleeps away the daylight hours in some dark den or hollowed cleugh far above timber line.

A favourable opportunity to shoot the northern lynx (and the bear also) occurs in early spring, when the goats and sheep are first driven out to the fjeld—tempting morsels to the hungry beasts of prey. Should the hunter have early notice of a "kill," a shot may be obtained at night.

The **Southern or Small-Spotted Lynx** is a beast of the scrub and jungle rather than of forest. In southern Europe wide areas of rolling plain and the foot-hills of mountain-ranges are clad with shoulder-high heaths, cistus, rosemary, and other shrubs. Amidst these, in the hollows, where winter rains collect and moisture lingers, are denser growths of jungle, often twenty feet high, and all interlaced with twining thorny briar. These matted thickets, impenetrable to man, form the rendezvous of various wild animals. They are the favourite home of the lynx; but they also shelter the wild boar and red deer, besides minor beasts—wild cat, fox, badger, mungoose, and others.

In shooting a country such as this, the primary objects are, naturally, pig and deer; but as the lynx alone concerns us here, I will endeavour to show how he may best be killed. While "driving" such countries (and that is the only way in which they can be shot), it may be laid down as an axiom that the first animals to appear will be foxes and lynxes. When the beat is joined, and the distant shouts of the beaters come borne on the breeze, the different wild creatures enclosed within the circle are all aroused

to the danger; but each has his own idea of escape. Deer, if lying in the open, move hither and thither, seeking a weak spot to break back; the pig never stirs till lusted by the dogs; but the lynx shifts at once and direct. Hence, during the first few minutes of the beat (more or less, depending on its extent), the concealed gunner will be well advised to load with *shot* (No. 2, or up to AAA if commanding an open space), and to *face into the beat*. At the end of those minutes, he may be assured that no



A. Aldwell 1897

SPOTTED LYNX.

lynx is coming his way, and shot should then be exchanged for ball. Five lynxes will be secured with the shot-gun in front of the line for one that is killed with the rifle behind.

While expecting lynx, the gunner must be thoroughly concealed behind a breast-work of bushes and remain rigid as death. He sees the partridge whirring afar before the advancing beaters, and scurrying rabbits dart across the open. To these he pays no attention. But he should note a concourse of chattering magpies on his left front, and presently, from that direction, a grey form, moving silently between grey stems of cistus, catches his eye. Forty yards—thirty; now he sees the big cat's orbs glancing to right and left; but the head, carried low, never moves till the gun is raised. Then, for a fraction of a second, both pairs of eyes meet and the lynx is dead before he knows how he died. On one occasion the writer allowed a lynx to advance to exactly eleven yards.

Silent as it is, the approach of a lynx is sometimes audible to an attentive ear, and in wet seasons I have heard them splashing through water with almost as much noise as a dog. Their movements are slow, and, like most wild beasts, the lynx is reluctant to face the open; a big male will rather turn and give battle to three or four dogs than run into danger. Occasionally

I have known them to "tree"; but (as stated) lynx are less often found in forest.

the wing as the covey sweeps low over some open patch or rushy glade. Despite the carnivorous habits of the lynx, the flesh



LYNX

From a drawing by E. G. Caldwell.

They prey chiefly on rabbits and partridges. The latter, our Spanish gamekeepers assure us, the lynx can catch on

is white and well-flavoured, if one can so far overcome prejudice as to give it a trial.

ABEL CHAPMAN.

LYNX-SHOOTING IN RUSSIA.—To ring a lynx, to set the beaters in their places, and successfully to drive the creature to his doom, which would be a charge of slugs



THIBET LYNX.

if he came to it, is usually more than the intelligence and skill of the ordinary keeper can bring about. Indeed, to obtain a successful result it is necessary not only that the keeper, but also every beater engaged, and every sportsman should be on the alert. For, to begin with, the lynx must be noiselessly ringed and the beaters silently set in place. Now, no lynx, awake and worthy of the name, could be ringed—as though he were a mere dull-eared wolf, or a bear fast asleep in his winter lair—without knowing all about it; and even if ringed, the ceremony of placing the beaters could not be performed without awakening his suspicions. Hence, as a rule, he is off and away before the beaters and guns are placed. Should he, however, have been asleep or busy with his dinner, the odds are still in his favour, for each beater must be alert, and must stand close to his neighbour, or the cat-like creature will slink or spring past him unseen, and the beat will end in wonder and abuse, and without a lynx-skin. So quick and so cunning is the ringed lynx that he will successfully creep within a yard of the sportsman standing, gun-in-hand, on the look-out for him, and, watching his opportunity, spring past him and away, unsuspected until an inspection of his tracks reveals the fact that he is gone.

But there is one individual who vies with the lynx for cunning, and that is the "lugatchi." The lugatchi, the original ones, were a company of three hunters hailing, presumably, from Luga, though their origin, like their method, is mysterious. These three men are, or were, able—for their suc-

cessors and imitators fall far short of their skill—without assistance of beaters, to ring and drive any animal, even a lynx, to any spot they pleased. Let the "gun" stand where he would, the wolf, fox, lynx, or any other animal ringed would presently arrive by their mysterious insistence, at his very ambush. Their beating, or driving, was done almost in silence, the central huntsman entering the ring on the animal's track and directing the others by signals when and how loudly to clap hands or cough or bark, according to the course taken by the quarry and its divergence from the required direction.

A possible but difficult method of hunting lynx is to run him down upon snowshoes with the aid of a dog. When the lynx comes in sight the dog barks, and instantly the lynx is at the top of a tree, from which sanctuary, foolishly sought in a moment of panic, a bullet will soon dislodge him.

FRED WHISHAW.

LYNX, AFRICAN, or *Caracal* (*Felis caracal*).—This animal, well known all over South Africa by its Dutch name, *Rooi-Kat* (red-cat), is to be found in many parts of the African continent, from the Cape Colony northward. Men of science place the caracal between the jungle-cat and the



AFRICAN LYNX OR CARACAL.

northern lynxes, but to the average observer this animal, although not spotted all over, is, with its tufted ears, short tail, and other characteristics, a true member of the lynx family. In colour the rooi-kat is of a warm reddish-brown, the underparts paler, faintly spotted with rufous markings; it stands from 15 to 18 inches in height, and is strong, savage, and wonderfully active. It does considerable damage among sheep and goats, especially in the lambing and

kidding seasons, and is therefore, as far as possible, exterminated by South African farmers. The caracal is, however, extremely wary and suspicious, and not easily trapped or hunted. Essentially a nocturnal beast, it is only occasionally encountered by the gunner in daylight; a bullet, or, at close quarters, a charge of large shot will be found equally efficacious on such an occasion. A wounded caracal can, however, use its teeth and claws with great effect, and should be approached with caution. The Bechuanas hunt these animals systematically with dogs, and also snare them. The very handsome skins, warm, soft, and furry, are in great request among these people, by whom they are neatly sewn together and made into valuable karosses or rugs. A good rooi-kat kaross, containing 16 skins, is worth £5 5s. and upwards at any Bechuanaland store. There is a widely prevalent idea in South Africa that the skins of this animal are, if used as a blanket, a great prophylactic against rheumatism. It is undoubted that the fur has a marked attraction for electricity, and at certain seasons a kaross, when stroked with the hand, will emit sheets of sparks and the well-known crackling accompaniment. As a rule, the African lynx seems to prefer a dry habitat to a moist one. In South Africa the parched and elevated plateaux of Bechuanaland and the Kalahari probably contain more of these animals than any other locality. The caracal is found in North Africa, as also in Arabia, Persia, and parts of India.

H. A. BRYDEN.

MACKEREL.—MEASUREMENTS, &c.—Length of head $4\frac{1}{4}$ to $4\frac{1}{2}$, of caudal fin $6\frac{1}{2}$, of pectoral fin $9\frac{1}{2}$, height of body $5\frac{1}{4}$ to $6\frac{1}{4}$, in the total length. Eye—with broad, adipose lids. *Teeth*—in a single row of rather sharp ones in the jaws, in a deciduous patch on either side of the vomer, and in a single or double row on the palatines; a central row of teeth at the base of the tongue. *Fins*—dorsal commences at the beginning of the second third of the length of the body; spines weak, the second and third the longest, from thence they decrease to the last. Second dorsal low, and similar to the anal. Pectoral not quite half as long as the head; ventral one-fourth shorter than the pectoral. A single, short, pre-anal spine between the vent and the commencement of the anal fin. Caudal deeply forked. *Scales*—minute, about twenty-one rows between the lateral-line and base of the first dorsal fin; along the sides on the lower surface of the abdomen

they become nearly indistinguishable. Several rows below the eyes passing across the cheek. *Lateral-line*—nearly straight. A keel along either side of the root of each lobe of the caudal fin. *Air-bladder*—absent. *Colours*—the upper third of the body is of a beautiful green shot with blue, while the sides and abdomen are radiant with gold, purple, and silvery shades. About thirty-five V-shaped bands pass downwards from the back and terminate just below or on the lateral-line; a dark stripe, sometimes interrupted, goes from the base of the pectoral fin along the side a little distance below the lateral-line. A light yellow colour behind the eye. Fins dark, and generally with a black, white-edged outer line; or the body, to just below the lateral-line, may be covered with small black spots, or scribbled markings. Donovan asserted that the males have straight transverse stripes, and the females undulated ones, the correctness of which the writer has been unable to verify. It has likewise been observed that the male has a more slender form and an elongated gill-cover.

Day, *Fishes of Great Britain and Ireland*, vol. i. p. 84.

[See also SEA-FISHING.]

MARKHOR (*Capra megaceros*).—Of this noble Asiatic wild goat four local races are known, mainly distinguished by the shape of their horns. A full-grown buck of the Pir Punjal and Kaj-Nag ranges, south and west of the Kashmir Valley, stands quite 44 inches at the shoulder. Its general colour, like that of most wild animals, varies with the seasons. During spring and summer, the predominant hue of its rough coat and the face is a dirty yellowish-white. Towards winter it becomes tawny grey. Its legs and its very short tail are brown. From its shoulders, neck, and chest depends a shaggy beard, tawny brown above, almost black below, and sometimes reaching lower than the knees; which, with its massive V-shaped spiral horns, gives this king of wild goats a truly majestic appearance. The finest horn the writer ever measured was a single one of most exceptional length, purchased at a village in the Kaj-Nag range. It was 63 inches long, following the twist. The usual size, however, of what may be termed fine horns of this race is from 40 to 50 inches, with two and sometimes three complete corkscrew shaped turns, and a basal circumference of nearly a foot. The doe, termed *buckri* or she-goat, is only about half the size of the full-grown buck. She carries comparatively thin spiral horns which

seldom exceed about 15 inches, and is hardly distinguishable in a band from the *rind*, as the young buck is called. The hoary old bucks only are termed markhor, and they generally herd separately from the does and young bucks, except during the latter part of the year, from October.

The horns of the race met with in the mountains of Astor and its neighbouring districts northward of the Kashmir Vale are much wider spread and have fewer twists, but they are about equal in length and circumference.

The markhor of the type found on the hills north and east of the Peshawur Valley, in trans-frontier and Afghan territory, carry horns of a shape and twist something midway between the above two races, while those found on the comparatively low and arid Sulimani range in the Derajat country north-west of the Punjab are somewhat smaller and less shaggy, with horns screwing more sharply, like a twisted ribbon.

The Kashmir and Astor races of the markhor affect very precipitous craggy ground, more or less forest-clad, and intersected by terribly steep slopes of short grass, and immense slips of bare stony earth or old snow. Consequently their pursuit is attended with much difficulty, and often with danger. The surface of these slips is usually so rotten and friable, and the short grass on the slopes is, when dry, so smooth and slippery as to make the footing there most precarious. Even in winter, the big-horned old bucks seldom descend from their lofty fastnesses, where they are said then to subsist chiefly on pine-shoots.

For such ground the writer found hob-nailed boots safer than *pulas* (sandals made of twisted straw or long grass), which, admirably suited as they are for foothold on hard snow, ice, and rock, are worse than useless on those precipitous slopes of short slippery grass and rotten earth or snow which have so frequently to be traversed in Kashmir markhor hunting. It is as well, however, to have both handy for use as may be required.

The other two races affect difficult but more open ground, and are met with at much lower altitudes and in more arid localities.

In the mountains around the Kashmir valley the old bucks are always difficult to find, owing to their affecting such inaccessible places, where they are wont to keep themselves much hidden among the pines and birches growing thereon. Their agility, for animals of such a size, is extraordinary, but on being disturbed or even shot at, they

seldom move off fast, but they almost invariably travel long distances ere they settle down again. Unlike the does and young bucks, these old patriarchs seem to trust their safety rather more to concealment and the inaccessibility of their haunts than to eye, nose, or ear. But when once they are found, except for the difficulty and danger of following them up, with ordinary care they can usually be circumvented with tolerable facility, and a wounded one



N. J. Bell 1897

MARKHOR.

seldom, if ever, turns to defend itself when approached.

Owing to constant pursuit, Kashmir markhor have considerably decreased in numbers in some of their more easily reached pristine haunts, for instance, in the Pir Punjal range, where they were once comparatively plentiful.

As regards weapons, a .450 bore double express rifle with projectile of soft lead and as much powder behind it as the barrels can stand will be found the handiest weapon for markhor-shooting as well as for that of all other Himalayan game of the goat and sheep tribes. The sportsman must be prepared to rough it in every respect, and an experienced local guide is indispensable for the difficult and dangerous ground

which must necessarily be traversed if he hope for success.

DONALD MACINTYRE.

MILITARY SPORTS.—In the case of a nation devoted to athletic exercises of all kinds, and possessing honourable records of military prowess, it is natural that many sports, essentially military in their origin, have been adopted and become popular outside the ranks of the professional soldier. This fact necessitates a division of the subject into two sections. The first includes all sports which, while not forming part of what may be considered the drills or evolutions laid down in the authorised drill books, are analogous thereto, and are really exercises with service weapons or blunted substitutes for them.

The second section embraces all sports not coming within such a definition, but adopted as affording amusement, while at the same time tending to develop physique, more especially in those directions which would be of advantage to a soldier under service conditions, such as running, swimming, climbing, and other similar exercises.

In recent years the sports most favoured by the army have varied from time to time, but the following may be taken as including those most usually practised at the present date:—

Polo (for which see POLO), fencing (see FENCING), shooting, tent-pegging, tug-of-war, artillery driving, heads and posts, lemon cutting, tilting at the ring, bayonet fighting, obstacle races, wrestling on horseback, tug-of-war on horseback, Balaclava *mêlée*, Victoria Cross race, ball and bucket, bareback riding or vaulting on horseback, of some of which we will proceed to give the main features.

Shooting has been greatly improved by the formation of rifle and gun clubs, which are personally assisted and encouraged by the officers of the army, especially by the musketry staff, as conducing to readiness of aim and quickness of eye. Military shooting competitions are usually carried out with service rifles, seven shots being fired at each of three ranges, the positions being defined by the executive. The distances depend very much upon the range available for the competition, for some are not safe at the longer distances with the new service rifle, the Lee-Enfield Mark II.

There are also team competitions, combining drill and shooting, marching and shooting, or all three; while the mounted services have similar arrangements for teaching riding, shooting, jumping, and steadiness of horses under fire.

Tent-pegging appears to have been originally so named from the use of an ordinary tent-peg as a mark for a lancer's practice. The mark is now usually a specially prepared, well-seasoned piece of wood, 12 ins. long and 3 ins. wide, the length out of the ground being 6 ins. It should be hammered into clay puddled so as to dry stiff. The competitor is armed with a regulation lance, and must make the run at the full speed of his horse, while the point of the lance has to be kept up to within a



TENT-PEGGING.

certain distance, say 15 yards, from the peg. The usual method of allotting marks is: for touching the peg two, for moving it four, and for carrying it away (provided it is carried to the end of the running track, usually about 20 yards) six points.

Pace is considered of great importance, points being deducted if insufficient. In India they manage to combine tent-pegging with pig-sticking by driving in a peg in a position unknown to the competitors, who, being told the general direction only (generally by the blowing of horns), go in search of the peg. He who returns with the peg on his lance point is declared the winner.

In **Lemon Cutting** the lemons are suspended at the right of the track, about the height of a mounted man's shoulder, usually about 15 yards apart. For the first, cavalry cut one to the right is used, and for the second, cut two to the right, the sword being carried at the "right engage" until within 15 yards of the first lemon. The usual marks are three for either lemon cut singly; the same pace has to be maintained as in tent-pegging, and the lemons must be severed by a clean cut. While the lemons are usually cut with a regulation sword at the height named, some expert swordsmen have varied and made the

competition more interesting by having some of the lemons at the height of an infantry man, and by having sheep hung up to be cut alternately with the lemons.



LEMON CUTTING.

Of course a heavy sword or lead-cutter is required for this, and it is usually rather a display than a part of the competition.

Tilting at the ring is not so frequently a matter of competition as formerly; the rings are 1 3/4 ins. inside diameter, and are suspended in the same position as the lemons, speed having to be the same. The



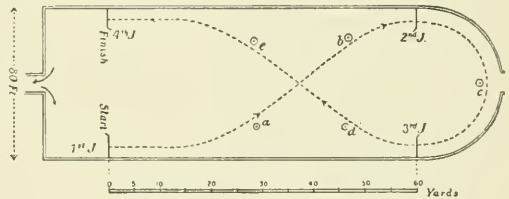
DUMMY THRUSTING.

competitor endeavours to take the rings on his lance, which must be held in the proper way behind the guard, which must be at the balance, and the ring or rings must be

carried to the end of the running track, and then brought back to the official appointed to see that they are on the lance. The marks are, for one ring three, and eight if both are taken.

Dummy Thrusting.—The introduction of the new pattern of cavalry sword, which has no cutting edge, but is designed for thrusting only, has necessarily caused some modification in cavalry sword practice. The old heads and posts competition, which included all the cuts and points which were practised with the cutting sword, is now rarely or never practised.

The dummy thrusting competition takes place over a course (see diagram) which includes four jumps and five thrusts with the sword. The dummies are figures dressed in khaki, mounted on a powerful steel spring which terminates in a point at the base, which is driven into the ground. On the breast of the dummy is a cardboard target, size inner ring two inches diameter, outer ring five inches diameter. Pace to



DUMMY THRUSTING.

A point to be delivered at each of the following objects :

- (A) Dummy breast-high (cavalry) on the right.
- (B) Dummy shoulder-high (cavalry) on the left.
- (C) Dummy breast-high (infantry) on the right.
- (D) Dummy breast-high (cavalry) on the left.
- (E) Dummy on the ground, on the right.

Weight of frame of dummy uncovered, 6 lb. The cover when packed with cotton waste, 5 lb. Total, 11 lb.

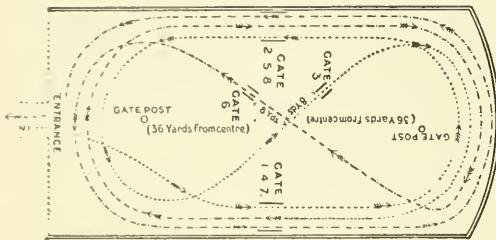
be at a fair speed, not more than thirty seconds, one mark deducted for every second over time. Marks, two for hit on the inner ring of the target, one mark for hit on the outer ring, nothing for hit outside outer ring; one mark for each jump. The spring upon which the dummy is built causes it to resume an upright position after receiving a thrust from the sword.

Artillery driving competitions are for the encouragement of drivers in the Royal Artillery, and, by exciting emulation, aid in the attainment of that wonderful perfection which has gained for the British artillery the admiration of foreign experts. In England, gates and wooden blocks, called pegs, are arranged on the ground for the gun to pass through, the course to be taken being distinctly laid out. In India, instead of these wooden blocks, earthenware chatties or pots are used, these going to pieces

directly they are touched by the horses' feet or the wheels. The rules are as follows:—

Distances.—Between gate-posts, 9 ins. more than the mean length of the axle-trees of the particular guns and limbers of each team competing; between pegs, 6 ins. more than the mean tracks. R.F.A. teams to pass bridle hand to bridle hand at both ends and on the centre. Turning pegs are 17 and 20 yards from the centre gates; 2 yards between each set of gates. Pegs for 5-in. howitzers, 3 yards apart; for 18-pounders, $2\frac{1}{3}$ yards apart. Outer pegs, 18 ins. from the side of the arena.

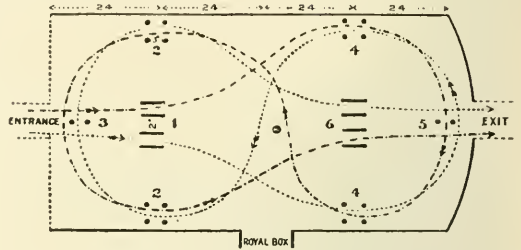
Times.—In order to gain full marks, the driving competitions must be completed in the times stated below, otherwise 1 mark will be deducted for each second over those



ROYAL HORSE ARTILLERY GALLOPING.

times. R.H.A., galloping, 1 min. 35 sec.; R.F.A., trotting, 1 min. 5 sec. The judges are authorised to add marks not exceeding 3 for R.H.A. or 6 for R.F.A. for style in driving in every run. The time will be taken by chronograph from the time the first gun axle passes the first gate to the time

Penalty for each post touched, including turning posts, 1 mark; knocked down, 3 marks.



ROYAL FIELD ARTILLERY TROTTING.

(1) and (6) are the ordinary gates, with 2 yards between each set of gates.

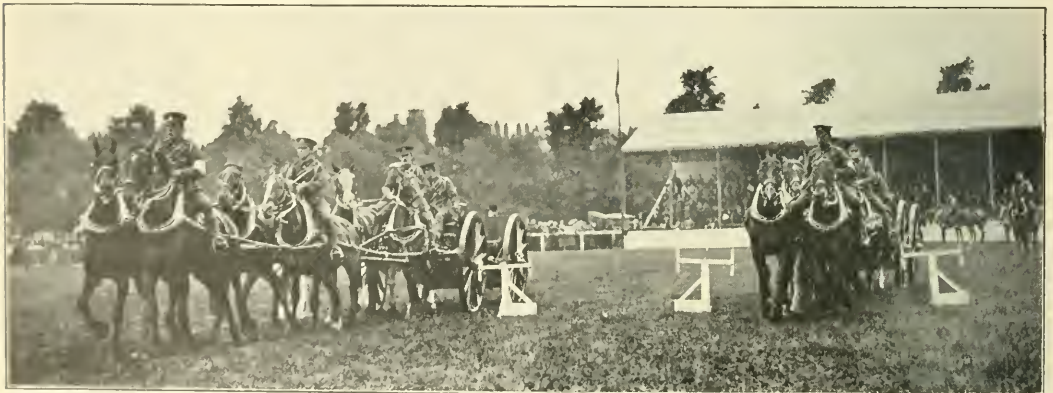
(2) and (4) are the ordinary pegs at the usual intervals, but 3 yards or $2\frac{1}{2}$ yards apart, according to batteries competing.

The outside pegs $1\frac{1}{2}$ feet from the side of the arena.

(3) and (5) are turning-pegs for each team.

R.F.A., clean run, 60 marks. Penalty for each peg touched, including turning pegs, 2 marks. Penalty for each peg gone outside, including turning pegs, 3 marks. Penalty for each post knocked down, 3 marks. A touch by any part of the horse, harness, or equipment will count as above. When a team is stopped for "leg over the trace," or in the case of an accident not due to bad driving, a new run will be allowed (all marks lost up to time of accident to count), and no style marks will be given if the accident is due to traces being slack. All marks for a run to be forfeited for any mistake in the course.

Tug-of-War is now a very favourite pastime. Teams of different regiments, usually consisting of ten per side, endeavour



ARTILLERY DRIVE. PASSING THROUGH THE GATES.

to pull their opponents over a mark. Each team has a captain or coach. The rules generally acknowledged are that there should be two pulls out of three, competitors not to be allowed to sit down; no knots, or loops in the rope, or spikes in

the last gun axle passes the last gate before leaving the arena. The proper "aids for driving" to be shown correctly by the drivers in the several changes from right to left and *vice versa*.

Marks.—R.H.A., clean run, 25 marks.

boots allowed, the distance of the pull-over for teams of limited weight to be 12 ft.; for catch-weights, 18 ft.

There are generally separate competitions for teams whose aggregate weight does not exceed 110 st., for teams whose aggregate

against another, there is team against team. There are two methods of arranging this competition, one in which a team of nine men (eight men and a commander) fight against an equal team in pairs, the defeated men to sit or lie down, and the team having



OBSTACLE RACE.

weight does not exceed 130 st., and for catch-weights. Umpires should check weights and inspect boots before starting the pull.

In the Navy, where space is restricted, the rope is frequently passed through a block, and on board ship competitors are barefooted, but this really makes no difference to the result.

In training teams for tug-of-war the chief point is to make them hang back steadily with their dead weight on the rope, only pulling together by signal or word from the coach. In practice it is found that this result is best obtained by tying the rope to some hold-fast and putting the team to pull steadily upon it. Afterwards put them to pull strong scratch teams in order to obtain the experience of the sway and give and take, which is the point the coach must feel almost without seeing.

Bayonet Fighting is a recent development of bayonet competitions—that is to say, that instead of these being one man

the greater number standing to be the winner. The two leaders will, if it is necessary, decide the event fight last; but a far better way, when a sufficient number of judges are available, is for the eight men on each side to engage simultaneously under their commander, who gives general instructions, and any man who has beaten his opponent to be at liberty to assist one of his own side.

This manner of conducting the engagement more closely resembles such a *mêlée* as would occur on service.

Obstacle Races form a very useful means of testing the powers of endurance possessed by the soldier, and of showing who have been best trained for carrying their whole marching equipment in climbing, running, and creeping through narrow places, and over such artificial obstacles as generally represent the difficulties that would occur on service. When we read that the human pyramid, which is taught in the gymnasium of the army, has been

found of considerable use in escalading, it is evident that such tricks may prove themselves of great practical value in time of war.

Wrestling on Horseback is another exercise which may be looked at from two points of view.

Usually six men compete with another



OBSTACLE RACE: HANDING A GUN OVER A HEDGE.

Military Rides.—A musical double ride is now a recognised and popular feature in any military sports or display. It is usually performed by thirty-six riders, and is intended to display the horsemanship of the men and the training of the horses. It should be timed to last not longer than ten minutes, the figures to be executed being

team, and although it may appear that the success of a team depends on the better riding and strength of each individual of that team, it is often found that the weaker team wins, because of better arrangement in combination. Special leather jackets or extra strong football jerseys should be worn, and be clearly marked with the team colours.



MUSICAL RIDE BY THE 21ST LANCERS

left to the individual taste of the organiser of the ride. The first movement is at the trot, the second at the canter, and the ride finishes with a charge, the band playing music suitable to the different movements.

No boots are allowed; the horses have only bridle and no saddles.

The same remark as to combination applies to tug-of-war on horseback, in which the rope, instead of being handled by men

on foot, is in the hands of men on horseback. The teams having their backs to one another, it is quite evident that unless a team are sufficiently good horsemen to get their horses to work together as well as hold on their horses, they have not much chance of success.

A skilful combination is also the chief requisite for success in the **Balaclava Mêlée**, in which there are four or six men on each side, who wear singlestick or fencing jackets, and singlestick helmets, in which are stuck paper plumes of different colours for each team, the object being to deprive the opposing team of these plumes, the *mêlée* con-

one side, while the competitors represent a relief or rescuing party, who jump into the arena, fire through the farther side at the enemy, mounting the wounded (as shown by the dummies). The triumphant return with them to the main body can be made very realistic.

The competition known as **Ball and Bucket** is one requiring good horsemanship, a good eye, and great judgment. It consists of dropping a tennis ball into an ordinary galvanised iron bucket, while at a canter, in such a way that it shall stop there.

Combats, or contests with weapons, form an important part of the military sports in



BALACLAVA MÊLÉE.

tinuing until the "Halt" is sounded, when the opposing sides form up and the plumes are carefully inspected to ascertain which party has the victory, as judged by the remnant of plumes left in the helmets or masks. This is usually provocative of laughter, the competitors eagerly searching for their plumes or tufts, oblivious of the fact that they are scattered over the arena. Spurs are not allowed.

The **Victoria Cross Race** is especially a training for a man who may have to carry away a wounded comrade from an enemy under fire. This is usually carried out by the party having to go over a jump to another hedge, behind which lie a number of dummies, there to fire a round, pick up their dummy comrades, carrying them back over the first jump to the starting place. The idea is that the wounded have defended a zeriba, which is still being attacked from

the army, the mounted events being: Sword *v.* sword, sword *v.* lance; dismounted events are sabre *v.* sabre, foils, bayonet *v.* bayonet. Horses should be in drill order, stripped saddles and without headropes, competitors in undress uniform, but with a mask and leather jacket instead of uniform jacket and cap.

Dismounted competitors should wear gloves and proper pads to prevent accident, and are usually allowed to wear flannels and gymnasium shoes.

Of each pair, one should wear red and the other a distinctive colour, usually yellow. It is a great convenience if the first man of a pair wears the red. The arm badges should be made red on one side and yellow on the other, so as to turn instead of being removed.

The dismounted combatants use sabres nearly identical in shape and weight with the

regulation infantry sword, but with a button point, dummy rifles with solid bayonets sliding on a spring down inside the barrel and with a pad on the top, or the French foil; mounted men use the same sabres as dismounted men, and dummy lances well padded at point and butt.

The bouts are usually conducted on the "Pool" system—that is, all competitors entering are divided into "Pools," as a rule not more than eight in each "Pool." Each competitor is to meet every other competitor in the "Pool" in which he is entered. Each bout is then divided by the first 3 hits scored against either competitor (12 marks in the case of mounted men).

In France, the headquarters of fencing, so small a number of hits would be considered indecisive, whilst they also prefer many more judges than the three usual in England.

In mounted combats competitors are ordered to canter round until the order "Attack" is given, and (as in all competitions) must fight on until stopped by a judge.

In combats where the opponents use different weapons, the "Pools" are made up of odd numbers. The first pair toss for choice of weapons, afterwards exchanging in each bout. By this method each combatant uses the different weapons the same number of times.

Riding and Jumping is always a favourite display and competition, as in it men are under very different rules from those in a riding and jumping competition at an ordinary horse show, where the object is to get over. The judge of the military

MOOSE (*Alces machlis*).—The largest, and in certain ways the most remarkable of all the deer is the moose, the New World designation for the western representative of the elk (*q.v.*) of the Old World. Zoologists have not been able to separate these two forms by any well-marked line, although there are certain noticeable dif-



MOOSE.

ferences between them. Let us regard them, then, as a single species, circumpolar in its range. While the elk ranges as far south as Prussia and the Caucasus, the lower boundaries of Manitoba and Assiniboia probably represent the moose's southern range.

The antlers of the adult bull moose, springing from either side of a high frontal prominence, extend in a beam that is at right angles to the middle line of the skull, and expand into an extremely wide palmated bowl-shaped mass, divisible into an upper and a lower portion, the edges of which bear the numerous points. An exceptional pair of antlers may weigh as much as 60 lb. A big bull moose has been found to measure at the shoulder 72 inches or 18 hands; while in Alaska even this stature is exceeded.

When in the full vigour of life the bull moose has a curious process of hairy skin, some 4 or 5 inches long, called the "bell," hanging from its throat. The function of this is not understood.

The colour of a bull moose in early winter is a glistening black, though he is lighter under his belly and on the legs. Later on in the season the coat turns grey. Females and young are grey, and very old males sometimes incline to white. The colour of the skin of a newly-dropped fawn in the writer's possession may be thus described:



VICTORIA CROSS RACE.

rider has to consider style, hands, and seat as well as jumping.

In recent years the directors of military sports have adopted nearly every sport that has been found amongst civilians, so as to encourage competition amongst the soldiers and develop their physical training.

WALLIS KING.

sides and shoulders, the dark sable-brown of the British water-rat; a stripe, 3 inches broad, of lighter brown down the back, widening over the quarters and fading to chestnut down the hocks. From the neck

paths or alleys run for a short distance in many directions, by which the animals go to feed.

As regards hunting, moose are sometimes taken by the Indians by means of a noose and running block fixed up in the paths along which they travel. Again, in time of deep snow, when, under the influence of the sun and frost, the snow is covered with a hard skin, the Indian hunters pursue them on snow shoes. The hard surface of the snow bears the hunter well enough, but the moose, sinking deep at every plunge, and cut about the legs by the knife-edge of the ice, soon succumbs and is despatched. Indians have told me that they also kill the moose in the water when it goes in summer to bathe and feed on lily roots.

There are only two forms of moose-hunting, so far as the writer is aware, which can be fairly classed as "sport." The first is the "call." This is described subsequently.

The other form of legitimate hunting referred to consists in following the animal in autumn on foot, and is known as the "still-hunt." This might be classed as a form of stalking, were it not that it takes place in dense forest and its success depends entirely upon knowledge of woodcraft and the creature's habits; for the moose itself is invisible until the moment arrives for the shot.

AUBYN TREVOR-BATYEE.



MOOSE.

to the lumbar region down the middle of the back is a dark "mule-mark."

The antlers of the moose are dropped about mid-winter. The coat is shed twice—in May and September. The rutting season, which begins in September, is at its height by October, and the calves, usually one, more rarely two in number, are dropped in May. Although a bull in the rutting season will travel great distances, challenging other bulls, moose appear to be largely monogamous. Each family holds together through the year, and a bull moose in the prime is not often found in the solitary state.

Moose feed principally on leaves and twigs of trees; they are particularly fond of young shoots of the spruce, birch, willow, poplar, and the red dog-wood, the shrub whose inner bark or "cambium" is dried and smoked as tobacco by the Red Indians under the name of *kinikinik*.

During the depth of winter several of these animals will congregate and form a "yard," probably for mutual protection against wolves. These "yards" are not, in the writer's experience, the rectangular camps they have been said to be; those that have come under his notice being alike in character. A spot situated in the closest part of the forest having been selected by the moose, the snow is trampled down and scraped together into a kind of central "compound." From the centre, irregular



[From "Hunting Camps in Wood and Wilderness," H. Hesketh Prichard.

HUNTER WITH BIRCH BARK HORN.

MOOSE-CALLING. — Moose-calling is the art of attracting the bull-moose by an imitation of the call of the cow or of a

rival of his own sex. In Eastern Canada, where moose-calling reaches its highest perfection, the thrice repeated call of the female is almost universally used to lure the bull within range of the hunter's rifle. In the west, the few callers that exist imitate the bull's harsh grunt as a challenge, or beat in the alders with a cast horn, to produce the sound of a bull threshing with his

and it becomes too dark for the hunter to see the sights of his rifle. If the bull answers the call, the first intimation which reaches the hunter is usually the noise of a breaking stick as the great deer forces his way through the bushes, and as he approaches he usually gives vent to a series of deep grunts. If the wind be right, the bull will make straight for the place whence



BULL MOOSE COMING TO A CALL.

[From a drawing by Lady Helen Graham.]

horns, a trick which sometimes suffices to bring up any rival within hearing. But in Eastern Canada the moose are very much more sophisticated, and, though nearly every guide claims to be a "caller," yet those who exercise the art with even the smallest degree of success are few and far between.

The place chosen for calling is generally some lake, and thither the hunter and caller repair in the late afternoon. Their equipment consists of a canoe, a rifle, and a birch-bark horn upwards of two feet long. Just upon sunset, the caller takes the horn and gives the calls. The sound is something between a bellow and a moan, and is three times repeated, the final call being more prolonged than the others. An expert can throw his voice four miles. If no response comes, the call is repeated every twenty or thirty minutes until the light fails,

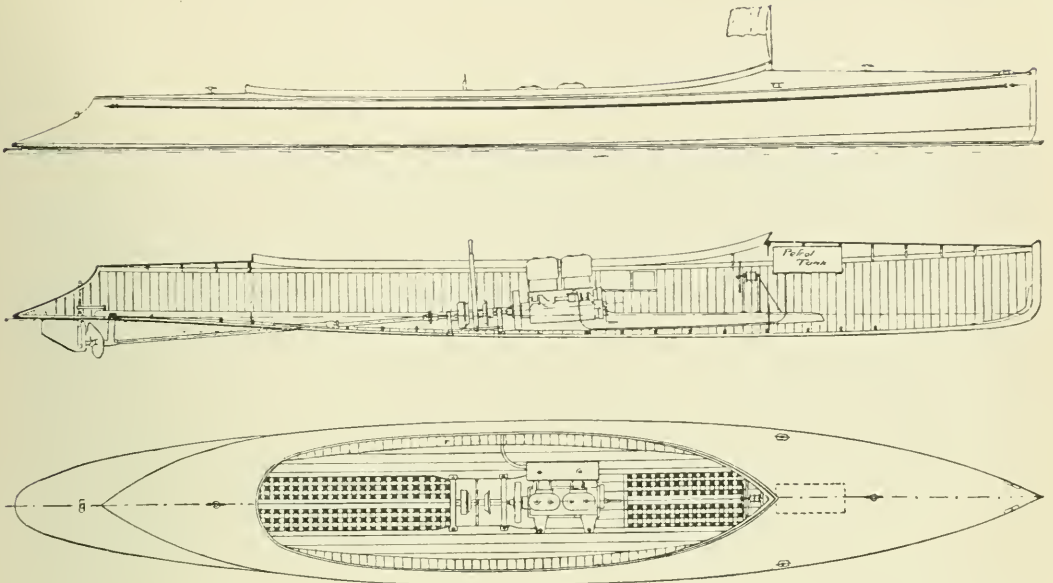
the call has been uttered, but if the air carries to him any taint of human presence, he will dash off at once and soon be swallowed up in the woods.

Time.—Bull-moose begin to answer the call as early as September 1st in some seasons; in others they disregard it as late as the 15th of the same month. The calling time continues into October, and the writer has known a bull answer a call as late as October 21st, but this occurred in an exceptionally open season.

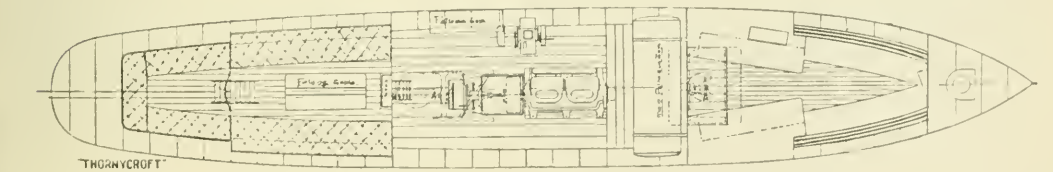
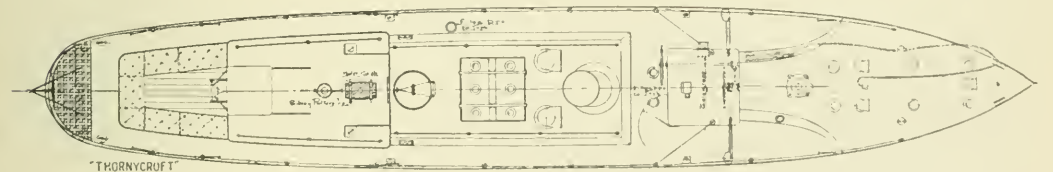
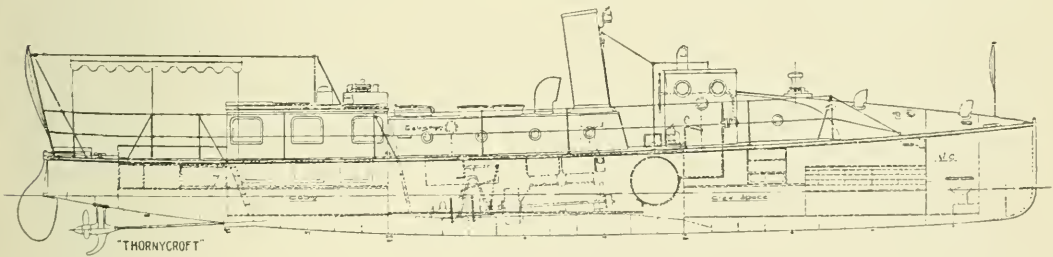
H. HESKETH PRICHARD.

[See also ELK.]

MOTOR-BOATING.—Motor-boating is naturally an off-shoot of motoring, for it was the development of the internal combustion engine which began to be used in small motor-boats which gave origin to the word "motor-boat." It was not till about



SEMI-RACING LAUNCH.

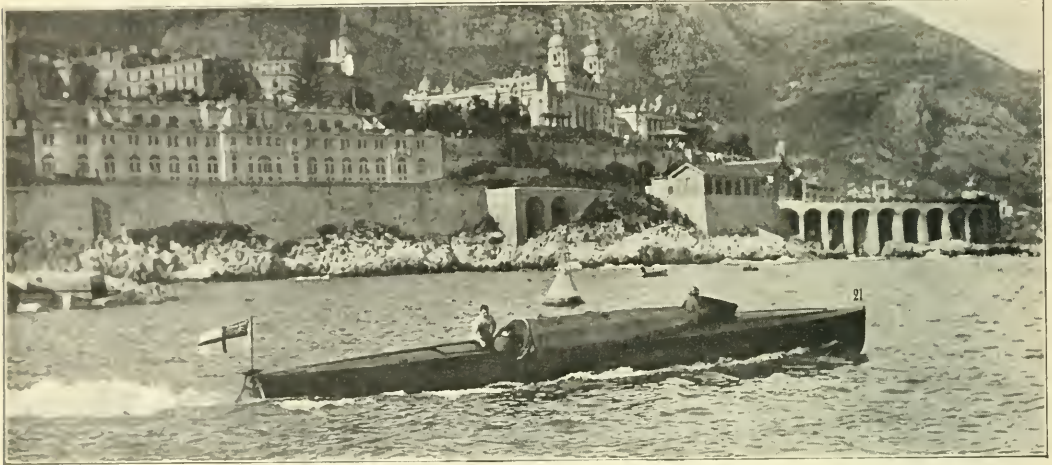


SEA-GOING CRUISER LAUNCH.

1901-2 that this fitting of a petrol engine into a boat claimed any measure of attention. In one or two cases private owners had fitted auxiliary motors to their craft, notably Gottlieb Daimler himself, who experimented with one of his early petrol engines for marine propulsion. Moreover, it was not

the Mercédès boat. This vessel achieved a speed of 19 miles an hour. The Napier boat, built by the English firm, while competing in another French racing event, covered the course at a rate of $17\frac{1}{2}$ miles an hour.

At the end of 1902 the Motor-Yacht Club



THE DUKE OF WESTMINSTER'S "URSULA" AT MONTE CARLO.

difficult to see that, as soon as the petrol engine became anything like reliable, its adoption for marine purposes would soon follow. The fitting of a steam engine to a yacht or boat entails a fair amount of space being taken up for the somewhat cumbersome boiler and machinery, whereas the space required for a petrol engine, even one of fairly large horse-power, is but small compared with the other methods of propulsion. As an auxiliary, also, to a sailing vessel, a motor engine is a great boon, for, when becalmed, one only needs to start up the engine, and then the vessel is independent of wind and weather and tide.

In 1902-3 the building of motor-launches made immense strides, and many well-known firms entered the ranks of constructors of marine motors. The lightness of the craft fitted with the new mode of propulsion, and the handiness with which they could be manipulated, soon made motoring on water most popular. From the sporting point of view, also, 1903 saw the inauguration of many racing events, which tended to encourage the development of the movement. The first race for the British International Motor-Boat Cup, presented by Lord Northcliffe, took place in Cork Harbour, while one of the most popular of Continental events was started, the race from Paris to the sea down the River Seine, which was organised in this year, and resulted in a win on the first occasion for

was started, an organisation which has since received the privilege to call itself Royal—on October 3rd, 1910. This body sprang from the Marine Motoring Committee of the Automobile Club, which had previously conducted all matters connected with motoring by water. Some time afterwards, when members were enrolled in sufficient numbers, the Royal Motor Yacht Club purchased and fitted up the old Admiralty yacht, the *Enchantress*, which was stationed in Southampton Water, opposite Netley, and used as a club-house. The popularity of this novel floating club-house soon grew, and the *Enchantress* became the centre of aquatic motor sport on the sea. In 1906 the Admiralty granted the Royal Motor Yacht Club permission to carry the Blue Ensign. The club burgee has one white and two blue stripes horizontally placed with a three-bladed propeller in the middle of the white portion of the flag, a crown being placed in the flag as well.

The British Motor-Boat Club began its sphere of activity in 1905, and organised various race meetings in the season, chiefly in the Solent and at Burnham-on-Crouch. This body deals more particularly with local marine events and motor-boating on rivers and estuaries, and has done much good work in organising racing contests at various yachting resorts. The burgee of the British Motor Boat Club is blue with a red St. Andrew's Cross edged with white lines.

These two bodies, with the Marine Motor Association, which acts chiefly as a legislative and measurement authority, form the two associations representative of motor-boating both from a sporting and utilitarian point of view.

The progress of motor-boating, though not so rapid as that of motoring, has yet been remarkable. Speeds have grown till from 20 knots as a maximum in 1905 they have reached over 40 knots an hour in 1910. When it is remembered that resistance to a boat running through water is very considerable, estimated to increase as the square of the velocity, it will be understood what this means. Improvements in the shape of the hull, and increase in engine-power necessary to develop double the speed from 20 to 40 knots an hour, must therefore have been very great. The engines in motor-boats were first of all either the actual engines used in motor-cars on land, or were designed on the same principle, and it was not till two or three years had elapsed that special engines were designed for motor-boat work. The conditions under which the marine engine works are totally different from those of a motor-car. To begin with, the strain put upon the marine engine is, as a rule, continuous—in other words, as if the motor-car was running perpetually up-hill, with no stops or slacks-down for corners or traffic—and, secondly, the propeller must not turn more than a certain number of revolutions per minute, or it begins to "cavitate" or "bell"—in other words, its effective force is greatly reduced, for it only revolves in

propellers. The need for an explosive engine for marine purposes developing high power at slow engine speeds has led to the lengthening of the stroke in the case of the modern motor-boat engine. From the bore and stroke being the same size, say 5 inches in each case, the stroke has gradually increased to in some cases nearly double the bore, thereby giving greater compression, more force in the explosion, and an engine which will turn slowly and give a power equal to the usual explosive engine in motor-cars which turns so much more quickly. The multiplication of cylinders on the same shaft has also been the result of marine development. In some cases there are now even as many as twelve cylinders acting on the same shaft giving increased steadiness and evenness of torque. The cooling arrangements are also more simple than on land, but a difficulty still exists in the water cooling of the exhaust in the case of non-racing boats, especially if taken out through the stern of the vessel, and therefore obliged to be water cooled throughout. In most of the racing boats of the best type, such as the *Ursula* (1909), the Duke of Westminster's fast boat, which has achieved a record of speed wherever she competed, there are twin propellers, which are operated by many cylinders on each shaft. The *Pioneer* and other boats built in 1910 have, however, only one shaft.

Turning to sporting contests, the race from Paris to the sea in 1904 was run in six sections, each section being run on different days. *Mercédès II.*, a boat fitted



"NAPIER II.," WINNER OF THE INTERNATIONAL TROPHY, 1905.

a partial vacuum or in froth. It has been ascertained that the best results are obtained with propellers which do not exceed 800 to 1,000 revolutions per minute, though higher speeds than this have often been obtained in the case of steam actuated turbines with specially designed blades on the

with the well-known engine which had already become so famous in road racing, took the first place, reaching the sea in a total time of 7 hrs. 34 mins. 16 secs. Later in the year, however, a very fast boat, built by the Richard Brasier firm, *Trèfle-à-Quatre*, made some very good times, cover-

ing a course of 62½ miles on one occasion in 2 hrs. 20 mins. The race for the British International Cup took place in 1905 at Arcachon, near Bordeaux, and was gained by *Napier II.*, jointly owned by Mr. Lionel de Rothschild and Lord Montagu, and steered by the latter. Southampton Water

British waters, but was held in Huntingdon Bay, near New York. The British challengers were the Wolseley Siddeley boat and *Daimler II.*, their American opponents being *Dixie II.* and *Den. Dixie II.* led from the beginning of the race, and although the Duke of Westminster's Wolseley Sid-



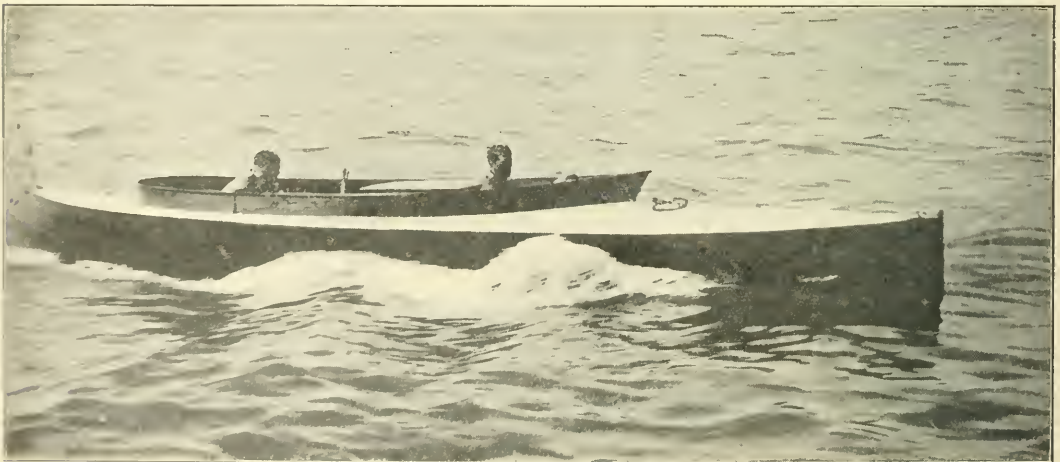
"DIXIE II" WINNING THE INTERNATIONAL TROPHY AT LONG ISLAND, 1910.

was the scene of the following year's contest, and a course was laid out near the *Enchantress*, the headquarters of the Motor-Yacht Club, but in this year no foreign boat competed, and the race resolved itself into a match between the three English entrants only. *Yarrow Napier*, practically the same boat as *Napier II.* of the previous year, was again the victor on this occasion, Lord

deley boat made some fast running, the cup again went to the American vessel.

On the Continent, Monaco became the headquarters of the racing and exhibition events during the spring of each year, and during that time some very fine performances have been put up in the bay by both foreign and British craft.

The summer of 1908 witnessed some good



RACING LAUNCH IN THE SOLENT ("SCOLOPENDRA").

Montagu again being at the helm. In 1907 the cup was again contested for on Southampton Water, and was won by the American boat *Dixie*, which was fitted with an eight-cylinder Simplex engine of 150 h.p. In 1908 the race, in consequence of the American boat's victory, was not run in

racing results for British craft, the Duke of Westminster's *Ursula*, after the spring Monaco meeting, naturally taking the premier place in the fast racing motor-boat class. This boat was designed by Saunders, of Cowes, and is fitted with two Wolseley engines of a power estimated at 240 h.p.

Another vessel which made good showing for England was the Thornycroft boat *Gyrinus II*. This latter vessel beat her foreign rivals in the Prix de la Méditerranée in the spring, and during the following summer raced continuously in English waters. At the Motor Yacht Club's annual regatta, *Gyrinus* covered 40 sea miles in 2 hrs. 28 mins., 26 secs., in another case covering a 3-mile course in 9 mins.

From the utilitarian point of view, reports from various builders during 1909-10 show that the motor-boat, whether for sea or river work, is rapidly replacing the older form of steam launch and pinnace, and motor auxiliaries have greatly increased in number amongst both private owners and steamship and fishing companies. The reliability of the marine motor was now so well established that the trade gradually decreased their entries in the various trials organised by the governing bodies. Consequently amateur entries increased, and a more purely sporting element is beginning to prevail. In 1909 the Motor Yacht Club and the British Motor-boat Club passed rules disallowing any boat to run under a trade name—this step encouraging a genuine enthusiasm for racing craft amongst marine motorists unconnected with the manufacturers of hulls and engines.

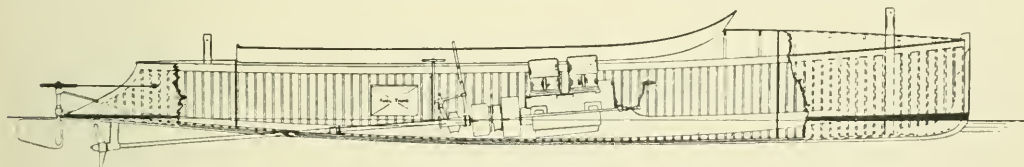
Apart from the sporting craft and racing boats, the adoption of mechanical motor-power by fishing boats and trawlers has been somewhat extensive, and this means of pro-

parts must be absolutely watertight, on account of the heavy seas such a boat would have to encounter when on a life-saving

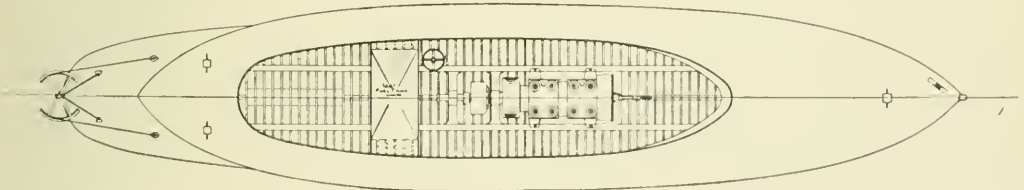


"GYRINUS," WINNER OF THE GRAND PRIX DE LA MEDITERRANÉE AT MONACO.

mission. But an experiment was made under the auspices of the Royal National Lifeboat Institution in the spring of 1904, and a lifeboat fitted with a motor engine



—"GYRINUS"—



8 METRE RACING LAUNCH

Length, over-all, 26 ft. ; breadth, over plane, 5 ft. 4 in. ; draft, amidships, 8 in. ; speed, 23½ m.p.h.

pulsion has also been tried in connection with lifeboats. Naturally, in the latter case, there were several difficulties which made it no easy task, for the motor had to be more than usually reliable to be of real use in stormy weather, and also all working

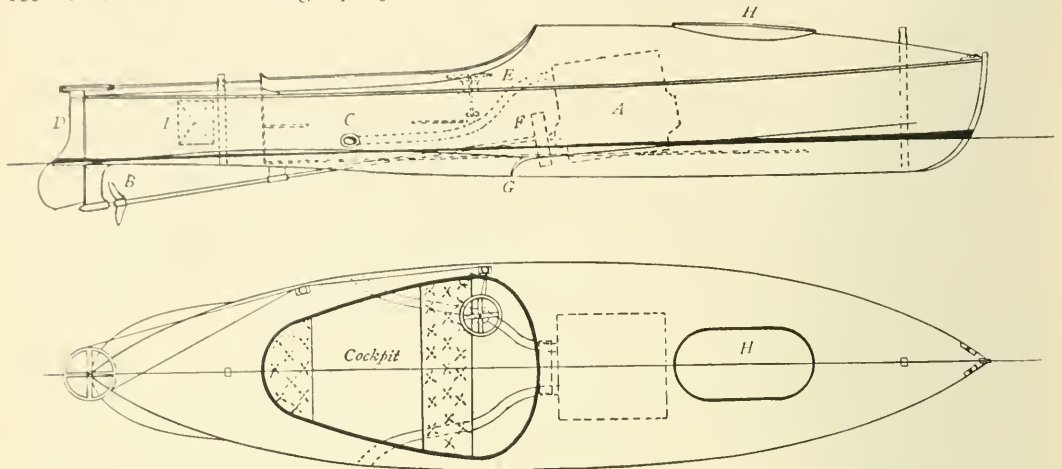
was provided at Folkestone, which has since been followed by several others.

Dealing with the organising and club aspect of motor-boating, it is unfortunate that certain differences which led to some amount of friction have arisen from time

to time amongst the leading motor-boat associations of the various districts, and in the endeavour to minimise this friction, and in order to secure certain codes of rules for international racing purposes, the

a universal code of rules, measurements, &c., has already led to the general development of the sport amongst those countries interested in the marine engine.

It is evident that, to provide good sport,



"MIRANDA IV." (HYDROPLANE.)

Length, 26 ft. ; beam, 6 ft.

- | | |
|--------------------------------|-------------------------|
| A. 100-h.p. Thornycroft motor. | F. Clutch and fly-wheel |
| B. Propeller. | G. Ledge of plane. |
| C. Exhaust pipe opening. | H. Forward hatch. |
| D. Rudder. | I. Fuel tank. |
| E. Steering wheel. | |

Marine Motor Association, after some negotiations between this country and the Continental authorities, received recognition from foreign bodies connected with marine motoring and the various clubs here, and was duly instituted as the governing body, or "Yacht Racing Association" of motor-

boats should be raced against others of more or less equal speed and power. Handicapping, though in most instances worked fairly and well in this country, has its drawbacks, and even the scientific system drawn up by the Marine Motor Association, dealing with points of both racing and time, has produced



"MIRANDA IV.," THE LATEST THORNYCROFT HYDROPLANE, ON THE THAMES, JULY, 1910.

boat sport. At the present time, save for the competitions for the British International Cup and the Monaco meetings, most sporting events are either local or inter-club contests, yet the formulation of

complications. Designers are naturally on their mettle to beat rules by fair means, and often do so. Also, for the encouragement of designers and navigators, class racing produces better results. The tendency,

therefore, towards various class designs is growing, and quite recently the Royal Motor Yacht Club adopted a one-design formula, which bids fair to enhance further the chances of some good racing in the coming

and air and water, or froth, produce less skin friction than water only. Sir John Thornycroft, who has studied this subject more than anyone else, has now produced a very fast hydroplane, *Miranda IV.*,



"DESPUJOLS" WINNING THE PRIX DE MONACO.

seasons. During the autumn of 1909 the Marine Motor Association greatly altered the racing rules applying to motor-boat sport, the most important alteration being a new method of computing horse-power by the area of the exhaust valve opening. Further alterations are in process of formulation for future events.

Hydroplanes.—As far as such inventions are recorded, the first building of a hydroplane took place about 1872, but it is only within the last two or three years that they have been seriously considered by makers, or become known to the public in any great degree. The hydroplane is designed to lift itself on the surface of the water and skim over it, rather than to cut through the water like an ordinary boat. The resistance of the water is therefore much reduced, and much less power in the engine will suffice for a high speed. The hydroplane depends for its lifting power on planes which are fitted underneath the hull in a similar way to the planes fitted to the majority of aeroplanes, or on a special design of the hull itself. There is another reason why the hydroplane encounters less resistance when travelling over a certain speed than a boat with a keel; it is because she is running on bubbles of air instead of on water only;

with a moderate engine-power, which has achieved remarkable speeds up to the time of writing, a speed of over 40 knots an hour having been achieved; and at Monte Carlo the Brasier *Despujols* hydroplane, in the



FRENCH-BUILT HYDROPLANE.

matter of short-distance races and in calm water, vanquished *Ursula*, whose speed was upwards of 43 miles an hour, though

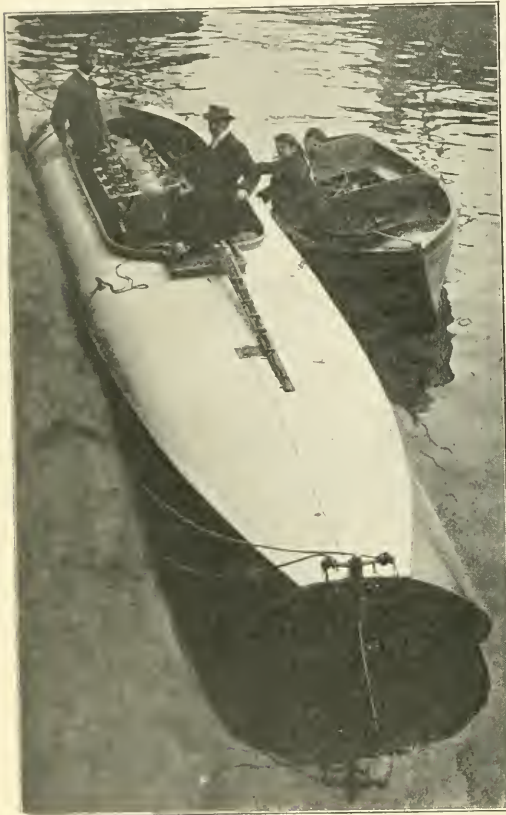
the former possessed, it need hardly be added, something like one-fifth of the engine-power of the latter. The hydroplane is obviously capable of indefinite extension, especially if wings are perhaps added some day, and the boat lifted out of the water or made to skim from wave to wave, after the manner of the flying-fish; and it is interesting to note that Mr. Rudyard Kipling, in his prophetic story "With the Night Mail," and in the imaginative and hypothetical advertisements accompanying the story—advertisements which are supposed to be taken from a magazine some fifty or

exhibitions of its capabilities. Many experiments and inventors followed this design, and only too many of them were doomed to failure.

The most common types of hydroplanes are as follows: (1) The two-plane type, and (2) the multi-plane type, which can be either flat-bottomed or hollow with V-shaped sections.

The recent progress in hydroplanes has been very considerable, and speeds up to 40 miles an hour with engine developing below a hundred horse-power are not even possible but comparatively easily achieved. No one who has been on board Sir John Thornycroft's *Miranda IV.* can have helped being struck with the ease with which this shape of boat cuts through the water compared with the older V-shaped type. There are, however, known and serious disadvantages when really stormy seas are to be encountered, and on a big scale such a shape would probably prove a failure, as the flat bottom would be unable to stand the pounding of continuous and heavy seas. But for racing purposes and in calm water the hydroplane will doubtless come more and more to the front, and speeds far in excess of the records of to-day (42 knots in October, 1910) will be reached.

MONTAGU.



HYDROPLANE SEEN FROM ABOVE.

sixty years hence—foreshadows the "Bat" boat, which will hardly touch the water at all, but fly low over the water similar to the flying-fish, only dropping into water at low speeds, and rising again lightly from its surface. The attention of marine motorists was forcibly drawn to the hydroplane form of construction originally in the summer of 1908, when a French enthusiast, M. le Cas, brought over one of this type of boat, the *Enchantress*, and gave many

MOUFFLON (*Ovis musimon*).—The moufflon of Sardinia and Corsica, and another variety from Cyprus (*Ovis ophion*), are the European representatives of the great tribe of wild sheep, whose wide range of habitation extends through Asia from Armenia to Kamschatka. Like all wild animals, its numbers are steadily decreasing, and its range of country becoming more contracted in proportion to the larger numbers and improved weapons of the human population.

Distribution.—Moufflon are said to have inhabited parts of Greece and the Balearic Islands. It is certain that within historical times very large numbers were killed in Sardinia and Corsica. In the museum of the Capitol in Rome there is a sarcophagus, on the face of which is represented, in relief, a hunting scene in which the animal being pulled down by hounds carries a head very much resembling a moufflon. To-day the moufflon is practically confined to a few separate mountain districts in Sardinia. In Corsica there are known to exist at the present time a very few small bands. They are too few to afford any probability of an adequate return for the labour of finding them, and they are apparently in such imminent danger of extinction that the sports-

man will certainly not wish to hasten their fate.

Even in Sardinia, where every man carries a gun and is, in theory, as good a hunter as his neighbour, the moufflon is now restricted to the higher and less populated mountain districts.

Description.—The moufflon ram in late autumn is a handsome and game-like animal of the true *Ovis* type. His figure and proportions are very much the same as those of the big-horn of the Rocky Mountains, or the *Ovis hodgsoni* of Tibet. His size is much smaller—his height being some 27 to 28 inches at the shoulder, and his weight probably about 100 lb. The ram's general colour is a rich red-brown; belly, inside of legs and caudal disk, white; saddle, grey-white; throat, jet-black, with longer hair down to the breast; black line between the red and white on the side; black markings on shoulder and down the limbs after the fashion of the burrel. The horns are hollow, as in all sheep, and have the same transverse corrugations. They vary in form of curve. In some heads the curve lies almost in one plane, as in the shapoo; in others it takes the well-known "ram's horn" twist as in *Ovis poli*.

Measurements.—The greatest recorded length of horn known to the writer is 34 inches. This was an exceptional head. Quite lately, heads of 29½, 30, 30½ inches have been killed. Thirty inches may be called a good head. Anything over 25 or

season is in November or December, and the lambs are born in April or May.

Method of Pursuit.—Like all wild sheep, the moufflon is difficult to stalk and tenacious of life when wounded. Moufflon



HEAD OF MOUFFLON.

ground in Sardinia is not precipitous. On the contrary, it is very easy walking. Crawling is not so pleasant. Rocks and gravel seem to have sharper points than ordinary; there is no soft ground, and, with the exception of "bruyère" heather, every little shrub is covered with thorns. The heather or "macquia" is another obstacle. It grows from 2 to 6 feet in height, and covers large masses of the lower ground. A moufflon who suffers from either heat or cold, or who suspects danger, at once retires to the macquia, where he is as well concealed, as long as he stays there, as a rabbit in a furze bush.

The moufflon is very keen-sighted, and he makes full use of a very keen sense of smell. Mr. E. N. Buxton remarks on the habit of moufflon of lying just under the lee side of a ridge where two currents of air meet, and where they are quite unapproachable. They have another most aggravating habit. When "put away," they will make off at a great pace till they are out of sight behind some ridge or shoulder of the hill; they then immediately lie down in a place where they get the wind of the sportsman, who follows under the impression that they are still a long way ahead.

Season.—Probably the most sporting season in which to stalk moufflon is October or November. They are then still on the higher, barer ground, and are more easy to spy and to stalk, and they are less harassed by shepherds and their flocks. Moreover, the days are getting colder and the moufflon feed more during the day, instead of lying in the shade for many hours together. On the other hand, the rutting season is near, and the rams are constantly travelling from



MOUFFLON.

26 inches may be taken as fair game; below that they should be spared, for there are none too many. The circumference is from 7 to 9 or 10 inches. The female is smaller, less conspicuous in colour, and generally without horns. The rutting

one place to another. Moreover, they are now generally in company with females, and an old ewe shows the most exasperating persistency in keeping her eyes upon any suspected quarter. In the early spring the



MALE AND FEMALE MOUFFLON.

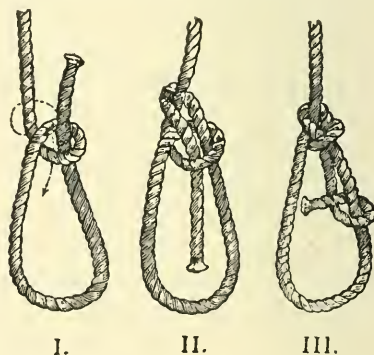
rams are found separate from the ewes and are easier to approach. It is probable that larger numbers may be killed in the spring, but that the best rams are more to be seen during the autumn. Of course, they are fatter and in better coat and condition at that season.

The native method of hunting used to be continual driving to passes. Nowadays, there is more than one Sardinian hunter who has acquired considerable knowledge of the art of stalking for a quiet shot and of using the glass.

The mutton is excellent when well hung.
S. H. WHITBREAD.

MOUNTAINEERING.—History and Development of Mountain Exploration.—Mountaineering exploration, the direct and immediate offspring of mountaineering, is the most modern branch of geographical exploration; and geographical exploration is the investigation and record of the form of the earth's surface in its relation to man. It is not enough to know the form alone. The traversability of any portion of the earth is even more important. Where man can go, and where he cannot go, these are the areas the limits of which require to be defined, and can only be defined by experiment. Geographical experiment is called

travel. A careful and observant traveller is to the science of geography what a careful experimentalist is to other sciences. Both must approach their problem and pursue its solution in the same spirit. Many portions of the earth's surface are, under present circumstances, inaccessible to man. No diving apparatus yet invented can carry him far below the surface of the ocean. No climber has yet authentically succeeded in reaching an altitude higher than about 24,500 feet. There was a time in the distant past when the surface of water was wholly inaccessible. The margin of the ocean met prehistoric man with a "thus far and no further." The invention of the craft of navigation opened the ocean to the passage of man. Similarly, the areas of perpetual snow were practically closed to human progress till a comparatively recent date. A few hardy and exceptional men now and then risked or lost their lives by venturing into such unknown regions, but it was not till the craft of climbing was invented that it became possible to traverse glacial areas with a certainty and safety not less than that which accompanies travellers by sea. The crossing of great deserts, again, must have been impossible for primeval man. To discover and tame the "ship of the desert," to explore for water-stations, and thus to find and make traversable routes, must have involved the labour of generations of nomads. A European traveller, who, without the requisite knowledge and experience of the desert craft, should attempt to cross the great Dahna of



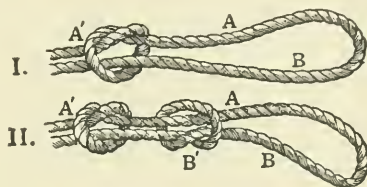
THE "BOWLINE KNOT" FOR MAKING A LOOP AT THE END OF A ROPE.

Fig. I. shows the method of making the knot; Fig. II. shows knot complete, and Fig. III. shows it drawn tight, with a half-hitch added to prevent it working loose.

Arabia, would assuredly perish by the way. To penetrate forests, too, required at one time exceptional experience, and similarly was it with large swampy areas and other special regions of the earth's surface. Thus

it is proved that geographical exploration has called into existence various crafts of travel. We are only concerned with one of these, the latest born—the climber's craft. The thoughtless reader will perhaps be inclined to pronounce it offhand the most useless of all the crafts for getting about. "Useless" is a presumptive word. High regions have their scientific secrets to yield up; they have their beauties, too, for the lover of nature; they may hereafter prove to possess economical importance. It is more than probable that gold will some day be found at high altitudes in the Karakoram Mountains. When it is found it will be worked, for there are no insurmountable difficulties to prevent such working. The question, to men equipped with a knowledge of the mountain craft, is merely one of organisation. The invention of the climber's craft is of recent date. It did not exist in

creatures that haunted the regions of snow, and sometimes appeared to belated woodmen in the upper margins of the forests.



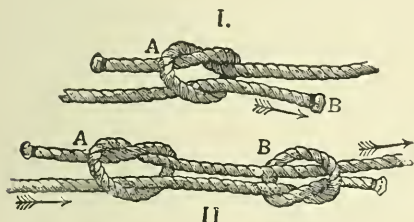
THE "MIDDLEMAN NOOSE" FOR MAKING A LOOP IN THE MIDDLE OF THE ROPE.

Fig. I. shows the loop made first in the middle of the rope, forming the first knot A', and the loop AB.

Fig. II. shows the similar loop and knot B', made on the free side of B (Fig. I.), giving the loop AB (Fig. II.), which is drawn tight round the waist and secured by the knot A'.

Even after the dragons were gone, the Alpine folk believed, and perhaps some of them still continue to believe, that snow-fields and high rock peaks are the home of demons and the spirits of the damned. Such dwell even to-day amongst the crags of the Matterhorn, and to keep them from invading the Zermatt Valley there still stands the Chapel of the Black Lake, which they dare not pass, and whither annually a pilgrimage is made to celebrate mass at the altar and renew the power of the charm.

The mysterious dread of the hills which found such, amongst other, expressions had to be destroyed in the minds of sensible men before systematic mountain exploration could take place. The passes of the Alps, indeed, were crossed by regular routes in the most ancient times; but it was necessity alone that drove men over them.

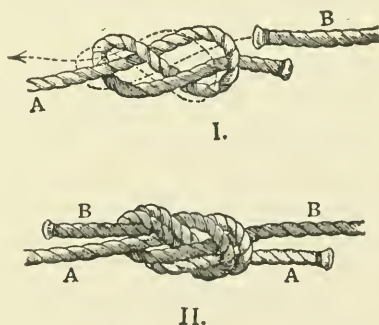


THE "FISHERMAN'S BEND," FOR JOINING TWO ROPES TOGETHER.

Fig. I. shows the knot made on rope A, with rope B passed through it.

Fig. II. shows the knot complete.

the year 1850; it was fairly advanced by 1870; it is not yet completed. The coming generation of climbers and mountain explorers will carry it further. Before men came to attempt systematic mountaineering, the vague dread that hung over the regions of everlasting snow had to be removed. In ancient days there existed, and even now amongst backward peoples there exists, a belief that all the extraordinary and (to them) inexplicable actions of nature are produced by violent and evil spirits. The storms that suddenly rage over the Mesopotamian plain seemed to the ancient Chaldeans to be the passing of Ginn. The people of that strange and inhospitable land, Tibet, imagine themselves to be surrounded by invisible fiends of all sorts, eager to destroy them, and they take all manner of magic precautions to counteract the machinations of the devils. The tribes of the Hindu Kush believe the regions of perpetual snow to be the home of fairies who drive men mad. Such ideas were the foundation of the belief, lingering till recently in the Alps, that there were dragons in the recesses of the hills—horrible



THE "FIGURE OF EIGHT" TIE FOR JOINING TWO ROPES TOGETHER.

Fig. I. shows the first half of the knot made.

Fig. II. shows the knot completed.

There was a prehistoric trade route, along which the Etruscans journeyed to exchange their bronze wares for the amber of the Baltic; and there was a contemporary pass into Gaul, perhaps the Great St. Bernard,

the mediæval history of which is complete. The Brenner was the pass of the Emperors throughout the middle ages. The Great St. Bernard was most frequently traversed by pilgrims, or "roamers," from the west of Europe. The pagan altar of Pennine Jove was at an early day supplanted by a Christian hospice, which, frequently rebuilt, and famous for its dogs, continues to the present time. We have some curious accounts of passages across it: for instance,

set your foot safely; where, strange to say, although it is so slippery that you cannot stand, the death (into which there is every facility for a fall) is certain death. I put my hand in my scrip that I might scratch out a syllable or two to your sincerity; lo! I found my ink-bottle filled with a dry mass of ice; my fingers, too, refused to write, my beard was stiff with frost, and my breath congealed into a long icicle. I could not write the news I wished." Clearly, the day



THE PASSAGE OF AN ICE FALL. GORNER GLACIER, ZERMATT.

that of Abbot Rudolf of St. Trond, in December, 1128, or that of John de Bremble, a monk of Christ Church, Canterbury, in February, 1188, both of which may be read in Coolidge's *Swiss Travel*. A translation of part of the latter account, given by Bishop Stubbs in his *Lectures on the Study of Mediæval and Modern History*, is brief enough to be quoted entire. "Pardon me for not writing. I have been on the Mount of Jove; on the one hand looking up to the heavens of the mountains, on the other shuddering at the hell of the valleys, feeling myself so much nearer heaven that I was more sure that my prayer would be heard. 'Lord,' I said, 'restore me to my brethren, that I may tell them that they come not into this place of torment.' Place of torment indeed, where the marble pavement of the stony ground is ice alone, and you cannot

for mountain exploration had not come in the twelfth century! When passes were regarded with such dread, peaks were not likely to be approached. They had an even more uncanny reputation. Was not Pilate buried in a pond on the top of Pilatus? and did not the devils dance and howl around the place? Nevertheless, now and again some curious person was led to visit the summit of a peak. Trajan climbed Etna to see the sunrise. In the eleventh century an attempt was made to reach the top of the Roche Melon (11,600 feet) near Susa, and it was actually climbed and a chapel built on the peak in 1358. In the last quarter of the thirteenth century, Peter III. of Aragon climbed Canigou in the Pyrenees. Sir Frederick Pollock tells us how Peter took with him "two knights of his companions whom he loved, and, having

equipped themselves with provisions and fitting instruments (*congruentibus armis*—possibly alpenstocks), they set forth." They encountered a thunderstorm, and "the two knights began to fail in such wise that for exceeding weariness and for fear of the thunder they could scarce breathe!" Peter, therefore, like Mr. Bryce on Ararat, completed the ascent alone. When he came down, he told his companions how he had found a lake on the summit and cast a stone into it, whereupon there came forth a great and terrible dragon which flew away, breathing out a vapour which darkened the air. Moreover, he gave them leave to repeat the story as much as they pleased. We may suppose that he had accurately measured their credulity. In 1339, Petrarch climbed Mont Ventoux, near Vaucluse, "to see what the top of a hill was like"; and, in 1492, Charles VIII. of France sent one of his chamberlains with a party up the remarkable Mount Aiguille, and they, too, built a chapel or altar on the top—an indication that they thought the place decidedly uncanny. With the sixteenth century, a new spirit overspread the intelligent classes of Europe; the Humanists manifested its effect in their changed attitude towards mountains. If it had not been for the blight cast over intellectual progress by the religious differences and wars resulting from them, the seventeenth century would probably have seen mountaineering in full swing, and would have witnessed the completed exploration of the Alps. Leonardo da Vinci was perhaps the first in this, as in so many other matters, to manifest the new tendencies. He appears to have climbed high up to the south side of Monte Rosa, and to have reached the level of the snow-fields. He remarked nothing about dragons or devils, but made accurate observations on the state of the snow and its peculiar hail-like granulation. The philosophers of Zurich, especially Conrad Gesner and Josias Simler, paid in the middle of the century great attention to mountains. Gesner was a genuine mountaineer in spirit, and wrote in praise of climbing for its own sake. Simler published a very interesting book on the Alps, which is still well worth reading, and in it he gave practical advice as to the use of the rope and other precautions to be observed when going above the snow-line. It is with these climbers of the sixteenth century Zurich school that the craft of climbing may be said to have originated. In the seventeenth century, however, nothing was done. The people of Europe were too busy with their wars and squabbles. Ordinary

travellers and "grand" tourists continued to think that the mountains were but hideous excrescences, and that all natural beauty resided in plains. Traces of this idea may be found so late as Sir Walter Scott, for instance, in *Anne of Geierstein*. The reaction against this point of view was brought about partly by men of science, to whom glaciers became an interesting sub-

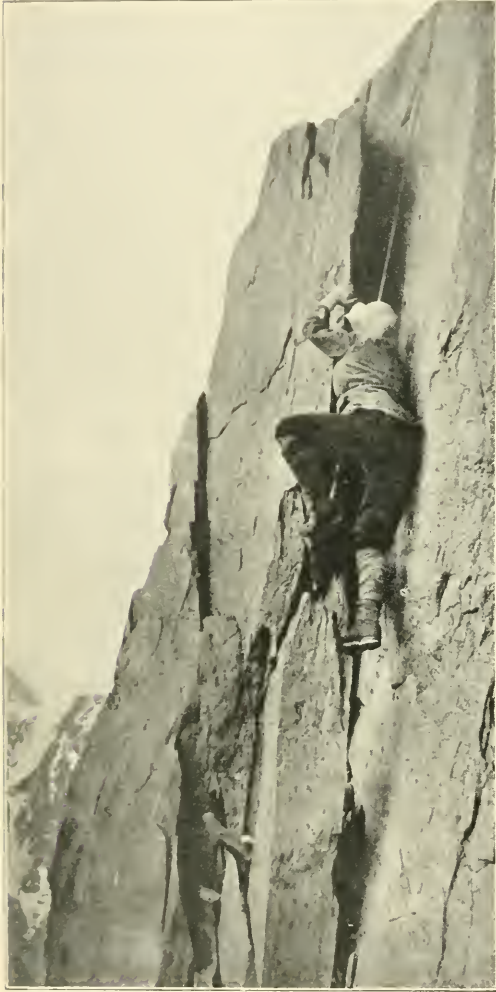


TESTING A DECEPTIVE SUMMIT CORNICE.

ject, first of speculation, afterwards of study, partly by the romancists, headed by Rousseau, for whom admiration of mountains was in harmony with their general attitude of revolt against accepted dogmas.

If a date were required to mark the commencement of this new period, perhaps the year 1739 would be the best, for in it the first snow mountain was climbed—the Titlis. Poccocke and Windham's visit to Chamonix followed, in 1741. They went there from Geneva out of pure curiosity to see what Mont Blanc looked like from near at hand, and they climbed to the Montenvers and looked at the Mer de Glace. The first recorded attempt to reach the summit of Mont Blanc was made by a party of so-called guides in 1775. They are believed to have ascended as high as the Grand Plateau. Other attempts followed till, in

1780, the highest point was gained by Jacques Balmat and Michel Paccard, who took De Saussure to the top in the following year. The dread of mountains and of the regions of perpetual snow, if not thus destroyed, began at all events to be undermined. During the next half century it was gradually removed. The Jungfrau was



CLIMBING A CRACK, AIGUILLES ROUGES, AROLLA.

climbed in 1811, the Finnsteraarhorn in 1812; other peaks followed. Thus far, however, such climbs were sporadically undertaken. The climbing craft could not be properly invented till a set of men arose, who returned to the mountains year after year and gained, by repeated expeditions above the snow-line, experience of the conditions that obtained there and of their effects upon man. It was not till about the year 1850 that any such body began to form. Between 1850 and 1860 several men took

to mountaineering as a sport. Mr. Justice Wills's ascent of the Wetterhorn in 1854 is usually regarded as the first important "sporting" climb. The highest point of Monte Rosa was reached in 1855, and Mont Blanc was climbed by a new route and without guides by a party of Englishmen in 1856. The Alpine Club was founded in London in the following year. Foreign countries one after another imitated the English institution, and thus mountaineering rapidly developed. The first generation of Alpine clubmen retained a good deal of the old respect for mountains, but this has gradually faded away. One accident after another revealed the nature of the genuine perils particular to snowy regions, and it was discovered how to guard against them: the proper size of a party, the way to use the rope on snow and rocks, the condition of the snow itself at different times, the probability of avalanches of snow, ice, and rocks—all these matters and a hundred more had to be investigated by slow degrees, and experience of them had to be accumulated. We now know where men can go with safety, and how such safety is to be attained. This knowledge, skilfully put in practice, is the craft of climbing.

The craft thus developed in the exploration of the Alps has been already to some extent applied to the exploration of other mountain regions. The Pyrenees are not a difficult nor a lofty range, and the exploration of them was no hard matter. The Caucasus was quite another affair. That range is loftier, snowier, and on the whole more precipitous than the Alps. It is, moreover, afflicted with a less good climate, the proximity of the Black Sea producing frequent and heavy falls of snow throughout every season of the year. The chief credit for the exploration of the higher regions of this range belongs to Mr. D. W. Freshfield, a recent President of the Alpine Club. He was a member of the first mountaineering party that ever visited the range (in 1868), and his writings prompted the journeys of other parties, by whom the exploration was carried to its present advanced stage. The second party went in the year 1873, the third in 1886, since which date there has hardly been a summer in which mountaineers have not climbed amongst Caucasian snows. 1888 was the great Caucasian year. In it the high peaks Koshtantau, Shkara, Janga, and Ushba (amongst others) were ascended for the first time by one or other of the three English parties that visited the range. The mountains, however, took a terrible revenge. Messrs. Donkin and Fox, with their Swiss

guides, perished while attempting the ascent of Koshtantau, and their remains have never been discovered.

In North America an extensive range of mountains stretches from far south of the United States to Alaska, where Mount St. Elias (18,092 feet) is the best-known culminating point. Its icy heights succumbed to the Duke of the Abruzzi's expedition in 1897. Mount M'Kinley also rises in Alaskan territory, and, with its 20,500 odd feet, is supposed to be the loftiest peak in North America. Dr. F. A. Cook, of North Polar notoriety, claimed to have reached its summit in 1906. The Canadian Rockies have recently received much attention, and the enthusiasts of the Canadian Alpin Club are gradually reducing the number of unclimbed peaks. Mount Assiniboine (11,839 feet), probably the shapeliest summit of the great groups, was first climbed in 1901 by the Rev. J. Outram with two Swiss guides. The average height in the Rockies is 10,000 to 11,000 feet, but Mount Forbes, by some authorities considered the loftiest of all, stands nearly 14,000 feet above sea-level.

Proceeding to South America, and passing over minor elevations, there are two important parts of the Andes which have attracted the attention of European climbers; these are the great Andes of Ecuador and the Cordilleras of Chili and Argentina. The former were visited by Humboldt in the first decade of the past century, but though he made many interesting observations with respect to them, his journey was in no sense one of mountain exploration as now understood. In 1879-80, Mr. Whymper carried through his famous expedition to these mountains, during which he twice ascended Chimborazo (20,475 feet), climbed and spent a night on the summit of Cotopaxi (19,613 feet), and made the first ascents of six other high peaks. The importance of this journey lies not so much in the mountaineering exploits accomplished, as in the fact that it set an example of what a mountain explorer should attempt to do in a new region. Mr. Whymper carefully surveyed the country, carried mercurial barometers to the highest points, observed the effects of diminished atmospheric pressure on the human body, took a quantity of photographs, and made admirable collections illustrative of the geology, flora, fauna, and anthropology of the country. His work was of the highest scientific value. Mountaineering in his hands was raised from a mere athletic pursuit to the level of an important scientific method. Three years later, Dr. Güssfeldt explored the Cordilleras, a series of rugged

peaks mounted on table-shaped masses of rock, and presenting exceptional difficulties to a climber. He encountered, like Mr. Whymper, incessant bad weather. He ascended the extinct volcano Maipo (17,752 feet), and made two attempts to climb Aconcagua (23,080 feet), but was turned back by storms and the lack of good companions at a height of 21,000 feet. This peak was ascended to its highest point on two occasions by members of Mr. E. A. Fitzgerald's expedition of 1896-97.

Sir W. M. Conway visited the Cordilleras in 1898, and performed much exploratory and scientific work. His most important ascent was that of Illimani (21,200 feet), and the great peak of Sorata at the other end of the chain was also assailed. A visit was also paid to the loftier recesses of Aconcagua, but the actual summit was not attained.

The record of mountain exploration in Africa is a somewhat brief one. The great mountain groups are all associated with long depressions, the hollows of which are filled by the lakes. The principal peaks are named Ruwenzori, Kenia, and Kilimanjaro. The discoverers of Ruwenzori, the Emin Pasha Relief Expedition, ascended only its lower slopes. Kenia was recently climbed to about 17,500 feet level by Dr. Gregory. Until as recently as 1906 only Kilimanjaro had been the goal of a properly organised mountaineering expedition. This was led by Dr. Meyer and Herr Purtscheller in 1889. They made three ascents of Kibo (19,685 feet, aneroid measurement), the highest point of the range, and climbed to the top of one of the peaks of Mawenzi (about 17,000 feet), an extremely difficult ascent.

Ruwenzori was climbed in 1906 by a party under the leadership of the Duke of the Abruzzi. About the middle of June of that year the party trod the summits of the two highest peaks and named them respectively Margherita (16,810 feet) and Alexandra (16,744 feet).

A very important range of mountains in the Southern Hemisphere, the Alps of New Zealand, culminates in Aorangi (Mount Cook), a peak 12,350 feet high. Though the range is of but moderate elevation, it is snow-clad down to a level of about 7,000 feet, and produces large glaciers. The western slopes are steep, and broken up by many deep valleys, heavily timbered. In 1882, the Rev. W. S. Green, with two Swiss guides, made the first serious attack on these mountains. He explored the principal glaciers, and climbed to a point on the snowy dome of Aorangi. In the following year Dr. Lendenfeld climbed the Hochstetter

Dome. These expeditions attracted the attention of the rising generation of colonists, a group of whom presently set themselves to acquire the mountain-craft for the purpose of continuing for themselves the exploration of their own range. Mr. Mannering's interesting work, *With Axe and Rope in the New Zealand Alps*, tells the story of their early efforts. The Colonial Government was thus led, as has happened in other regions, to cause an excellent survey to be made of the most important mountain group. Photographers and holiday-makers were attracted to the valleys, a hotel was opened in the best centre, and in 1890 an Alpine Club was founded. On Christmas Day, 1894, the colonists made the first complete ascent of Mount Cook. In 1895 Mr. E. A. Fitzgerald, with the Swiss guide, M. Zurbriggen, made a series of very important first ascents of the chief peaks of the range, and discovered and crossed a pass over the central group.

Last in order of our survey, but first in importance, are the great mountains of Asia, which cover a larger area, and reach higher elevations than any other mountains in the world. From the short north and south chain, forming the eastern wall of the Pamirs, the chief ranges diverge fan-like eastwards, whilst the Hindu Kush trends to the west. It would be useless here to give the names of even the chief earthfolds which enclose Chinese Turkestan and bound or divide Tibet. The southern range alone, the Himalayas, which forms the north frontier of India, is in any sense explored, and the exploration of that has been but begun. The ranges of the interior have only been seen by occasional travellers. None of them are explored. The Thian Shan, the Kuenlun, the Hindu Kush, are little more than names; some of their easier passes have been crossed, but that is all. They, and still more the mountains of Tibet, are to all intents less known than the Mountains of the Moon. Parts of the Himalayas have been included in the Great Trigonometrical Survey of India, a work the magnitude and importance of which are little recognised at home. The surveyors ascended a large number of outlying points, many of them over 18,000 feet high, and fixed with great accuracy the position of the chief peaks and the trend of the ridges. Less attention was paid to glaciation, the object of the survey being practical rather than scientific; but the general form of considerable areas of the range is recorded, and some districts are very well represented, notably a part of Kumaon.

Several serious mountaineering expeditions have been made to the higher regions of Asia, those great icy barriers of the Himalayas. As long ago as the year 1856 the brothers Schlagentweit climbed up the slopes of Ibi Gamin, in Gahrwal, to a height of 22,240 feet. Some of the surveyors for the Indian Government, notably Mr. Johnson, were reputed to have exceeded this performance. The first expedition to deserve important notice was the attack on the mountains of Kumaon and Sikkim by Mr. W. W. Graham in 1883. Amongst other great feats, this party climbed almost to the top of Kabru (24,015 feet), and, strange to say, until 1909 this remained the record for altitude. Some authorities with lofty records to their credit disputed Mr. Graham's performance mainly because he carried no scientific instruments. Moreover, his party suffered no serious discomfort from the effects of rarefied air. It was urged also that they might have mistaken the peak. The Government Survey had fixed the peak and its height unmistakably, and the greatest modern authorities, some of whom have visited Kabru, see no cause to doubt Mr. Graham's statement. Other parties have suffered practically negligible distress from these great elevations, notably the Norwegian climbers, who almost conquered Kabru in 1908, of whom more later.

The second expedition to the Himalayas was that organised by Sir Martin Conway in 1892. His party, led by the famous guide Mathias Zurbriggen, ascended Pioneer Peak, about 23,000 feet in height. They also traversed the three chief glaciers throughout their length, and crossed the Hispar Pass, said to be the longest glacier pass in the world. The late A. F. Mummery's exploits on Nanga Parbat in 1895 are still fresh in climbers' memories. His sad loss on one of the passes across the great peak was the most notable feature, but it should be mentioned that this remarkable mountaineer, for the most part alone, climbed the difficult rock face of Nanga Parbat to a height of nearly 21,000 feet without experiencing mountain sickness.

The visit of Mr. Douglas Freshfield and his party to the Sikkim Himalayas next calls for notice. His intention was to make the tour of Kangchenjunga, the third highest known peak (28,156 feet). They started from Darjiling, and, in carrying out their programme successfully, a vast amount of unexplored country was traversed. Their greatest elevation was 22,000 feet, and this was reached during the crossing of the Jonsong

La. The next noteworthy expedition to the Himalayas was that of Dr. and Mrs. Fanny Bullock Workman in 1902 and 1903. They visited the Karakoram Group, and, despite the assistance of several Swiss guides, little important climbing was made during the first year. However, in 1903 they made a way up the Chogo Lungma Glacier, and established a camp in good weather at a height of nearly 19,400 feet. Thence Dr. Hunter Workman ascended to an altitude of 23,394 feet on Pyramid Peak, and the intrepid lady climber accompanied to a point about 700 feet lower.

A party of guideless Englishmen, Messrs. A. Crowley, O. Eckenstein, and Guy Knowles, with a Continental climber, also visited the Karakorams in 1902. Beyond a long stay in camp during bad weather at an elevation of 20,000 feet, nothing of interest happened. In 1905 Mr. A. Crowley, with some friends, essayed the ascent of Kangchenjunga, the most accessible of the greatest peaks. Unfortunately, one of the mountaineers and some coolies were carried down by an avalanche, and the loss of life thus entailed led to the failure of this unsatisfactory undertaking.

The remarkable successes of Dr. T. G. Longstaff in 1905-1907 and 1909 next call for notice. With the two Italian guides Alexis and Henri Brocherel, he reached a height of nearly 24,000 feet on Gurla Mandhata. Much valuable exploration was also achieved. His next expedition was to the Nanda Devi Group of the Gahrwal Himalayas, and the summit of Trisul (23,406 feet) was gained in the June of 1907. This is the highest actual peak yet scaled; other ascents to loftier levels have stopped short of the "crowning glory."

In 1909 Dr. Longstaff with Dr. Neve and Mr. Slingsby achieved startling discoveries amidst the unexplored regions of the Karakorams north of Kashmir. They crossed over the range by the old Saltoro Pass (18,200 feet), and on the farther side came upon an immense hitherto unknown glacier. This great ice stream is, so far as is known at present, the largest glacier in the world, being almost fifty miles in length. Contrary to the information conveyed by modern maps, this glacier flowed to the south, and, cutting through the Karakorams, proved to be one of the main sources of the Indus. North, again, of this glacier great unknown chains of mountains, yet unmarked on any map, were discovered. One at least was measured to reach a height of nearly 28,000 feet. Thus is recalled the

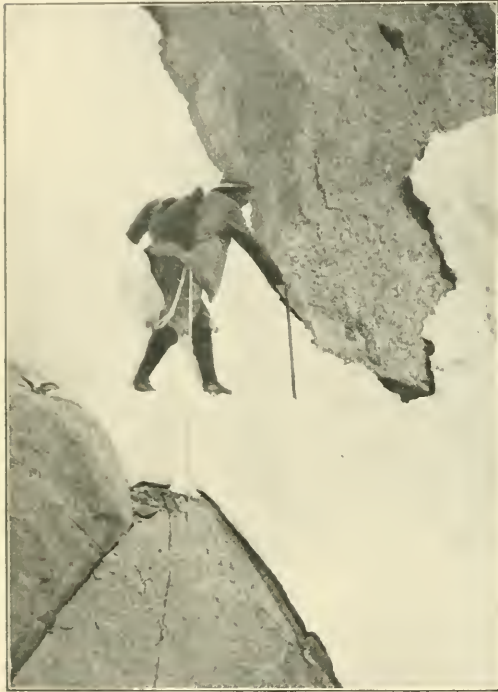
suggestion of that early explorer Mr. W. W. Graham that in the unknown north there is at least one peak loftier than Mount Everest.

This historical record must not be concluded without a mention of the creditable performance of two Norwegians, Messrs. C. W. Rubenson and Monrad-Aas on Kabru. This party had scarcely any experience of mountaineering, yet, travelling without guides, they almost reached the highest peak of Kabru. They suffered no ill-effects from the great height attained, and, despite bad weather, spent twelve or thirteen days in camps at heights over 19,500 feet. Thus it is not surprising to hear that Mr. Rubenson shares the opinion of Dr. Longstaff that Mount Everest can be scaled.

The most recent expedition to the great heights was that of the Duke of the Abruzzi in 1909. The important members of the party were the Duke, his adjutant, Marchese Negrotti, Dr. Fillippi, Cav. Sella, and eight Italian guides. Many fruitless attempts were made on the lower peaks of the Karakorams, but Mount Godwin-Austen was not even attempted. At last, after continuous bad weather, the Duke succeeded in climbing within about 700 feet of the top of Bride Peak, the approximate height reached being less than 24,500 feet. This may be considered the highest climb on record.

It is to be hoped that hereafter Englishmen resident in India will make the mountains of Asia a subject of exploration and study. They would undoubtedly have done so long ago but for the attractions of sport in the lower ranges. As markhor and ibex become rarer, it is not improbable that the great mountains will assert their charm, and a group of climbers will arise who will accomplish much more remarkable ascents than any that have yet been done in other regions of the world. The mountains of the North Polar area have not attracted much attention. Beerenberg, in Jan Mayen Island, has never been ascended. The mountains of Spitsbergen formed the goal of two expeditions, under Sir W. Martin Conway's leadership, in 1896 and 1897, when various peaks were climbed, the most important being Mount Hedgehog or Hornsunds Tind. All these mountains, however, are small in scale, though many in Spitsbergen are precipitous and fine in form. The Antarctic continent evidently contains more noteworthy mountain masses, none of which, with the exception of Mount Erebus by the Shackleton expedition, have yet been approached. The date of their ascent lies, perhaps, in a remote future, but it will assuredly come in due season.

The Sport and its Dangers.—Mountaineering may be considered from two points of view—as a craft, or as a sport. Sports bear to crafts the relation that arts bear to handicrafts. A fine art is the glorified form of some craft. Before we treat of mountaineering as a sport, it is necessary to frame some idea of the craft upon which the sport is based. The craft of climbing is the method by which a man travels safely through a region of mountains, and especially of snowy mountains. It is primarily



TRAVERSING HANGING SNOW-WREATHS ON STEEP ROCKS.

the craft of getting about over glaciers and snow-fields, and of avoiding the dangers proper to such a region. Before you can avoid a group of dangers, you must know what they are. The dangers that snowy mountains provide are mainly of two kinds: there is the danger of things falling on to the traveller, and that of the traveller himself falling. The things that may fall on to him are rocks, ice, and snow. The traveller himself may fall down a hillside formed of rocks, ice, or snow, or he may fall into clefts or crevasses in the body of a glacier. Lastly, there are dangers arising from weather. Eight dangers in all: falling rocks, falling ice, snow-avalanches, falls from difficult rocks, falls from ice slopes, falls down snow slopes, falls into crevasses, dangers from weather. It is in the avoidance of these dangers that the climbing craft

consists. They are here considered *seriatim*.

Falling Rocks.—Every rock mountain is falling to pieces. The common phrase “old as the hills” expresses a common error. Geologically speaking, hills are seldom old. The crinkled-up ridges of the earth’s crust are as rapidly pulled down again as heat, frost, and aqueous denudation can accomplish. The bigger and more precipitous a range, so much the newer is it, and so much the more rapidly being destroyed. Above the snow-line the process of destruction goes on faster than below. Snow collects on ledges, melts in the sunshine, and runs into cracks, then freezes and acts as a wedge, opening the crack wider. Thus rocks become detached from their beds, and, when the thaw comes, one or another falls away, bounds down on others loosened like itself, sets them in motion; and they in turn set more off, till a whole hillside becomes alive with falling blocks. To a man on the hillside the effect is appalling, but the chances in his favour are very great. Falling stones on a rock-face seldom hit an individual. Generally a hill-side becomes ridged and furrowed by aerial and aqueous denudation. Then the furrows or gullies become stone-runs, and in them a climber is liable to be in real danger from falling stones. A steep and very narrow rock gully is called a chimney; a wider gully, the bed of which is filled with snow or ice, is called a couloir, either a snow-couloir or an ice-couloir. Stones do not often fall in chimneys. If they did, chimneys would be very fatal places. In couloirs stones frequently fall, but if the couloir is straight, falling bodies generally fly down the middle of it, where they make a deep furrow. If this furrow is carefully avoided, the danger will be reduced to a minimum. Of course, falling stones going down such a furrow carry some snow with them. This snow tends to form bridges over crevasses and bergschrunds; and it thus often happens that the only way to cross a bergschrund in a couloir is to go over the bridge thus formed, right in the track of the falling stones. The danger here, however, is small, for the bergschrund is always at the bottom of the couloir, whilst the stones fall from the top, so that there is always time enough to get out of the way before a block comes. The greatest danger from falling stones is in a bent couloir, for there the stones rattle and leap from side to side, and rake every point; but even then shelter can generally be found under some overhanging rock. Stones fall more on some days than others. When a mountain is well covered by re-

cently fallen snow in good condition, stones seldom stir. As the snow melts, the stones begin to come down. In very fine seasons, after several weeks of sunshine, stones fall most plentifully on rock mountains, such as the Matterhorn; and a wary climber will then hesitate before undertaking ascents specially liable to this danger. Much also depends on the way in which a mountain is built, and on the materials of which it is composed. When the strata dip inwards towards the mass of the mountains, stones do not easily fall. When the strata dip outwards, stones fall more frequently. Some kinds of rock are more friable than others; mountains built of very friable rock produce a bigger crop of falling stones than do other mountains made of better materials. The Bietschhorn is a well-known example of a mountain that yields many falling stones. The whole mass of it seems to be rotten. On the other hand, the Chamonix Aiguilles, built as they are of very hard slabby rocks, though so steep, do not cast down many missiles. On the lower parts of glaciers, below the snow-line, where the ice comes to the surface and is not covered with snow, there are always more or fewer rocks on the ice. If the slope of the surface of the glacier be considerable, as at the sides it may be, and as at the snout it generally is, these stones, one by one, owing to the melting of the surface, become detached, and slither down the slope with increasing velocity. Such falling stones are very dangerous, for they may find a climber cutting steps up the slope and unable to stir an inch to dodge them; or they may fall on the head of a mere spectator standing on the solid earth near the edge or foot of the glacier. Fatal accidents have occurred in this manner. In the Himalayas stones fall in much larger proportional quantity than in the Alps. I have there

seen enormous masses fall from a great height, and not come to rest till they have reached the very bottom of some deep valley. In this connection it may be best to refer to a peculiar kind of falling rocks, those, namely, which form mud-avalanches. They are rare in the Alps, but common in all the hot regions of the world where there are high mountain ranges. A mud-avalanche takes its origin from rapid thawing of winter snow in the early part of the summer. The upper parts of mountains are then dripping wet. The water

flows down little gullies, and sets the loose stones moving. A small fall of rocks high up dams up one of these gullies. Water collects behind the dam and presently breaks it down. The muddy mass begins to flow and undermines the rotten banks of the gully. The sides fall in, and the moving mass is increased. Some big rock arrests it lower down and forms a bigger dam. This is again broken. Thus the avalanche increases in size. The gullies join altogether like the branches of a tree. One little avalanche joins another till the whole hill-side is



GIVING A SHOULDER UP A BERGSCHRUND.

alive with these serpent-like, creeping masses. Ultimately, the whole thing collects together into the trunk gully, and is vomited forth with thundering tumult into the valley below. Such mud-avalanches fill up the valley bottoms of Central Asia, and they have been the agents that formed, for example, the Pamirs. Mud-avalanches are so big and so noisy that they do not constitute a danger of much importance. They have their regular tracks, easily identified; and unless a man were to pitch his camp in such a track and be over-turned in his sleep, he would hardly be likely to encounter danger from these hideous things. Of great hill-slidings and mountain-falls it is not necessary here to speak, for though villages are

sometimes overwhelmed by them, and whole valleys rendered barren, they do not give rise to the mountaineering accident which climbers have to take into consideration.

Falling Ice.—Falling ice constitutes a kind of mountain peril for which climbers have to be on the alert; but ice does not fall casually about the place any more than do rocks. Just as a mountaineer, by observing attentively the nature of the place he is climbing over and the marks that falling stones leave on rocks and snow, can tell whether he is in danger and where safety lies, and thus, by training his observation, can learn to avoid perils that inexperience

taineer than trained alertness of observation. He knows the meaning of small indications that would escape the eye of any novice. He is as awake to observe the tokens about him as was any American trapper of old days for Indian "sign." He knows how the forces of nature act, and what are the marks of their action. Thus he is forewarned of dangers and able to avoid them. The attainment of this kind of capacity should be the aim of every young climber as much as the attainment of mere gymnastic skill.

Along the crest of narrow, snowy ridges of high mountains there is usually formed what is called a cornice, a larger or smaller overhanging wave of snow or ice. A cornice is formed by some prevalent wind that carries the falling snow with it over the crest of a ridge. Beyond the crest is an atmospheric eddy which plasters the driven particles of snow against the crest. The cornice grows from year to year till at last it becomes too heavy and breaks away and falls; or it may reach a maximum at which the yearly melting equals the yearly increment, in which case it maintains itself unbroken for a very long time. Of dangers connected with falling from, or through, cornices, we must deal later. It is here only necessary to observe that small portions of ice not infrequently fall on hot or windy days from the edge of the overhanging part of the cornice, where icicles frequently form, and these, dashing down the steep slope below, may be a cause of peril to climbers on the slope. A glance aloft will tell a climber whether there is a weak or broken edge to the cornice that is likely to give way. A col, or pass, approached on both sides by steep slopes, whereof the one to windward is of snow or ice, is almost always crested by a cornice. If this overhangs a rock wall, lumps of ice falling from it are liable to set stones going, as happened when the writer was crossing the Fuorela Prieulus in the Engadine. After descending the slope on the side which a cornice overhangs, climbers usually have to cut a tunnel through, or a gap in, the cornice, in order to climb actually to the crest of the ridge or pass. This is often a laborious process, and is dangerous when the cornice is in a rickety condition. Much depends, therefore, upon the point chosen for attack. This point should be selected from below, and the ascent directed towards it; for if the slope be steep and difficult it will be no easy matter, having arrived below the cornice, to work along to left or right beneath it, seeking too late for a suitable place to attack. On steep rock faces, where snow



CORNICE. STEEP SLOPE ON THE AIGUILLE-MOINE, CHAMONIX.

would lightly face, so the places where ice falls, or is likely to fall, can be even more easily identified and avoided. There is no quality more characteristic of a good moun-

collects in small patches on ledges and in crannies, a few hours of sunshine produce a great deal of melting. Water drips down the rocks and pours over edges, often into shadows where frost still holds. Icicles are thus formed, sometimes on a very large scale—growths as thick as a man's thigh. When

the slope of the bed changes at a sharp angle or becomes very irregular, the ice flowing over it is rent and broken into dangerous forms. It often happens that, high up on a mountain, there is a hollow or corrie of suitable shape for snow to collect and a glacier to form. The glacier



ALONG A DANGEROUS SNOW CORNICE. THE FIGURES ARE JUST ON THE BOTTOM LINE OF SAFETY. THE OVERHANGING MASSES ON THE RIGHT ARE APT TO BREAK AWAY.

a really warm day comes, these icicles may fall in big lumps from directions that a casual climber would not suspect, and such falls may occasionally produce fatal consequences, though I do not remember any recorded accident of the kind. Every old climber, however, must have seen masses of ice falling from this cause, quite large enough to destroy any individual who happened to be in the way. Alertness in this case also is the only protector. An experienced mountaineer will recognise the kind of danger which mountains present on a particular day, and will be prepared to avoid it. The chief peril from falling ice, of course, arises where there are large ice-masses in a position from which they can fall. The only very large masses of ice formed in snowy mountains must be a part of glaciers. As long as a glacier flows evenly down a gentle slope, it is not broken into lumps which can occupy a position of unstable equilibrium; but if the bed of a glacier is interrupted by a precipice, or if

moves down regularly enough till it comes to the edge of the hollow, where a very steep slope or precipice falls away. Under such circumstances, the end of the glacier, being constantly renewed from behind, breaks off at more or less regular intervals of time and falls in a body down the steep slope, where it smashes into powder, starts all the loose stones and snow in its way, and pours down in a mighty and destructive avalanche to some level place, at which it is stopped and re-formed into a solid mass. Such hanging glaciers are easily seen, and the tracks followed by the avalanches they cause are discoverable from a great distance by trained eyes. A route that leads across such a track should be avoided by any man who is unwilling to hazard his life upon a chance over which he has absolutely no control. Almost every glacier at some point of its course flows down a slope steeper than the average steepness of its bed. Where it does so, it moves more rapidly than elsewhere, and thus it becomes rent in a manner

that is more and more tumultuous in proportion to the steepness of the rapid and the unevenness of the rocky bed. A very uneven bed of gentle slope suffices to tear up the ice that flows over it into most irregular forms, as I constantly observed in the Karakoram in the case of glaciers that flowed across the strike of the vertically tilted strata that there prevail. In the Alps, glaciers are seldom much broken up, except where their slopes are steep; then they are torn in a remarkable and picturesque manner into what is called an ice-fall. The towers and blocks of ice in an ice-fall are called *seracs*. As the glacier moves, the seracs are slowly tilted over, and, sooner or later, fall in ice-avalanches which overthrow other seracs below and pour down the ice-fall, spreading tumultuous ruin in their way. A young climber is not likely to underestimate the danger of an ice-fall. He will probably overestimate it, for seracs tumble much less frequently than their insecure appearance would suggest. An experienced mountaineer can form a very accurate idea of the probable stability of a serac. Often, however, though a serac itself may be firm enough, some undercut fragment of it may fall, a mere ton or so of ice, quite sufficient to overwhelm a climber. Ice-falls often have to be climbed as the only possible way of getting up a glacier (see illustration). They should never be attempted by inexperienced men without experienced guides. As a rule, they may be traversed by a judiciously chosen route, and no part of mountaineering is more fascinating than such work, done amongst the blue chasms and white towers that combine so beautifully. In the early morning, seracs seldom fall, but when the frost of night is gone, and the sun has been shining on an ice-fall for some hours, danger becomes greater and a safe route is hard or may be impossible to find. Then it is that unjustifiable risks are run, and the supreme penalty may have to be paid. Early in the year, say in June in the northern hemisphere, ice-falls are usually clogged with thick winter snow, which holds the seracs together and bridges over the chasms. They can then be passed with ease and safety; whereas in September, when all the snow has melted away, the self-same ice-falls may become very dangerous indeed, or quite impassable. There is a fourth kind of danger from falling ice, which, however, a climber rarely encounters. It occurs at the edge of some glaciers and at the snout of most. When a glacier is swelling in width, or advancing, its outside edge often breaks away in large lumps and falls outwards. This

is more commonly seen in the Arctic regions than in the Alps or Himalayas. At the snout of every glacier, where the drainage river flows out from an icy cave, falls of ice frequently occur. Once, when I was encamped about 200 yards from the ice-cave of a very large glacier, a great mass of ice, weighing many thousands of tons, fell into the river, and dammed up a great part of its width, sending a huge torrent of water suddenly in a new direction. Our camp had the narrowest possible escape from being swept away in this unforeseen manner. It is always necessary to have foresight and caution when one is near what may be called the active parts of a mountain or glacier.

Snow Avalanches.—We must now pass on to consider the dangers that come from accumulations of snow falling upon a climber. These are some of the most insidious that the mountains present. Such falls, of course, are liable to occur only when snow is in an unstable condition—that is to say, either early in the year when the winter snow is rapidly melting, or after recent bad weather when there is a quantity of new snow about. Days when snow is in an unstable condition are very easily recognised; then it behoves the climber to be wary and keep his eyes about him. Small beds of snow that have accumulated on rock ledges then fall off, and suffice to upset a climber, notwithstanding their relative insignificance. Snow that has newly fallen upon slopes of ice is always liable to peel off and come thundering or swishing down in quantity sufficient to overwhelm or carry away a man. Couloirs are the normal lines of descent for such falling accumulations, and these places, usually pleasant highways for the step-cutting climber, become death-traps when snow is in bad condition. Snow avalanches may be said never to fall in unexpected places. They have their regular gathering grounds, their fixed lines of descent, and they pile themselves up below in easily recognisable cones or fans. Thus, they can always be avoided by a man with his wits about him. Many a snow avalanche falls from some high-planted slope over a rock precipice, which it may leap like a waterfall, leaving no plainly marked traces of its habitual route; the piled-up fan below, however, betrays the danger, and the state of the snow on any particular day enables the climber to judge whether it be a present danger or not. Doubtless the chief peril of snow avalanches is that a climbing party may start one; but instances have occurred of snow avalanches descending on climbers. Such accidents are always avoidable. They

are likely to be more frequent in snowy ranges in hot countries than in temperate regions.

We have briefly treated of some of the dangers that arise from falling things; we now approach the larger and more important branch of mountaineering dangers, those dangers, namely, involved in the chance of the climber himself falling. The most obvious kind of place from which a climber is likely to fall is from steep rocks. In the avoidance of slipping from difficult rocks, the gymnastic skill of a good climber largely consists. Steep rocks are not necessarily difficult to climb, for difficulty arises only where there is a lack of holding for hands and feet. Rocks may be very steep, yet as easy to climb as a ladder. It is thus the quality and formation of rocks that must be considered rather than the angle of their surface. The first question to be asked is whether rocks be firm or rotten. On firm rocks you know where you are, but not on rotten rocks. Every kind of precaution needs to be taken. The climber must test every handhold and foothold before trusting his weight to it; but this testing is no easy matter, for, where all the material is loose, you might pull down the mountain before coming to absolute security. An experienced rock-climber comes to know whether a loose rock is firm enough to bear his weight. This is a matter that cannot be taught; it comes from practice only. The weight of a moderate-sized rock is large compared with that of a man. The friction between rock and rock is considerable, and, as a supporting force, it varies with the weight. The amount of this force has to be instinctively estimated. That is what a skilful rock-climber does with almost infallible accuracy. The route up some mountains lies entirely over rotten rocks without, perhaps, a single absolutely firm place; yet the ascent can be safely made by skilful climbers.

The secret of success in negotiating steep, rotten rocks is to test every hold and never depend on a single support either for hand or foot; careful distribution of the weight is necessary.

Again, much depends upon how the climber throws his weight on a new point of support. If he moves in a jerky manner he may bring down tons of material which a more evenly moving person would not stir. In such places, a climber has to think as much about his companions as about himself. He must avoid putting himself immediately below the man climbing in front of him, and he must be careful not to send stones down upon his

follower's head. One to move at a time is the only safe rule, and it is of especial importance that all should keep as near together as possible. In all places of difficulty or danger, a party of mountaineers wears a rope, chief instrument of safety for climbers. The rope usually worn is a strong manilla cord of the kind called



CLIMBING A WIDE CRACK.

Alpine Club rope, which is made only by Buckingham. A thinner rope, used double, is employed by some very skilful climbers, but the employment of it requires more experience, it must be discarded before it begins to be in the least worn, and it has other disadvantages to be set off against its most estimable lightness. As a general rule, there should be not less than three persons on a rope, and the strength of the party is approximately that of the weakest of the three. This refers to general moun-

taineering, but for rock work the skill and powers of the leader determine the possibilities of the party. If the leader can



UP THE FRONT OF SHARP EDGE SADDLE-BACK. STRIKING EXAMPLE OF HOW NOT TO USE THE ROPE.

overcome an exceptionally severe section and reach safe standing place, he can assist his companions by the aid of the rope, even if they be comparative novices. On snowfields, a large party may be united

by a single rope; but on rocks, large parties are to be avoided. In the case of really good rock-climbers, two may go on one rope, but three are always better than two. Five are the maximum number for rocks. A party of six should be subdivided into two parties of three, which should keep well out of each other's way. The length of rope which should intervene between any two members of a party varies with the nature of the work to be done. In the case of very difficult rocks, when one man only moves at a time, and when firm resting places come only at long intervals, men need to be widely separated from one another. The leader, starting from one firm place, climbs to the next whilst the others (or at any rate the second man) remain stationary. When the leader is firmly anchored, he draws in the rope as the second man comes up, not helping him by a pull, but being always ready to prevent him from slipping by "pipping a slip in the bud" before the man slipping has acquired any momentum. If the rope is loose above a man when he begins to fall, he will come on it with a jerk, when he has fallen some distance, and the force of the jerk will be proportional to the square of the distance through which he has fallen. Thus a fall which might be stopped with ease if the rope were properly handled may be fatal when the rope is allowed to hang loose between one climber and the next. To ropes fixed for the purposes of descent, or looped and cast up over catching points of rock to enable otherwise impassable precipices or overhangs to be surmounted, reference will be made hereafter; such refinements belong rather to the art than to the craft of climbing. To return to the rotten rocks from which we have deviated: the rope in such places must be handled with excessive care, for nothing is easier than, by means of it, to start loose stones and send them down on the heads of those below. Where rocks are much broken, there are many angles and crannies for the rope to catch in, and a rope thus caught may hold back a climber in the midst of some critical step, and be cause of annoyance, if not of danger. As a general rule it is enough, when one man only is moving at a time, that the man immediately above the actual climber should be firmly placed and should draw in the rope as the climber comes up; but with a party on a face or ridge of rotten rocks, where no one is really secure, the rope had best be kept stretched throughout, so that all of them together are as one individual, and a shock at any point is sustained by all and distributed over the

whole party. This is so much the more easily done and the more effective on rotten rocks because, in order that one should not cast down fragments on another, the ascent should not be made straight up, but diagonally. If the ascent has to be made straight up, the members of the party must keep as close together as possible, taking advantage of every piece of cover the hillside affords, dodging from shelter to shelter as a dog in tropical countries rushes from shadow to shadow when the sun scorches. In ascending an *arête*, or ridge, of rotten rock, one side of it will generally be found more firm and secure than the other, facts that are known to guides in all fully explored regions. The discovery of them has only to be made in the case of new ascents or by guideless climbers. Similarly, on faces of rock, some parts will be more rotten than others, and there will be safer and less safe lines of ascent which a knowing mountaineer will detect even from a distance. Naturally, on big mountains, ribs are to be chosen in preference to gullies. A face of rotten rock will vary in danger according to weather. It will be most dangerous after a long spell of fine weather; whilst if it be fairly white with recently fallen snow in firm condition, it may be absolutely safe. I once found the west face of the Zinal Rothhorn thus bound by hard frozen new snow, and was enabled to climb straight up it, a route no one has ever ventured to repeat.

Difficult Rocks.—The dangers encountered on firm rock are of various kinds, but in the main they are to be met by the same precautions as those employed on rotten rock—the rope, foresight, care, and practice. Perhaps the greatest danger on difficult rocks is that they are liable to be attempted by inexperienced men. Competent climbing parties have seldom come to grief, even on the most difficult rocks. Accidents can generally be traced to the inexperienced member, or members, of a party. Experienced climbers, even when they are not, gymnastically speaking, good climbers, know what kind of work they can safely undertake, and confine their activities to that. Enjoyment ceases when a man ventures into positions where he is not master of his surroundings.

The difficulty of climbing firm rocks increases as the number of good handholds and footholds diminishes. Danger need by no means increase in the same proportion if proper care be taken, for this reason: when a single member of the party has reached a really firm position, he becomes a far more secure anchor than one man can ever be

on ice or rotten snow. Rocks are very difficult indeed if good holding is not to be found at vertical intervals of about 10 feet. The risky spaces between can be robbed of their dangers by proper use of the rope. The proper way to use the rope depends upon the strength of the party, for difficulty in such places is inversely proportional to the skill of the climbers. One man may be able to traverse with ease a passage which another could not traverse at all. For safety's sake, even direct help may have to be given to weaker mortals. A strong and experienced leader is the first necessity. Nothing that comes in his way on the particular ascent must be too hard for him, for if he falls the whole party will probably be dragged down, unless the second man is very firmly planted and very handy with the rope. General descriptions and theories, however, will not cover such cases.

A rope carelessly handled is dangerous on snow; it is much more dangerous on rock. For in falling from, or with, snow there is certain to be much friction; from rocks a man may easily fall through the air and attain a maximum of acceleration in a given distance. Hence on rocks that are difficult to a given party of climbers, the only way to arrive at safety is for not more than half the party to be moving at one time, and for those who are stationary to draw in the rope as the others advance. When all are moving at once, the rope is liable to catch on knobs or in cracks of rock and thus to bring up one or another with a sharp jerk which may produce disastrous consequences. Guides and very good climbers are liable to become careless about the rope, for they judge others' safety by their own sense of security. If the rope is kept stretched no one can really begin to *fall*, except when traverses are being made, and I am now discussing direct ascents of rocks, not horizontal or diagonal traverses across them. All except absolutely first-class rock-climbers should make attention to the proper use of the rope a ceaseless care, both for themselves and their guides and companions. A party of first-class rock-climbers of experience know what they may venture to do, and are a law unto themselves.

When a horizontal traverse has to be made across very difficult rocks, a dangerous situation may arise unless at both ends of the traverse there be really firm holding and plenty of it. Even then, the first and last men will have to rely upon themselves for salvation rather than on the rope. A middle man may be easily held up. Sometimes it is possible to climb to a point

above the traverse and there fix a kind of extra pendulum rope, whereby perfect security may be attained; but the fixing of such ropes takes much time, and is not likely to be undertaken if it can possibly be avoided. Most climbers would rather take a risk than so much trouble. Fixed ropes are often used in places of extreme difficulty, especially in the descent, when they can be readily and quickly fastened and detached almost as easily by a clever jerk. To fix a rope to a point entirely out of reach, by casting, is not at all easy, and generally takes much time. Nails or pegs are sometimes carried to be driven into cracks, where holding is deficient and a slip would be destructive. Such elaborate developments belong rather to the art than the craft of climbing and need not be discussed here. Their use will be learned by experience, not from description. The climbing of mountains where ropes or chains are permanently fixed is no part of genuine mountaineering. Mutual assistance on difficult rocks takes all manner of forms. One man may climb on to another's shoulders, both leaning against some steep wall, and yet a third may use them as a ladder and so reach firm handhold and draw himself up. An axe may be reached forward to form footing, when nature has not provided any. Such manoeuvres can only be learnt on the mountain side, not from books. The principle is that all the members of a party must co-operate, that none must consider himself solely, but each must climb with constant reference to his predecessor and follower. He must neither stop nor start without warning. The rope is more than a mere mechanical safeguard; it is a connecting bond that unites all the members of a climbing party into a single being, which acts, foresees, and moves as one man. To learn how to merge individuality into this larger unit is perhaps the chief element in the acquisition of the climbing craft. Walls and vaguely defined gullies provide on the whole the most difficult rock-climbing, but chimneys and ridges, or *arêtes*, are commoner, and, generally speaking, less difficult, because they have two sides and thus offer a constant alternative for a way. There is, however, no difference between the precautions to be taken in such places and those suited to rock walls. The greatest of all dangers on difficult rocks is a hasty scrambling sort of companion, a man who thrusts himself forward before he has made sure of his next step. Never quit a position till you know what your next position is to be. Make trial of handhold and foothold before transferring your weight to them, and then

do so gradually, and, as far as possible, without jerks. It is seldom necessary, and never advisable, to jump. The best climbers advance with wonderfully little fuss or flurry, and worm themselves over difficulties.

The proper use of the feet is imperative in serious rock-climbing. The hands should



CLIMBING A ROCK BUTTRESS, SHOWING THE BELAYING OF THE ROPE BEHIND THE SECOND MAN.

be used as little as possible for direct lifting of the body. Rather should they be utilised as anchors whilst the feet step circumspectly upwards. A man's legs are stronger than his arms, and the latter usually give out first. The leader of a party should always remember that it is folly to force a way up a very severe section until his powers are exhausted. Perhaps some promising-looking handhold and good resting-place may seem to be attainable up above. On arrival the hold may be loose or unsatisfactory, and the ledge slope hopelessly

downward. On such an occasion, if the leader have no reserve of strength to descend, or the difficulties of doing so seem to him insuperable, he is very likely to fall and cause disaster even to the whole party. The hitching or belaying of the rope around some outstanding rock would most likely save the rest of the party, if the second climber is, as he should certainly be, prepared. The Alpine Club rope is tested to hold a 12-stone man falling ten feet. If the leader is beyond this distance above his fellows, the rope will thus almost certainly break around the belay. Of late years many miraculous escapes have happened to the rest of the party in this way. Yet even the leader may fall a greater distance than ten feet, and contact with the rocks may break the force of his descent sufficiently to enable the rope to save him.

Steep rocks vary in condition with the weather in a most remarkable manner. After a long spell of fine weather, when the snow and ice that has collected in their nicks and crannies is all melted away and every ledge and crack is exposed, they are at their best and easiest. After a fresh fall of snow, the holdings are masked so that lengthy research is needed to find them. If this snow has been partially melted and frozen again, a quantity of thin ice will be formed which often constitutes a danger of the highest order or even renders progress impossible. Something may be done with the axe to chip ledges in such ice or to clear it away, but the ice-varnish seldom adheres strongly enough to the rock to make it safe footing, whilst a very thin veneer of what is called *verglas* cannot be obliterated by any process except nature's own melting. The one safeguard which has any value at all on iced rocks is the use of climbing-irons (*Steigeisen*, *Crampons*), which are fastened on the feet like skates; or their place may be to some extent supplied by long metal spikes, which can be screwed, when needed, into the soles of the boots. Good climbing-irons are not easy to get. They are commonly made in Tyrol only.

Ice-slopes and Step-cutting.—Climbing-irons are one of the best means for avoiding many of the dangers of climbing on ice, the matter which next claims our attention. Few positions seem more dangerous on a mountain side, or are really more safe, than an ice-slope, unless it be extravagantly steep. Ice is a very firm and sound thing to stand upon, containing no hidden perils, and hardly ever giving way without notice. The ice-axe is the weapon by means of which ice-slopes are ascended, and a knowledge of its uses is necessary for every

accomplished mountaineer. The uses of this tool, as of all others, must be learnt and acquired. Some men cut steps more quickly, more neatly, and in positions less easy of access than others. A great deal has been written on "form" in step-cutting.

Here let it suffice to say that the art must be learned by watching how an accomplished craftsman works, and by imitating him. The man who aspires to climb without guides needs to practise step-cutting; guideless climbing tests the capacity of a mountaineer better than anything else. Certainly, a man should be able to climb without professional assistance; but, in my opinion, if he wishes to be a really accomplished mountaineer, in the broadest sense, he will do well to indulge but moderately in this sport, for a climber who does his own guiding, step-cutting, and so forth, must have his attention entirely riveted on the work in hand. His powers of observation are thereby limited, and

if he bear a heavy burden they are limited still more. To take full advantage of the opportunities of observation and enjoyment of all sorts which climbing affords, it is essential that the rough work of making the way be done by someone else. If the climber is also exploring, this is even more emphatically essential. But as accidents may always happen, and the amateur may at any moment be thrown on his own resources to bring his party out of peril, there is no doubt that he should learn the craft thoroughly in all its branches. The use of the axe is perhaps the most important branch of the craft. We are now discussing only step-cutting in ice; the security of a party on an ice-slope depends upon the way in which the steps are cut. If they are ragged, insecure, and outward sloping, they are a cause of danger. An ice-step must always be slippery; it generally therefore needs to be large. Here it is that spikes or climbing-irons are so helpful; they enable steps to be made smaller, less carefully, or,



ICE-AXE.

on gentle slopes, to be avoided altogether. Where to save time is to avoid danger from weather or falling things, climbing-irons are a great safeguard. The chief danger on an ice-slope is the danger of a slip. It is harder for the steady members of a party to hold up a falling companion when their own position is one of insecurity. Climbing-irons minimise the chance of a slip and multiply the chances of arresting it; they should therefore always be carried when ice-slopes are expected; the relative position of neighbouring steps is also an important

mistake may lead into insurmountable difficulties; nothing demands more experience than the selection of route through seracs. This art too can be learnt only by practice. Seracs present problems much more difficult than any ice-slope, for it frequently happens that quite vertical or even overhanging, though short, cliffs of ice *have* to be surmounted, and thus gymnastic accomplishments of the first order are required, especially for the step-cutting leader. It is seldom, however, that, under such circumstances, more than one of the party is in a position of peril, and the danger is generally minimised, or entirely removed, by the rope properly employed.

Snow-slopes.—The avoidance of falls from slopes of snow is usually a simple matter, but it cannot be very briefly treated, for the whole question of snow-craft is hereby raised. Snow on high mountains exists in a multitude of different states and conditions; sometimes it is powdery, like flour, sometimes granular like hail, sometimes firm and hard, almost like ice, sometimes slushy, rotten, and unsupporting; sometimes it binds easily, and, when trodden down, produces firm footing, sometimes no amount of treading produces a firm foundation. Moreover, what is under the surface-snow affects the quality of the footing. When snow rests on rocks it is usually rotten; when snow rests on other snow it is frequently good; when it rests on ice it may be, and generally is, very dangerous unless steps be cut right through into the ice. Once you really know what is the condition of the snow and take the proper consequent precautions, you are probably safe; but to know this you need much experience, and the secret of divination is one that some men can never learn. The signs whereby experienced climbers judge of these matters are many and minute. They must be learnt on the hillside. Old hands can often tell by merely looking, from a great distance it may be, at a snow-slope, what is its condition at the time. Sometimes the snow over a whole district is rotten at once, and a sample of it encountered anywhere shows what the rest is like. A young climber cannot do better than to pay continual attention to these matters. There are slopes which at one time consist of snow, at another of blue ice, at another of ice covered by snow. An ice-slope is easily recognisable from a great distance; an ice-slope covered with snow may be betrayed by the sliding off of a very small portion. Such indications may decide whether a certain ascent should or should not be forthwith attempted. Old descriptions of moun-



CLIMBER STRIDES IN THE GREAT COULLOIR ON THE WETTERHORN, CHARACTERISTIC POSITION OF THE LEADER.

matter; they should not be cut too far apart, for time is only thereby saved at the cost of safety. Let the step-cutter consider the next stride carefully before placing his blows. This is only one more instance of the constant foresight which mountain climbing calls for, and whereby it becomes so powerful an agency for character development in its votaries. Amongst difficult seracs an infinite variety of problems is raised by choice of a route. Once started in a certain direction, it often happens that one way only can be taken, so that an initial

taineering often confuse hard snow with ice; there is really little similarity. Naked ice is a rare thing above the snow-line, and can only be formed under peculiar conditions. Most slopes and beds of any size are likely to be of snow. Snow cannot lie at a very high angle; few snow-slopes make with the horizon an angle of more than 40° , a steeper slope rapidly sheds the snow that falls upon it; snow in good condition cannot be newly fallen; it must have had time in which to settle down. Such snow may be treated in the most easy-going manner. It forms the natural highway of the mountains. Where it is steep, steps may be *sliced* in it with a single dragging blow of the axe swung pendulum-like in one hand; the foot, shod with climbing-irons, can take firm hold on it without any step at all. Firm, hard-surfaced snow of this kind seldom lasts after the morning sun has shone on it for an hour; the crust softens and in you go, probably into a rottener substance beneath. Still, however, you are safe. As the sun obtains more power, the whole surface layer may change its consistency and become soft and rotten. Advance now becomes laborious, and danger may arise if the rotten mass lies on ice or at a steep angle; the danger is that it may begin to slide downhill, forming an avalanche. Snow avalanches seldom fall off slopes in the summer, except when the snow has recently been precipitated; it is almost always new snow that makes summer avalanches. This is one of several extra dangers that lurk in the hills just after a spell of bad weather; at such times incessant vigilance is required. That you may start an avalanche and go down with it is the greatest danger that snow provides, but it is not a danger that can be encountered unawares. It is easy to tell when the snow you are actually treading into is utterly rotten; inexperienced climbers are more likely to overestimate than to underestimate such a risk. The danger is greatest when such a slope has to be traversed and there is a cliff below it. Sometimes the impending fall is foretold by the formation of a crack right across the slope; it is best then to cross close to the crack and just below it. If the fall then occurs you will be at the top of the falling mass. Under such conditions it is advisable to dig steps in the slope as deep as possible, right into the hard and perhaps icy core—a very slow and laborious process. It is less dangerous to advance straight down rotten snow, because the slope is not then weakened right across. If an avalanche does start with a party, the rope may become more of a danger than a help.

The thing to do is for each man to turn his face up the slope, and endeavour by a kind of swimming action to keep his head up out of the snow and to get to the back of the avalanche. As long as the thing is moving, it remains soft, but the moment it comes to rest on level ground great pressure is set up, and the whole mass hardens, so that any person whose head is buried beneath the surface is almost certain to be suffocated; thus the vital matter is to keep the head above the snow. In descending snow-slopes in fair condition it is often easy to slide down, or "glissade." When the surface is fairly hard, the glissade may



ALONG THE ICY SUMMIT RIDGE OF THE MÖNCH, GRINDELWALD, SHOWING STEADYING USE OF THE ICE-AXE IN PASSING ALONG STEEP, FROZEN SLOPES.

be made in a standing posture; but this, though not difficult, requires a little practice. Sitting glissades are less enjoyable, because the loose snow is likely to pervade the clothes, filling the pockets, and finding its way in at every opening; still, the process is so time-saving that it is sure to be adopted whenever the opportunity occurs. The danger of glissading, for inexperienced persons, is that they may glissade in the wrong place. You cannot glissade down ice, for your feet slip away from under you, your axe-point ceases to act as a drag, and you become a mere falling body uncontrolled; thus, it is folly to begin glissading unless you are certain that there is no ice-glazing on the surface of the slope lower down, and it is wrong to glissade down snow that rests on ice; again, you must be in no doubt as to the nature of the slope

below. If there may be cliffs or *bergschtrunds*, hidden by some bulge or corner, no one should glissade who is not sure of being able to arrest his motion without fail. Finally, it is a mistake to glissade down very rotten snow, for you may start an



GLISSADING—ATTITUDES ON THE WAY DOWN THE EIGER.
(The Jungfrau behind.)

avalanche and be carried down with it. Experience alone enables a climber to judge of such matters; the novice should always err on the safe side.

Crevasses.—We have thus very briefly completed the catalogue of the places a climber is likely to fall from and of the things that may tumble on to him. There remain to be considered the holes into, or the things through which a climber may tumble. These are practically summed up in the words "Crevasses" and "Cornices." Crevasses are of two kinds, open and concealed; they occur, of course, only in glaciers and their snow tributaries. Below the snow-line—that is to say, below the level where on a given day the previous twelve-month's snow-fall has just been melted away—crevasses are for the most part open, and there is no mistake about them. If a man falls into an open crevasse it is his own fault, unless he is knocked into it by a falling mass or a blundering companion. Above the snow-line, where recent snow lies on the surface of a glacier or a snow-field, crevasses are frequently hidden—roofed

over by the later accumulations of snow. Immediately after a heavy fall of snow has occurred it is sometimes impossible for the most observant eye to discover the faintest trace of a concealed crevasse. When a few days have passed, there will probably be produced a slight dipping of the surface, or merely a barely perceptible change of colour or texture of the snow that roofs a crevasse over. Only the most experienced mountaineers perceive such slight indications with any kind of habitual certainty. Less skilful persons must probe with the axe to obtain the same information, though by keeping a sharp look-out to right and left and noticing carefully the form of the glacier surface—where it bulges or twists—many hints may be derived as to the nature of the ice under its snow-mantle at a particular spot. A master of snow-craft hardly ever falls into a hidden crevasse, or permits a member of the party he leads so to fall. It is remarkable with what security such a man can wander alone over snow-fields, but his example in this respect is not one that the amateur should follow. The great and sufficient safeguard against concealed crevasses is the rope. If that is properly used, hidden crevasses need have no terrors even for comparative novices. A party of ordinary persons on a snow-field should consist of at least three united by a proper rope. More skilful persons may, if they choose, go in a party of two, especially if they employ Mr. Mummery's double-rope precaution, which need not here be described. Assuming that there are three or more on the rope, they should not blunder along, as nine climbers out of ten are often wont to do, with the rope dragging on the snow, but each should gather up the slack of the line in front of him, so that in case of anyone falling through, his fall may be arrested at once. If the rope is properly handled, no one need ever go more than waist-deep into a crevasse. The real trouble only begins when, owing to blundering, a man falls right through and hangs at the end of a longish piece of rope. The rope then cuts into the lip of the crevasse, and, when it is hauled in, the pendant person is not dragged out, but only against the side of the crevasse, or, worse still, against the remainder of its overhanging roof. Men accompanied only by ignorant companions have hung in such a position for an hour or so, and been nearly suffocated by the constriction of the rope. It is, of course, only the first or last member of a party that can come into such trouble; any middle member has a rope leading from him both fore and aft, and is easily raised.

The right thing to do if the end man falls deeply into a crevasse is for his neighbour from whom he hangs to make himself perfectly firm with his axe well fixed and so forth. Then the next man unropes, or, if there are more than three, *all* the other members of the party unrope, and the loose end of the rope, with a loop tied in it, is tossed over to the pendant man, who by help of it, and of the cord round his own waist, climbs out himself rather than is hauled out by the others. The details of the process depend on the nature of the edge of the particular crevasse. If an extra rope is in the pack, the unroping is, of course, avoided. In the case of a party consisting only of two, and having no more rope than a single line to unite them, such a situation would be sensational in the highest degree.

The upper edge of a snow-field resting against rocks is generally quite thin. Its weight, therefore, being inconsiderable, and the friction of its bed great, it has no tendency to move and flow down after the manner of viscous matter as do great accumulations of snow and ice. A little way from the rocks, however, the snow will be deeper, and the mass will begin to partake of the movement of the glacier. It follows that at some point, not far from the rocks, a crevasse must be formed, dividing the snow that adheres to the rocks from the snow that forms part of the glacier. Each winter this crevasse will be filled up, but it will be as constantly formed again. Such a crevasse is called a bergschrund. The top edge of every normal glacier, where it abuts against rocks, is outlined by a bergschrund. As the summer season advances, bergschrunds grow wider and wider. Early in the year they may be entirely bridged over, but any climber who knows his business can tell where one is certain to be situated, however deeply it may be buried. As melting proceeds, the roof opens, and skill is required to discover the best point of passage. The strongest bridges, as stated before, are liable to be in the track of falling stones. Very large bergschrunds are wont to present problems of great complexity for a climber, and some, ultimately passed, have taken hours to get over, when the ice-wall on the far side has had to be climbed. Danger in all such places is avoided by care, experience, and a rope properly used to suit the peculiar circumstances of the case. In the lower parts of glaciers, where there is no snow-covering and all the crevasses are open, there is sometimes found an ice-bridge formed across a wide crevasse by some of the

countless freaks that ice plays. The strength of such a bridge is difficult to estimate. I have seen one in the Himalayas, which my whole caravan of fifty men walked over unroped, yet it broke up by its own weight and fell crashing into the bowels of the glacier a few moments later and just



CROSSING A SNOW BRIDGE ON THE SCHRECKHORN. LEADER SOUNDING STRENGTH OF BRIDGE WITH ICE-AXE.

when I was about to set foot on it myself. In a general way, it is well to give a wide berth to exceptional phenomena of this kind. The lip of an open crevasse rarely behaves in the same fashion, but cases have occurred of narrow escapes and even of fatal accidents from this cause.

Cornices.—The only way to escape the danger of falling through a cornice formed on the crest of an *arête* is never to go on one. If a man knowingly walks on the top of a cornice and it lets him fall, the cause is his own folly. The trouble, however, generally is that people walk on to a cornice unwittingly. This means bad leadership. Any snow *arête* may be corniced; most narrow *arêtes* are. It follows that the condition of things must be investigated and the facts made certain in advance. Much may be inferred from small indications, or the whole problem may be solved by a distant view of the peak a day or two before the climb, for cornices are visible from a great distance under suitable illumination. If, however, the party arrives on the ridge in ignorance of the state of affairs, it is essential to make a careful investigation

before proceeding. Fatal results from the breaking of a cornice under a party have been avoided by one of the number leaping over to the other side of the ridge and holding on, but such *tours de force* are likely to be rare. As a rule, when a cornice breaks, a party on it will be destroyed.

A rarer danger is that of falling into tunnels of ice or snow. Such tunnels seldom exist after the early part of the season, for they are formed by streams flowing down gullies and under beds of avalanche snow or at the foot of some small glacier. It is not till their roofs fall in that their nature becomes apparent. When the roof is becoming thin is the perilous time, for the tunnel is then at its biggest, and the torrent within is most swollen. The upper part of the gully will probably be filled with a strong, deep bed of snow, very inviting for a glissade. The place being low down on the mountain, the rope will have been laid aside, and the members of the party may be widely scattered. One will start glissading; before he realises his situation, he is shooting over the thin crown of the tunnel, which gives way and lets him through. He is stunned by a fall of perhaps twenty feet or more and then carried away by the torrent. Such are exceptional dangers which have to be specially guarded against.

Weather.—We have now to consider the large group of dangers that result from bad weather in a high mountain region. Incidentally, we have already referred to some which need not be repeated in this place. Actual storms seldom destroy mountaineers directly, at all events in the Alps in summer, for though cold may be fairly intense, the persons subjected to it are likely to be strong men, well fed, and in good training. Doubtless there have been instances of climbers blown from a narrow *arête*, but such misfortunes are likely to be rare. Instances are on record of climbers being struck by lightning. It is remarkable that this does not happen oftener. The shock is not likely to be fatal at high altitudes, for it is seldom so intense as at low levels. Electrical discharges on rock mountains usually take place at a great number of points in rather rapid succession, and are individually small. Still, they are enough to stun a man. Accidents may have happened from falls from difficult rocks, caused by lightning stroke. The great danger from bad weather arises from the rapid change produced in the condition of a mountain, and from the difficulty which may arise of finding the way in fogs, clouds, and snow. Parties overwhelmed by storms have on

many recorded occasions become so demoralised that they have simply taken themselves into destruction. The great thing to do is to remain clear-headed, to keep moving, and not to lose pluck. There is nothing so demoralising as to sit still in a raging gale. Cold then becomes an increasingly potent enemy; the vitality is sapped, the power of initiative is diminished, foolish counsels attain the ascendant, and all manner of misfortunes are likely to ensue. Next to standing still, the most ill-advised line of action is one of frantic haste in difficult places. Never is patience more essential than when the elements are furiously raging. Never is caution more continuously called for. After a few hours of furious storm, some member of the party will probably beg to be left where he is, to sleep and die. There must be no paltering or yielding. The man must be forced to go on. Corporal punishment may be necessary. Lives have often been saved by its prompt administration. It is on such occasions that a strong leader, physically as well as morally strong, becomes invaluable. He keeps his party steadily, however slowly, advancing. His will supplies the lack of will in others. The lower you can come before black night descends, the better the chance of salvation. If you are ultimately forced by pitch darkness to stay where you have arrived, activity must still be maintained, and every step taken to keep up the *moral* of every member of the party. They must dance if there is a ledge to dance on. They must thump one another the long night through. They must eat whether they like it or not. In general, the opinion, not of the majority, but of the strongest, must prevail. Few well-led parties have ever come to grief through the rage of the elements. Half the accidents that have occurred to parties overtaken by storms have resulted from the climbers being insufficiently clothed. One hears of people being frozen to death, and then it transpires that they wore no flannel clothing and perhaps even no woollen socks. Such lack of foresight is almost criminal. However finely a day may open, it may close in storm, and for such an event preparation must be made. Warm clothing is essential for all climbers. To this matter we shall presently return. Another cause of misfortune is insufficient strength and condition in particular climbers. They come out, perhaps, enfeebled from home, overworked, it may be; they begin with climbs of too severe a nature for their powers; storm overtakes them, and their forces fail. Such mistakes should not be made. A strong and well-nourished party can weather

almost any Alpine storm in the summer months if they are properly led. When all the surroundings are blotted out in fog and swirling snow, a larger gift of intelligence is called for in the guide than mere instinct can supply. It is extraordinary how soon the normal aspect of surroundings changes under such conditions. It is scarcely possible to recognise well-known ground thus masked. Moreover, the tendency of men to walk crookedly on featureless expanses of snow when fog envelops them, seldom fails to lead a party off the right track unless precautions are taken. The moment it becomes evident that a storm is brewing, the question whether an ascent should be continued or retreat sounded should be discussed. The fools of the party are always for going on. Those who are wiser base their decision on a consideration of all the circumstances of the case—the nature of the mountain, the character of the ground that has to be traversed in the descent, and so forth. A careful examination of the route to be followed should be made while there is yet time, points of turning noted, compass bearings taken, the position (in some circumstances) marked on the map, and so forth. Even if a halt has to be called to this end, it should be done; time thus spent is well invested. On rocks, it is generally as easy to find the way (unless it is a wholly new way) in fog as in clear weather, but on wide snow-fields this is far from the case. On these an intelligent man with a compass and a good map, if he knows exactly where he is on the map to start with, can find his way as certainly and almost as easily in fog as in fine weather. I have myself guided a party in dense fogs day after day up mountains and across snow-passes, which none of us had ever seen before, by help of map and compass alone. The business requires a little judgment and intelligence, but it is beyond the powers of any professional guide I have ever known. For example, no decently led party should ever be lost through fog on the upper part of Mont Blanc; yet numerous fatal accidents have occurred there from this cause, owing to inefficient guiding. Probably the worst trouble to be faced in fog is a descent through a complicated maze of crevasses or an ice-fall. If the place can be seen before the fog comes on, the route to be followed should be discovered, and a good guide should be able to carry it in his head. That is the kind of special intelligence which a guide may be expected to possess. Of course, if the ice-fall is round a corner, out of sight, till the fog has enveloped it, there is nothing but luck to depend upon.

Alpine Climbing for Beginners.—We have thus very briefly and necessarily incompletely discussed the dangers which the climbing craft has been developed to avoid or overcome. In describing them, the nature of the craft itself has been described. The next point to be considered is the method whereby a beginner may best set to work to learn this craft. In an article like the present, written mainly for Englishmen, it is, of course, Alpine climbing that is chiefly kept in view, for the Alps are the natural playground of the English mountaineer. They are, at all events, the best place for a learner to gain experience of the world of snow and ice. In Great Britain there are plenty of opportunities for a rock-climber to practise his skill.

Most of the finest climbers and mountaineers of the day have acquired the bulk of their skill on homeland mountains. The crags of Great Britain, if thoroughly mastered under winter and summer conditions, educate the beginner so thoroughly that when he visits the Alps he may find himself a better rock-climber than most of the guides, and quickly able to master the technique of icemanship. He must visit the regions of glaciers and everlasting snow to learn this latter part of the craft. The beginner would be well advised to consult "British Mountain Climbs" (Mills and Boon) for where and how to climb in Britain.

In the Alps the arrangements for climbing are very complete. Unlike the homeland mountains, where professional help is rarely available, the pleasures of mountain travel are attainable by any active man, or even woman, who cares to engage plenty of guides. Besides the well-known "Climbers' Guides," the up-to-date handbook, "Swiss Mountain Climbs" (Mills and Boon), is available for those who take a practical interest in what and where to climb in the Alps.

The first point to impress upon a young would-be climber is to be content to learn the craft gradually and well. There are many accomplished guides who will undertake to drag the veriest novice up the hardest peaks. The temptation for a youngster to be able to say "I have climbed the Meije, the Grepon, the Dent du Géant, the Matterhorn," and so on, is a great temptation, but to begin by being hauled up such peaks is not the way to learn mountaineering. To become an accomplished rock-climber is chiefly a matter of gymnastics, and does not require much intellectual endowment. To discover by inspection the way to attack a new rock peak is another matter. It is

merely the actual scrambling up rocks behind a good leader that I refer to with depreciation. Snow-craft is the thing that takes most learning, and it is with snow mountains, and still more with snow-passes, that a beginner should begin. Passes are, on the whole, more illuminating expeditions than peak ascents, for a pass shows you both sides of a range, thus explaining better the anatomy of the mountains; it also takes you up one glacier and down another, and so provides a more extensive acquaintance



CLIMBING A CRAG. THE CRAG, SHOWING THE BACK AND FOOT METHOD.

with glacier phenomena than you gain from most peak ascents, which are frequently made by ridges without touching glaciers at all. Begin, therefore, with such peaks as the Breithorn, the Jungfrau, Monte Rosa, and Mont Blanc, with passes like the Col du Géant, the Strahleck, the Lysjoch, the Adler, and the Trift. Leave the regular rock mountains for a second or third season. More important than anything else for a beginner is the choice of a guide. Most men make a sort of episodic commencement, picking up a casual guide (of whom they know nothing and who is very likely a fool) and attacking some peak that hap-

pens to attract their fancy. To such parties accidents often happen on the simplest peaks. The right way to start is to apply for advice to some experienced climber, and to hire for three weeks or a month the guide he recommends, a method which in the long run saves money. A second guide or porter can always be picked up from day to day as he is needed. A time contract with a good guide usually sets forth that he is to be paid so many francs daily for "off" days, so many francs for crossing a pass, so many for a peak. If you do a peak and two passes in a day you only pay for a peak. A very fair guide may be had for eight, twenty-five, and forty francs for these respective services, but higher prices will generally have to be paid. Of course, the very difficult peaks are generally excluded from such an agreement, and the tariff has to be paid for them, only a few guides being competent for such climbs, and having almost a monopoly. When our tiro has secured a good leading guide (who, with a second guide or porter, is enough to conduct two amateurs), the next thing for him to do is to decide where he is going to climb. My advice to him is to avoid all the large climbing centres, such as Chamonix, Zermatt, Grindelwald, and Pontresina; that is to say, to avoid making them, or, indeed, any place, his headquarters. The best way to learn the mountains is to journey through long stretches of them—to travel, in fact, not to be an excursionist. Take a long piece of mountain range, cross pass after pass, and climb peak after peak, up one side, down the other, changing your sleeping place from day to day. You will thus learn more about mountains in two or three seasons than a centrist learns in a dozen; you will find out what is the geography of the country, and how the mountains are related to one another; you will be brought, in interesting fashion, in contact with the natives of the district; you will have to sleep in strange places; you will meet with varied adventures, and you will avoid the fatuous stupidity found in the large hotels. The man who once acquires a taste for mountain travel will never be likely to slide back into a *flâneur* about centres. Perhaps the best mountain journey for a young climber to begin upon is the high level route from Chamonix to Zermatt, which he may continue eastward by way of Saas, Simplon, Binn, and so forth, finally crossing the Oberland to Grindelwald on his homeward way. Tyrol lends itself to wandering in this fashion even better than Switzerland, for it is better provided with high level huts, many of

which are practically inns, where food can be bought during the climbing season. Probably the best way to learn self-reliance upon rocks is to go chamois shooting for a season. For this sport, Tyrol again is superior to Switzerland. Variety is what the young climber should seek after, rather than difficulty, and general rather than special experience. Let him constantly refer to the map and study details of the way upon it. He will thus become able to sketch out future climbs, and invent ways for himself through country new to him. When on any commanding point of view, let him study the panorama with the map before him, learning to identify the peaks in sight, and to know them as solid bodies in such fashion that when he sees them again from another side he may still be able to recognise them. Such a faculty, when highly trained, may often be of the greatest service, enabling a transient glimpse of some detail of ridge or glacier, caught through a break in fog or clouds, to reveal the exact situation of a puzzled party.

When once a man has thus learnt the rudiments of the climbing craft by working behind a good guide, it will be well for him, in company with two or three companions not less experienced than himself, to begin to dispense with professional assistance. They should spend days on a glacier of moderate difficulty, cutting a way through broken ice and scrambling where fancy takes them, always, however, being careful not to attempt work that overtaxes their powers and not to hazard themselves in positions from which they are not certainly able to extricate themselves by retreat. Such a party will soon find themselves advanced enough to repeat some mountain ascent which they have already made with guides; then to attack some new mountain, and find out the way for themselves. Their further development from this point is a matter about which little advice is needed. Each man will follow his own bent, some taking more and more to rocks of increasing difficulty, others preferring to gain a wider experience and a better knowledge of some great mountain range for the pleasure of knowing it. Once the craft has been learnt, the pursuit of it to its most intricate developments becomes a sport—one of the most attractive sports in the world, as its votaries recognise. Certain climbs may be likened to most intricate problems, which it takes the entire capacity of an able man to solve, problems soluble only by skill, courage, endurance, strength, and a very high order of intelligence. It is in the exercise of all these qualities at once that

the delight of the most difficult climbing consists.

Equipment.—On the best equipment for mountaineering much has been written. The reader may be referred to a sixpenny pamphlet, published by the Alpine Club, which conveys a great deal of information on the matter. Few things are absolutely necessary. Warm underclothes, thick coat and knickerbockers, thick stockings, gaiters, or, much better, putties of the kind worn in India.

Next to the rope, the boots are the most important part of a climber's equipment. The leather for the uppers should be of best zug or chrome, soft and absolutely waterproof. The heels should be low, and they, as well as the soles, should project fully a quarter of an inch beyond the uppers when new. The secret of successful nailing is to have the proper kind of leather for the sole, which should be stiff and tough in contradistinction to being soft, porous, and pliable. The nailing of boots is a fine art. The nails should be driven direct without a hole being previously bored. The outside row of so-called Swiss nails, made in England, by the way, should have long fangs and be driven through the outer edge of the sole until they can be clamped over. An inner row of small nails should be driven close to the outer nails to support the foot on small foot-holds, and the rest of the sole decorated with more of these nails, the idea being kept in mind that the boot sole should rest flat, and its nails grip collectively on a smooth slab of rock. The best climbing boots are now made in England, and many Swiss guides nowadays send here for their footgear. These practical matters are fully dealt with in such a modern book as "The Complete Mountaineer."

It is well to carry an extra wrap and something wherewith to envelop the neck and ears in case of violent storm. For this purpose nothing is better than a long narrow strip of woollen material worn as a turban, which can be wound about the head in a variety of ways. On approaching inhabited places, it can be stowed away in any sack. Warm gloves should never be forgotten. For carrying purposes, nothing is better than a bag of the kind called *Rucksack*. The best are made of Willesden canvas, and can be bought at the best London shops for travellers, such as Silver's. The chief climbing weapons are the ice-axe and rope. The best and cheapest axes are made in the Alps. Climbers often make a great fuss about the form of their axe; for a beginner, almost any shape is good enough. Balance is the principal matter, but it is not important.

Every experienced climber has his own fads about axes. There is only one kind of rope worth getting: Buckingham's Alpine Club rope. Thinner cords may only be used by men who know exactly what they are doing. Climbing-irons are not made in England. They can be bought in Austria, and will be found advertised in the publications of the German and Austrian Alpine Club. It is necessary for them to fit accurately the sole of the owner's boot. The Mummyri nails, by which some supply the place of climbing-irons, must be specially ordered and made. Articles that form part of the general equipment of a climbing party are numerous. A prismatic compass and a field glass should by no means be omitted. The best existing



RUCKSACK.

map of the district should always be at hand.

For the Swiss Alps the Siegfried maps are best. The Italian, Austrian, and French Governments also publish guides of their various mountain groups. For Mont Blanc and the Chamonix Aiguilles the Kurz-Imfeld map is the most reliable. For the Dauphiny Alps the maps of Mons. Duhamel are almost indispensable. All these publications and those for the British districts can be obtained from Messrs. Stanford, Long Acre, London, W.C.

One of the great annoyances to climbers is *sunburn*. It affects a man most painfully when he first arrives amongst the snows, and especially if, on his first climb of the year, he has to spend the long hours of a sunny day on a big snow-field. Sunburn from light reflected from freshly fallen snow is particularly virulent. In any case a climber expects at the beginning of each season to have all the skin burnt off his face. The first day it is inflamed and blistered, the next day it is tender and cracks, later it comes peeling off. The worst features of the process can be eliminated by suitable basting with grease, which should be freely applied before, during, and after the burn-

ing process. Toilet lanoline is the best grease for the purpose. Other medicines for climbers need not be specified. Everyone has his own fads. The best form in which to carry physic is that of concentrated tabloids—a form, by the by, in which photographic developers may be obtained. The best cure for blistering feet is to soap the stockings plentifully, to make them quite stiff with soap at the normal points of friction. The process need not be repeated after a few days.

Alpine Clubs.—In connection with mountaineering, a few words must be said about Alpine clubs. *The Alpine Club* is the oldest. It was founded in London in 1857-8, before the great development of mountaineering as a sport was foreseen. It has had a career of continually increasing influence and prosperity. Its organ is the well-known *Alpine Journal*. All the members either are, or have been, active mountaineers, and no one can be a candidate for election who has not accomplished a number of regular mountain ascents in a series of years. The foreign Alpine clubs, whereof there is one in almost every civilised country, are not societies of climbers, but of persons who profess an interest in mountains. The membership even of the small foreign clubs is larger than that of the Alpine Club. The largest foreign club is the German and Austrian. The Swiss and the Italian Alpine Clubs are likewise very important bodies, especially the former. The French Alpine Club has also a large number of members. These bodies concern themselves with developing and opening up the mountains in the particular parts of the Alps which fall into the domain of each. They control large sums of money, and they have been the means of publishing a great mass of Alpine literature. Each of the foreign clubs is split up into local sections, centred in particular towns, such as the Geneva section, the Milan section, and so on. The sections raise money to build mountain huts, to make footpaths in remote places, and to facilitate in other ways the access to the hills. The Central Committee assists the sections with grants of money for such purposes; it watches over the welfare of the whole society, publishes the chief annual volume of records, and sometimes promotes scientific observations of mountain phenomena. Members of these clubs have certain advantages in the districts they control and the huts they have built, so that it is an advantage to an English climber to become a member of one or two of them, especially of the Swiss and Italian clubs. There is

now an English branch of the Swiss Alpine Club, and election as a member entails no difficulty.

There are now several very flourishing clubs for the encouragement of climbing and mountaineering in Britain. The Scottish Mountaineering Club controls the sport amongst the Bens of the far north. The Fell and Rock Climbing Club of the English Lake District, with a membership of nearly 300, is a most active and enthusiastic body. Several of the big cities possess large and important clubs, notably the Rucksack Club of Manchester, and the Wayfarers' Club of Liverpool. The York-

and glaciers traversed; but the whole organisation of a party of explorers differs and must differ from that of a party of holiday makers in proportion as their ends differ. The object of a journey of mountain exploration is not merely to make the ascent of so many peaks unclimbed before, still less is it to accomplish ascents of unusual difficulty for the sake of the achievement. That is all part of the sport of climbing, and finds its sole *raison d'être* in a region already well explored. Where the majority of the peaks of a range have been ascended, it becomes a legitimate aspiration to attain the summits of such other



STOPPED BY A BIG SNOW-FILLED CREVASSE. PROSPECTING A SAFE ROUTE.

shire Ramblers' Club adds cave exploration to its attractions, as also does the Derbyshire Pennine Club. The Climbers' Club is centred in London, where an annual dinner is held. Nearly all the above clubs publish interesting journals connected with mountaineering matters.

Mountain Exploration.—Thus far we have discussed mountaineering purely from a European point of view and as a holiday sport; but, as has been stated in the historical portion of this article, the craft has taken a much wider range, and become an important agent in geographical exploration. Mountain travel is still in its infancy. More will be heard of it in years to come as other areas of the unknown are traversed and surveyed. The object of the mountain explorer and of the ordinary mountaineer being far from the same, their methods correspondingly differ, though the essential craft does not vary. Rope and axe are used in one part of the world as in another where steep places have to be surmounted

peaks as, by their difficulty or remoteness, have defied assault; but where all the peaks of a range are alike unclimbed and unknown, one ascent is as good as another, one summit is, as far as mere scrambling is concerned, as well worth reaching as another. The business of the mountain explorer is to bring back an account of the region he visits, as a whole. We look to him to tell us what is the character of the range, what the general type of the mountain, how the ridges run, what are the directions of the main valleys, where lie the chief elevations and depressions, what is the character of the snow covering, the nature of the glaciers, their elevation, their size, their pace of movement; whether they are in advance or in retreat, whether there are evidences of some former great extension of the glacial area: these and the like questions cannot be answered by the mere scrambler. The maximum of scrambling in a given season is accomplished by a party with a well-furnished central base from which they start for each expedition and to

which they return. Exploration is not fruitful on such lines. Explorers must cover as much ground as possible, see things from many points of view, look at a range as a whole, and, if possible, observe its relation to other ranges. But to cover a large area of ground in a remote and probably little inhabited mountain region involves a great deal of organisation and foresight. You cannot blunder straight ahead and trust to luck. Everything must be planned, difficulties must be foreseen and provided against. A week's bad weather will involve the utter breakdown of a happy-go-lucky expedition. Bad weather prevails in all mountain regions; to be able to hold out against it is one of the conditions of mountain exploration. In all the great ranges out of Europe, long distances intervene between the icy fastnesses of the hills and inhabited places. It follows that provisions have to be carried, sometimes sufficient to sustain the party for weeks. Horses or mules may sometimes be used for this purpose. In Tibet, sheep serve as bearers. Generally speaking, porters must be employed. Whatever the burden-bearer, he requires to be considered, fed, and kept happy and willing to work. Where coolies only can be used for transport, the problem is complicated. Coolies may start with loads of 80 lb., but they cannot carry them far, or over very difficult ground. Normal consumption, however, quickly diminishes the weight of the average load and readjustments can be made. It is necessary to reckon $2\frac{1}{2}$ lb. as about the weight of a day's ration for one man. A coolie can thus start with about one month's food for himself on his own back. Half the caravan can thus carry a fortnight's food for the whole caravan. If walking mutton can be procured, the proportion may be changed. Supposing the explorers to be three in number, their food and equipment will amount to about ten loads. The problem is to carry these ten loads through the mountain region to be explored. The walking mutton, for the purposes of argument, may be set off roughly against these ten loads, and the problem comes to this—how long can a caravan exist on food carried by itself? Half the caravan will carry food for the whole for a fortnight. If at the end of a fortnight half the men can be sent back, the remainder may, as it were, make a new start, fully equipped, from the point reached in that time. The same would be true of a second fortnight, and of a third, and so on if food for the return journey of the dismissed men had not to be considered. Unloaded, and on their way home,

they will cover daily three of the laden marches at least, and the problem may be further lightened by making *caches* of provisions at various stages of the upward way. With about 100 porters, as much as five or even six weeks may thus be spent between one base and another by a well-organised party. If the return journey has to be made by the same route as the upward journey, a new set of conditions obtains. Then it is well to take as large a caravan as possible about half-way, or for a fortnight. At this point a heavy camp is formed, and from it half the men are sent back, with orders to collect more supplies and return. The remainder may stay above this point for so long a time as their provisions hold out. Let them all now push on a few marches further, where superfluous followers can again be got rid of. From this point the explorers go ahead with a very few men, leaving behind a responsible head man to see that orders are carried out. The latter arranges the men under him as a post, and sends them up by twos, lightly laden, to keep the highest camp supplied from day to day with necessaries. Other posts are established higher up to hand on what these men bring. Thus, supplies may be carried over three or four marches in a single day, if the coolies are the kind of people capable of such co-operation and obedience. I found that, with Gurkhas to look after them, Balti coolies could be thus organised, but the process is one not likely to be of very general application.

This disquisition on organisation has been introduced to suggest the problems that a mountain explorer may have to face, rather than as offering any solution of universal applicability. Each region of the earth has its own difficulties, which must be met by ingenuity and resource when they arise. Though it is always easier to go into and return from a group of high mountains by the same route, seeing that half the way is then known and may be victualled on the upward journey, this is always the least interesting and illuminating method that can be adopted, besides depriving travellers of the stimulating excitement provided by the unknown ever before them. Passes are always to be preferred by explorers to ascents. A peak may be climbed, and, if possible, should be climbed from a pass; but the ascent of no peak, with return by the same route, can be compared for geographical value to the passage of a range of mountains, up one side, down the other. Now ordinary mountaineers care less for passes than peaks—to that extent the tradi-

tions of the Alps are injurious to mountain-exploration. The peak a mountain-explorer should select for ascent should, if possible, stand either on the watershed of a range or well away from it. In the former case it will permit a view over both sides of the range; in the latter it will command a panorama of the range itself. The peak chosen should be the easiest that fulfils the conditions, for time will thus be saved. There is, in fact, nothing in which a good explorer shows his superiority over a bad one more than in the selection of points of view. Well-chosen view-points reveal so much that is hidden from other more exalted or physically attractive positions. The side of one hill may tell you more than can be learnt from the top of another. The only certain guide to the formation of a judgment as to whither to ascend is a survey in process of being carried out. Unless the leader of an expedition is also surveyor, unless he is from day to day engaged in recording the progress of his exploration upon a map, he will not know what are the gaps in his knowledge which it is most essential he should attempt to fill. Photography is doubtless a great help to exploration, but, in mountain travel, at any rate, exposed negatives cannot be developed from day to day, still less can prints of them be carried for reference. It is only a plane-table sketch survey, kept constantly up to date, that clearly shows the bounds between the known, the suspected, and the unknown. Every mountain traveller therefore should acquire the simple art of plane-table surveying before launching forth into regions previously unvisited and unmapped. In addition to the needful survey apparatus, a mountain explorer must carry an instrument for the measurement of altitudes. Aneroid barometers are, as Mr. Whymper has shown, valueless for this purpose. They lie beyond cure. A boiling-point thermometer is more reliable, but still not trustworthy. The only instrument that can be recommended is the mercurial barometer. A form of mercurial barometer called the Boylean-Mariotti has given good results, and is fairly portable. Still more portable is the barometer devised by Prof. Norman Collie, in which all of the glass tube except the two ends is replaced by a tube of india-rubber. Suitable thermometers are a further necessity of the scientific equipment, besides such light collecting apparatus as may be needed to contain plants, insects, and the like. The general equipment of an exploring party is, of course, very different from that needed in ordinary mountain climbing. There exists nowhere in the

world any mercantile firm that can be trusted to supply the needful apparatus, the whole of which must be light in structure and light in packing. Travellers' shops will sell very light cooking stoves, and then pack them so that the weight of the packing does away with the advertised lightness. The intending traveller will have to wage a continual combat with all the people who want to sell equipment to him. Let him see that his tent is the smallest and lightest possible. A tent for actual use on high mountains should not weigh more than 3 or 4 lb. The cords to hold it should be no heavier than can be avoided. Ice-axes will serve for tent-poles. A very light rubber sheet, in which sleeping-bags can be wrapped on the march, should form the ground sheet. Sleeping-bags should be of best eiderdown, 1 kilo. of down to a bag. If high altitudes are to be gained, clothes should be of the warmest, alike for hot or cold countries. Photographic materials should be so packed that they can be taken out of their packing and transferred to the camera in the cramped area of a tiny tent and by fingers blue with cold. They should be easy to repack in the papers and boxes they came in, and they should be finally enclosed and kept in air-tight, self-opening tins, that require no cutting open and no soldering up. Every opportunity should be taken (they will be few enough) to develop specimen negatives for information as to the condition of the cameras, the quality of the light and its actinic power at high altitudes, and so forth. For this purpose, it is well to make two duplicate exposures at the beginning of every spool of film, so that the first may be developed and thrown away if it cannot be fixed and dried. Glass plates or cut films are pleasanter things to handle than spools of film, but the weight and cumbersomeness of double-backs (when as many as thirty exposures may be needed in a day) render them unsuitable for mountain-explorers.

Now that so many mountaineers are capable of climbing without professional assistance, it might seem that an Alpine guide need not be taken to other parts of the world by an exploring party. Nothing, however, is more certain to my mind than that, if the leader of a party of explorers has to do the guiding, to cut all the steps and concentrate his attention on the details of the way, he will bring back very insignificant results and insufficient observations. It is essential that the man who is *par excellence* the geographical explorer of the party should be in command of the party, and should be its official leader. Such an officer

must have his mind and attention free for general observations. Someone else must be looking after details, and must undertake the labour of actually hewing out the way. The observer must not be burdened with a load to carry, or steps to cut. It follows that the guide must be a different man. He may be a skilful amateur or he may be a paid Alpine expert. If the skilled amateur can be found, by all means let him be preferred. Such professionals as Mathias Zurbriggen (my guide in the Himalayas, Fitzgerald's guide in New Zealand and the Andes) will always be exceptional. Alpine guides are seldom good travellers. They become home-sick; they cry aloud for red wine and Swiss cheese; they hanker after the guides' room and the luxuries of big Alpine centres. Mountaineering centrism and the high tariffs of fashionable peaks have spoiled them. They are not likely to be rehabilitated in the esteem of travellers. A skilful amateur is in all respects superior to them. He is more willing to launch forth into the utterly unknown; he understands better the interest and relative importance of the work in hand. He will not be always bringing Swiss standards to bear on, for instance, Asiatic peaks. A party for mountain exploration would be ideally constituted if it consisted of a leader, who should be the surveyor, geographer, photographer, and general organiser; an amateur guide, who might also be a geologist; and a third man, who should be a naturalist and collector. Such a party, with the needful local following, may go anywhere.

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GEORGE D. ABRAHAM.

[The illustrations are supplied by Messrs. G. P. Abraham and Sons, Keswick, Signor Guido Rey, and Dr. J. H. Wigner.]

GLOSSARY OF MOUNTAINEERING TERMS.

Aiguille.—A pinnacle of rock, so called from its generally sharply pointed outlines.
Alp.—The word in Swiss denotes a summer, or mountain, pasture, and not the mountain itself.
Anchorage.—A safe position where one climber can, if necessary, support the weight of the next man by holding the rope. (*See illustration.*)
Alpenstock.—A spiked staff used in mountaineering. It should be of ash, and of length and thickness suitable to the height and weight of its owner. It is, however, now generally displaced by the ice-axe.
Arête.—The ridge of a mountain.
Avalanche.—A mass of ice, snow, or stones falling from higher parts of the mountains, generally owing to thawing. The word is generally understood to mean snow only.
Axe.—An instrument principally for cutting steps in ice or hard snow, comprising both axe

and pick. The length should not be more than about 45 inches.

Bergschlund.—The highest crevasse (*q.v.*) which separates the snow-field from the mountain.

Backing-up.—The method of ascending chimneys by placing the back on one side and the feet on the other. (*See illustration.*)

Belaying-pin, Belay.—An outstanding knob of rock round which the rope can be held. (*See illustration.*)

Bèche.—A narrow gap in a summit ridge.

Cairn.—A heap of stones made for landmarks, &c.

Cabane.—A mountain hut or club hut where climbers stay the night during a high ascent.

Chimney.—A very steep and narrow gully, resembling the interior of a chimney, with one side removed.

Chock=Chockstone.—A mass of rock, blocking a chimney.

Climbing-irons.—A contrivance fastened to the boot (and removable), generally in form of a cross with a spike at the end of each arm, or even more=*Crampons*.

Col.—*Pass* (*q.v.*), but in the Tyrol it means a hill, not bare of vegetation.

Cornice.—Overhanging snow on a ridge.

Corrie.—A curved depression on the mountain-side.

Couloir.—A steep gully; it may be in rock, ice, or snow.

Crack.—A rift in the rocks narrower than a chimney.

Crampon.—[*See CLIMBING-IRONS.*]

Crevasse.—A fissure in a glacier, or snow-field. The edge is called the *lip*. It is *longitudinal* or *transverse*, according to its direction on the glacier. When due to the curve in the glacier, it is *marginal*. If covered with loose snow, it is *concealed*. A practicable *bridge* of ice or snow across a crevasse frequently occurs.

Crest.—The highest line of a ridge.

Crête.—A ridge.

Croda.—In the Tyrol a bare ridge or peak, as opposed to *Col* (*q.v.*).

Curtain.—The precipitous wall of rock between two peaks.

Dampschiff.—A large collapsible drinking-cup.

Dent.—A rocky peak.

Dirt-bands.—Streaks of fine *débris* extending in curved lines across dry glaciers.

Dolomite.—A hard magnesian limestone, offering special difficulties to the climber.

Dôme.—A rounded snow-peak.

Eave=Cornice.

Firn.—Glacier, but often applied as in *névé* (*q.v.*).

Föhnwind.—A warm south-east wind in the Alps, most common in spring and autumn. It is more common in some valleys than others, and has important influence on the snow and ice.

Frost-bite.—An evil due most frequently to wind, or to wet; against which precautions must always be taken. The injury is a freezing of the tissues, and consequent mortification of the part affected.

Gabel.—A deeply cut notch in a ridge.

Gendarme.—A tower of rock on a ridge.

Gîte.—A shelter, hence a halt and rest for the night.

Glacier.—The accumulation of frozen snow in a valley, down which it is gradually moving. If there is no snow on the surface of the ice it is called *dry*. A *hanging glacier* is a mass of ice clinging to the walls of rock.

Glacière.—A cave containing ice.

Glacière-table.—A block of stone supported on a pillar of ice.

Glazed rocks.—Rocks with a surface or film of ice.

Glazing-ice.—The film of ice on glazed rocks.

Glissade.—The action of slipping or gliding down a steep incline; if made on the feet, it is a *standing glissade*; if on the back, a *sitting glissade*.

Grat.—A ridge.

Gully.—A narrow and deep ravine.

Hand-hold.—Projections or crevices in the rock, by which the hand can support the body.

Hand-traverse.—Traversing by means of hand-holds only.

Hitch.—[See BELAY.]

Hogsback.—A long, narrow ridge.

Hot plate.—A surface of rock, exposed by the breaking away of a glacier.

Ice.—Is called *soft* when the snow of which it is composed has not become solidified; *hard*, or *black*, when it is perfectly homogeneous.

Ice-cap.—The permanent covering of a given area by ice or snow.

Ice-fall.—A much crevassed part of a glacier, usually caused by the glacier descending steeply over a rocky bed.

Ice-tongue.—A projection of ice at the foot of a glacier.

Ice-wall.—A perpendicular cliff of ice.

Ice-worn.—Of rocks, worn and polished by the movement of ice upon them.

Jammed.—Of a *chimney* (*q.v.*) blocked by a fallen rock.

Kamin.—Chimney (*q.v.*).

Kamm.—A broken rocky ridge.

Kletterschuhe.—[See SCARPETTI.]

Moraine.—The *débris* on a glacier, the downward movement of which carries the stones, &c., in long lines. *Lateral moraines* are those at the sides, *medial* are those in the centre, generally formed by the union of glaciers coming from different valleys. *Terminal moraines* are those finally deposited at the foot of the glacier.

Moulines.—Shafts bored through glaciers by water.

Mountain-sickness.—A malady due to rarefaction of the air. The chief symptoms are extreme weariness, headache, difficulty of breathing, and nausea.

Needle=Aiguille.

Névé.—A tract of snow, usually high up on a mountain, as distinct from a glacier, which is ice.

Nose.—A buttress of rock, usually slightly overhanging in parts.

Piolet.—Ice-axe.

Pitch.—A small cliff or perpendicular obstruction in a gully.

Piton.—An iron stanchion with a ring at its head, to which a rope can be attached.

Platform.—A small level surface on the face of a precipice, &c.

Plattje.—A rock of a slabby formation.

Rake.—A scree-gully.

Randkluft=*Bergschrund* (*q.v.*).

Refuge.—[See CABANE.]

Roches Moutonneés.—Rocks rounded by glacier action.

Rope.—Ropes are used principally for connecting the members of a party, so that, in case of accident to one, he is supported by all the others. The "Alpine Club Rope" is made of pure manilla hemp, is 1½ inches in circumference, and is marked by a red thread between the strands.

Rucksack.—A bag of simpler form than the knapsack, and carried much lower in the back.

Sand-cone.—A cone of hard ice covered with sand or grit.

Scarpetti.—A pointed shoe with hempen soles used in rock climbing.

Scree.—*Débris* lying at the base of a cliff.

Sérac.—A tower of ice on a glacier, formed by the intersection of crevasses.

Shoulder.—A rounded projection from the mass of a mountain.

Slack.—The loose rope between two climbers.

Snout.—The foot or lower end of a glacier.

Snow-blindness.—Inflammation of the eyes, caused by the glare of sunshine on snow surface.

Snow-line.—The average lowest line of perpetual snow.

Snow-masked.—Of a crevasse hidden by snow.

Snow spectacles.—Should be of smoked or neutral-tinted glass, and should be in the form of goggles, the sides being of wire gauze.

Stanchions.—Iron stakes driven into rocks to make a permanent track. See *piton*.

Traverse.—1. A path across the face of a cliff or wall. 2. The surface across which the path is made.

Verglas.—The film of ice on "glazed rocks."

Virgin peak.—One as yet untrodden.

Writing desk.—A form assumed by limestone rocks, somewhat resembling the angles of an open desk. A. C. C.

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CAVE EXPLORATION.—As the *sport* of cave exploration and the descent of potholes is a comparatively new one, and as little is known about it in England outside those districts where it is practised, a few words on its evolution are necessary to the understanding of its methods.

Caves and potholes are most frequently met with in limestone regions, and are mainly formed by the dissolution of the limestone by the carbonic acid in rain-water. This chiefly takes place in the line of fissures and divisions of the strata, thus forming, in the former case, the shafts and, in the latter, the caves. The mechanical or erosive action of water also assists in the work.

In Yorkshire and Derbyshire in England, in Ireland, France—notably in the district called Les Causses—Austria, Asia Minor, Australia, America, and many other parts of the world, these caves and holes abound, and in some cases their depths exceed 600 feet, and caverns of immense size, containing stalactites and stalagmites of great beauty, are met with.

Some of these caves were made use of by prehistoric man and animals as habitations, and it was in the exploration of these for scientific and archæological purposes that the early systematic work was done—notably by Professor Boyd-Dawkins; but deeply interesting as is the result of such work, yet, in an article treating of the exploration as a sport, this phase cannot be dealt with. This early work ceased where the difficulty of access was great enough to preclude the possible, or at any rate probable, use of the cave by animals and prehistoric man, and therefore the scientist, arriving at this point, would finish his notes on the cave with the words “inaccessible

beyond." This point is now being pushed further, and it is with the sporting qualities and methods of such exploration that this article is concerned.

Cave work may be roughly divided into two kinds, that dealing with caves entered directly on an approximately horizontal plane, and that where entrance has to be effected by means of a "pothole," or "swallow hole," as the deep and more or less vertical clefts and shafts in the surface of the fell limestone are called.

The former is generally a much simpler and easier business than the latter, and a party of three or four men is usually ample

above the reach of the water; but many passages are completely submerged during times of heavy rain, and the possibility of being caught in such a situation should be guarded against by extreme caution and watchfulness. Work underground should only be attempted during settled fine weather, thundery weather being especially dangerous, for the bursting of a storm on the hills and the rapid drainage of the water into its underground channels may quickly result in retreat being cut off with possibly disastrous results.

The weather must be carefully watched by the men on the surface, and the baro-



GAPING GHYLL HOLE, INGLESBORO, YORKSHIRE. GENERAL VIEW, SHOWING NATURE OF THE GROUND.

and convenient. The course of a subterranean stream or river may possibly be encountered, and then the interest will be increased and the fun may begin, but at the same time one of the risks peculiar to this form of sport may appear in the shape of a possible inrush of water from heavy rain outside. This possible danger is also to be borne in mind when, after the descent of a pothole has been accomplished, exploration of passages is being pursued. Twice within the last few years Yorkshire parties have been imprisoned by the unexpected flooding of potholes. Fortunately, in neither case was any more serious result involved than great discomfort from wet and cold, and some shortness of commons before the water diminished enough to allow the parties to escape. In each of these cases it was possible to find a resting-place

meter read and recorded at regular short intervals.

That branch of the sport which includes the descent of a shaft hundreds of feet in depth is a more serious and more sporting class of work, and more likely to afford adventure to its votaries. It has been aptly termed "mountaineering reversed," and it is from the ranks of climbing men that most of the cave and pothole explorers come; their training specially qualifies them to deal with the difficulties encountered. For this class of exploration a larger party is usually required, varying from five or six for a place which can be dealt with by ropeladders, to three or four times that number where the difficulties demand more elaborate methods, although in the former case special conditions may be met with, requiring more men.

The foregoing rough classification cannot be considered as final, although indicative of the main differences. Caves are of very varied structure, and a passage may lead to a deep descent, and, after it, may continue again, while potholes often have passages leading from them which may be simple or consist of a combination of "pitches" and galleries. At any time the explorers may be confronted in the darkness by unexpected difficulties, and the understanding of these facts at the outset will



WEAICHE COTE CAVE, CHAPEL-LE-DALE, YORKSHIRE.

explain the need for the extensive apparatus subsequently described.

By far the best and most enterprising work has been, and is being, carried out by the Société de Spéléologie of Paris, whose secretary, Mons. Martel, is probably the most enthusiastic exponent of the sport, and whose works on the subject should be read by all who seek for further information.

Since the foundation of the Yorkshire Ramblers' Club in 1892 its members have descended and explored numerous potholes and caves in England and Ireland. They have specially directed their attention to the limestone regions of Yorkshire, and there are probably very few caves and potholes of the first class in that district which have not been explored. The work of surveying some of them is in progress at present, and it is hoped that the tracing and examina-

tion of this extensive system of subterranean waterways will prove to be of considerable scientific and hydrographic value. The work of the Yorkshire Ramblers is recorded in the pages of the Club Journal, which is published annually.

Tackle.—It is imperative that all tackle should be of the best procurable quality and workmanship, as it may be subjected to great and unforeseen strains.

The ropes are the most valuable and important articles. They should be specially made by hand and of selected Manilla hemp. This is extremely strong for its weight, and stands any unavoidable rough usage and friction better than ordinary qualities. The rope afterwards referred to as the *windlass rope* should be not less than $\frac{5}{8}$ -inch diameter, and the *safety rope* $\frac{1}{2}$ -inch diameter, for, although this latter might be lighter without being too weak for its purpose, it must be remembered that a thin rope is bad to handle, and a man's hold on it is thereby weakened. For English work these ropes are most useful in 400-foot lengths. Shorter lengths would frequently necessitate joining, thus weakening the rope and adding an increased difficulty and possible danger by the liability of the knot to catch in clefts, with a probable result of dislodging loose fragments and of being difficult to free. *Strong sash cord* is useful for a variety of purposes, and in particular for lashings and guy ropes.

Rope-ladders.—The ladders used are made with sides of half-inch diameter rope with hardwood rungs. Experience shows that it is very important that the rungs should not be more than eight or nine inches apart—a longer step becomes excessively fatiguing in a long ascent. The ladders are most useful in lengths of 30 or 35 feet. The side ropes are continued about three feet beyond the end rungs, and this extension affords a ready means of fastening the lengths together. One of the ladders may have its top bar made of wrought-iron and provided with three rings or eyes, the use for which will be seen later.

The Windlass.—This should have a drum with a circumference of about two feet and of a similar length. A drum of greater circumference makes for more rapid haulage, but increases the labour tremendously, while a smaller one is easier to work, but gives the occupant of the boatswain's chair a longer journey than is desirable, particularly if, as is often the case, the descent or ascent has to be made through falling water. It must be strong, and made in sections to bolt together for portability, as, with all the other apparatus, it

will probably have to be conveyed over rough ground. It must be provided with two crank handles set at right angles to each other and securely fixed on the drum spindle to prevent their working off. A strong ratchet check should be affixed, and if a thoroughly dependable band brake could be secured it might be an advantage.

Sundries.—*Snatch blocks and other kinds of pulleys, pitons, or holdfasts, wooden stakes, crowbars, planks, strong carpentry tools, &c.*, are also requisite.

The following *instruments* are necessary for surveying: *aneroid barometer, thermometer, prismatic compass, clinometer, surveying tape or chain.*

A *miner's dial* has been used, but for intricate or very low passages it can hardly be recommended, owing to the difficulty of reading it under such conditions.

A *telephone* is probably the best means of communication between the explorer and those at the surface, especially when an exploration lasts any length of time. It enables the requirements and movements of the party to be *fully and rapidly* made known.

A simple but less perfect device is a strong string lowered with a note-book and pencil attached. If this be fastened to the lever of a loud bell or gong at the surface, a pull at the string from below will announce when a note has to be drawn up.

Lights.—Most of the work underground is done by the light of thick *tallow candles* (eight to the lb.) affixed by a lump of clay to the front of a specially made hard hat, such as is used by the miners of Cornwall. This method has the great advantage of leaving the hands free, and the hat or helmet serves to protect the head. Each member of a party will also carry a reserve of two or three thick *tallow candles* in a tin case, and a supply of waterproof matches, rendered so by dipping in melted paraffin wax. Where it is desired to illuminate more than the immediate vicinity, *acetylene lamps* of various sizes have been used with excellent results. They give a strong light, and are practically unextinguishable by wind or water. *Magnesium ribbon and powder* are used for lighting up large places and for photography. *Naphtha flare lamps* may be useful, but are dangerous and unpleasant. At a depth of 200 to 350 feet down a shaft open to the sky, artificial light will not be needed, unless the orifice at the surface be very small.

We will now proceed to show the method of using the above apparatus by describing the descent of a pothole. Obviously, the first essential is to find the approximate

depth. This may be done by plumbing with a thin strong line marked off in divisions of, say, 20 feet, and with a weight of 4 or 5 lb. on the end. If a long line of any considerable thickness be used it will be difficult to tell when the weight touches the bottom, owing to the heaviness of cord. Let us assume that the depth is found to be about 300 feet, and that, being a clear and vertical drop, it is decided to use a windlass and rope as the means of descent. The windlass should be fixed some 20 feet back from the mouth of the



ROWTEN POT, KINGSDALE, YORKSHIRE. BRIDGE LEVEL 100 FEET FROM THE SURFACE.

shaft, and on ground as level as possible, so that those working at it (two at each handle) may have freedom of action. It must be thoroughly guyed back, have heavy stones piled on its platform, and, if possible, stakes driven into the ground directly in front of it. The windlass rope should pass over a pulley fixed in the best position well over the mouth of the pot, so that it may run clear of the sides.

Fixed to the end of the rope should be a "boatswain's chair" or other contrivance in which the explorer can sit. Around his body should be a leather belt with a spring hook to attach to the windlass rope near its junction with the chair. This will keep him in an upright position, allow the free use of both arms, and act as a safeguard against the possible chance of his slipping from his seat.

Another and very necessary rope, to be paid out by hand, should be tied around his body as a safety line. A stake should be driven into the ground within easy reach of the man or men paying it out, in order that they can, on occasion, stop and hold the rope by what is nautically called "taking a turn."

The object of paying this out by hand is that there may be touch between those on the top and the man descending, as, if let out from a second windlass, the speed might differ from that of the main rope; if quicker it would hang loose and be useless, and if slower would cause unpleasant compression of the man's body.

As is generally known, there is a considerable amount of "spin" in a long rope, however well it may be made and stretched. The unpleasant consequences of this can be much lessened by the man who is being lowered carrying in his hands a bamboo or other light rod of a length suited to the diameter of the shaft. With this, a slight touch on the walls is sufficient to counteract the spinning tendency, and even if out of reach, by swinging it sharply round at arm's length in the opposite direction to the twist of the rope, the same effect can be obtained.

Another method by which this objectionable "spin" can be obviated is to have a rope made fast at the top and bottom of the shaft and stretched as taut as possible. One side of the boatswain's chair is connected to this by a pulley or running wheel, and spinning becomes impossible. It is no

always possible to use this guide rope, but when it can be used it works excellently. Moreover, if, at the bottom, the guide rope can be fastened somewhat out of the vertical line, it will probably be useful in guiding the chair out of the way of falling water or any more solid object which might be dropped from above.

Signals.

—A code of signals for regulating the descent must be arranged. Possibly the best is one by whistle, the voice not being sufficiently articulate at great depths

on account of echoes and reverberations. One whistle should mean "Stop!" two, "Pull up," and three, "Lower." The whistle used ought to have a loud, shrill tone, but its use is not arbitrary, as the code will apply to any method of signalling.

As the first man descends he must keep a good look-out for, and clear away, any loose stones which are likely to fall or be dislodged by the ropes, and great care must



ABOUT TO DESCEND GAPING GHYLL HOLE.

be taken that all loose stones, &c., round the mouth of the hole on the surface are cleared away, so that nothing may be accidentally knocked down while men are below. A tiny stone falling 300 feet would kill a man as surely as a bullet if it struck him on the head.

All the signals must be responded to with the utmost promptitude, especially when the bottom is being neared, or the man who is being lowered may get a nasty bump.

Another method of descent is by rope-ladders. This is suitable for places which descend in a series of drops or "pitches," where there are ledges of varying widths. With a total length of 150 feet of ladder much may be done.

Having plumbed a depth of, say, 100 feet from the surface, the ladder is tied to two ropes (or to both ends of one rope) of not less than $\frac{1}{2}$ -inch diameter, one at each end ring of its top bar. If possible, a plank should be fixed across the mouth of the shaft, over which the ropes attached to the ladder may hang, in order to avoid knocking down any loose earth or rock. The ropes carrying the ladder should be made fast to a couple of stakes driven into the ground a little distance from the lip of the "pot," and then, secured by a safety rope, paid out by hand over a pulley fixed into the plank, the exploring party will in turn descend. It may be found that the place the party have reached is not the bottom, and that the plumb-line is again required. Assuming that it reveals another considerable drop, the ladder will have to be lowered until its head is level with the ledge occupied by the party, and then either be made fast there or, preferably, above.

The raising and lowering of the ladder will be facilitated by a length of sash cord being tied to the middle ring of the top bar of the ladder, passed through a pulley on the beam, and allowed to hang down the hole. Then the men on the first landing place will be able to help, by steadying and holding it while the ropes on the surface are being secured. This procedure may be repeated until the actual bottom is reached.

If, however, the party is fully equipped with a sufficiency of tackle it will probably save time to fix ladders for each pitch as it is encountered. That the method described above is a practical one is proved by the fact that the first descent of a pothole 320 feet deep was made by a small party reconnoitring with only 135 feet of ladder.

It must be remembered that the descent and ascent by rope-ladders is a very toilsome proceeding, and that *practically no rest can be taken while on the ladder itself*

beyond getting breath, as the ladder swings away from the vertical line, which throws the man's weight almost entirely on his hands and arms.

For this reason, if for no other, a windlass is to be preferred for a deep descent which cannot be negotiated by a series of drops where rests may be taken.

Practice and training develop the necessary muscles, and, what seems to be of almost more importance, a knack is acquired which considerably reduces the labour. A



GAPING GHYLL HOLE. "THE LEDGE," 190 FEET FROM THE SURFACE.

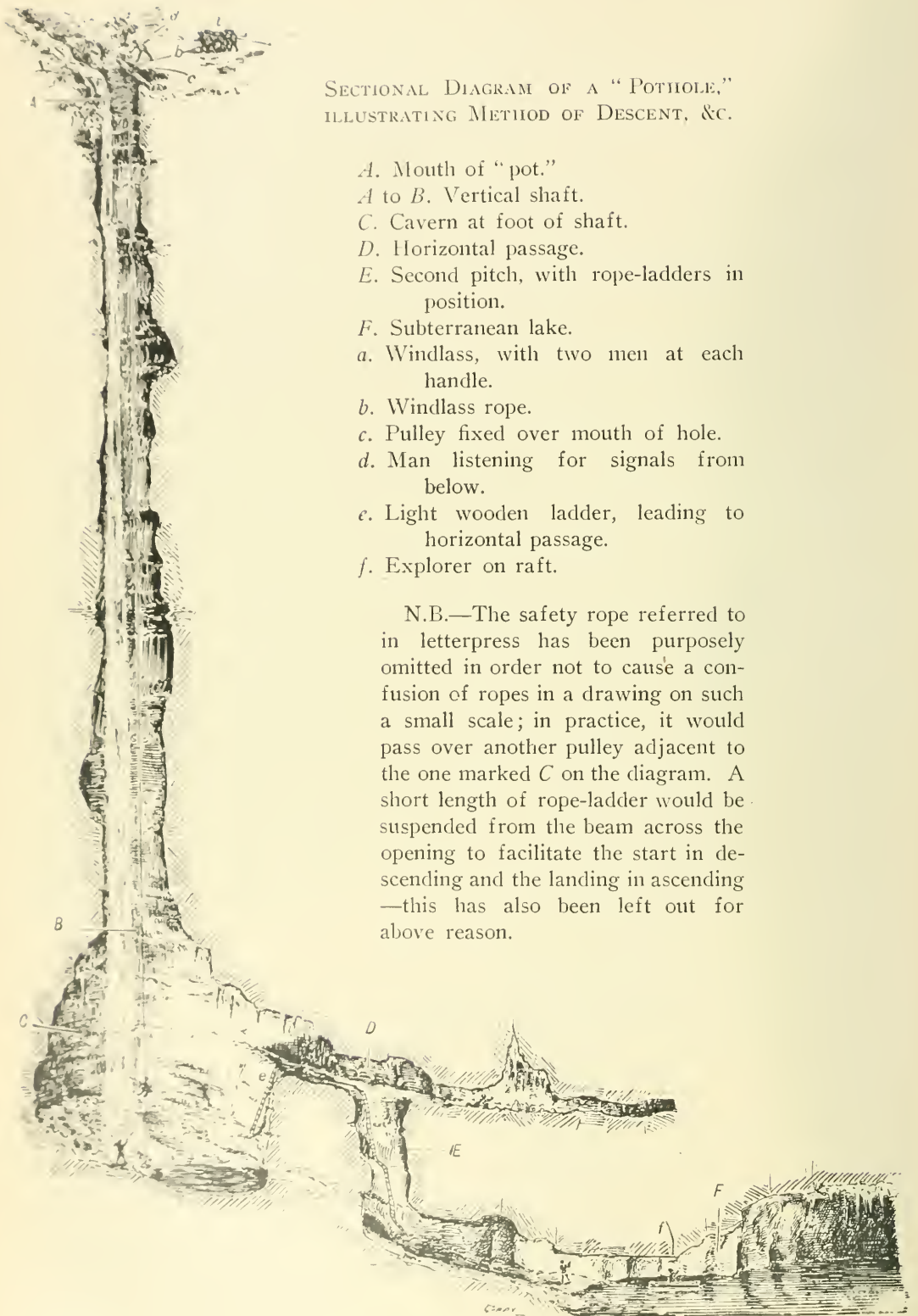
strong party have frequently descended a pothole of 350 feet by rope ladder, done many hours of hard work underground, and ascended in the same manner. This is a considerable test of endurance, and is not lessened by their having to carry with them food, instruments, and tackle for the work below.

It must also not be forgotten that if a man becomes exhausted through extreme exertion or exposure to cold and wet, or meets with an accident to a limb, he cannot well be got out without a windlass. It would be well to disabuse the inexperienced mind of the idea that a man can be drawn out of a deep hole by his safety rope, as, although this might be done, and has been

SECTIONAL DIAGRAM OF A "POTHOLE,"
ILLUSTRATING METHOD OF DESCENT, &C.

- A.* Mouth of "pot."
A to B. Vertical shaft.
C. Cavern at foot of shaft.
D. Horizontal passage.
E. Second pitch, with rope-ladders in position.
F. Subterranean lake.
a. Windlass, with two men at each handle.
b. Windlass rope.
c. Pulley fixed over mouth of hole.
d. Man listening for signals from below.
e. Light wooden ladder, leading to horizontal passage.
f. Explorer on raft.

N.B.—The safety rope referred to in letterpress has been purposely omitted in order not to cause a confusion of ropes in a drawing on such a small scale; in practice, it would pass over another pulley adjacent to the one marked *C* on the diagram. A short length of rope-ladder would be suspended from the beam across the opening to facilitate the start in descending and the landing in ascending—this has also been left out for above reason.



done, by a large party of strong men on the surface, it would, at best, be a painful and slow experience, and for a small party probably an impossibility. Therefore let the safety rope be considered only as a means of checking a slip from the ladder and for affording support when a halt is made for any purpose.

Having reached the bottom of the pothole, it should be thoroughly examined and a plan made. Passages may be discovered running out of it, which should be followed so far as is possible.

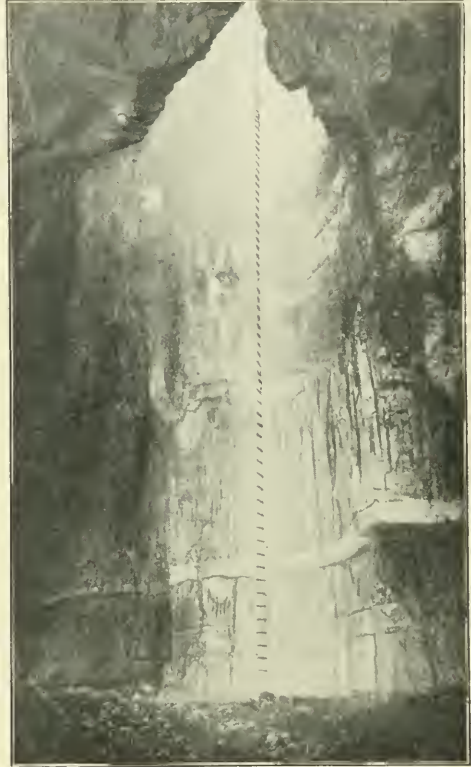
Horizontal Caves and Passages.—One hundred feet of Alpine climbing rope should be taken. An ice-axe or a modified form of that tool will be found useful in many ways. Before leaving the foot of the shaft, a string should be made fast, and paid out by the last man of the party. This is an imperative precaution, as passages may be found to ramify and multiply in a bewildering manner, and if a wrong turning be taken on the way back, the result may be more than disagreeable. With the guiding string a man *might* find his way back in the dark—a possible contingency if much water is encountered to put out lamps, &c.

The characteristics of a single passage may be various. It may be wide and shallow, or lofty and narrow, through every gradation. A drop in the level of a passage may necessitate climbing, which must only be undertaken with all possible precautions, for while a man may be a brilliant mountaineer and cragsman, he may now have to deal with rotten rock, and with only such light as is given by lamps or candles. In fact, any operation of difficulty must now be treated with increased respect, as the party is practically cut off from immediate outside help, and no unnecessary risk should be taken.

In some passages, streams and pools of water are found. The general temperature of these places being about 48° F. winter and summer, it follows that inflowing water is speedily reduced to that temperature. So long as not more than hip deep, it is not very uncomfortable, but, when deep enough to cover the body, the chilling effects of such a temperature are soon felt. For this reason, if it be thought desirable to swim across a pool to see if further progress be possible the swimmer should have a light rope tied round him. On some expeditions, large lakes and streams are encountered, and for these special preparations have to be made. A *raft* of hermetically sealed tins with a covering of laths made in sections to bolt together has been used by the present writers with success. Its great advantage

over a Berthon or other collapsible canvas boat is its power to resist the rough usage incidental to getting it to its launching place. A raft made in this fashion, to carry 200 lb., weighs about 60 lb.

Having briefly described the main methods of exploring potholes which re-



THE GREAT CAVERN, GAPING GHYLL, 350 FEET FROM THE SURFACE. LESS THAN 30 FEET OF THE LADDER, AND LESS THAN A QUARTER OF THE SHAFT, IS SEEN IN THE PHOTOGRAPH.

quire the use of mechanical appliances, it is hardly necessary to refer to the manner of dealing with those smaller holes, which can be safely explored if the ordinary climbing precautions taken by mountaineers are adopted.

Knots, Hitches, &c.—As may be readily inferred, where there is so great a need of the constant use of ropes, safe knots only should be used, and knowledge and practice in making these should be previously acquired.

The following axioms should be invariably borne in mind:—

Clear away all loose stones, &c., from the surface near the hole.

All planks, struts, &c., in use at the top of the shaft should be securely lashed back so that in case of a breakage they do not fall down.

A party should never start on the ex-

ploration of a passage without a sufficient length of climbing rope. This is due not only to themselves but to their friends above ground, who cannot know when they are in danger.

Watch the weather carefully always.

Like its kindred sport, mountaineering, cave exploration has its own peculiar fascination and charm. The adventure, the charm of entering the unknown, the delight of pioneering, the weird and beautiful effects of dim light on fantastic surroundings, of difficulties faced and overcome by combined effort, all help to counteract the hard work and that occasional hardship inseparable from any manly sport. Its scientific aspects also are varied, and a knowledge of them adds greatly to the lasting impression made on the imagination.

JOHN A. GREEN.
EDWARD CALVERT.
FRANK ELLET.
THOMAS GRAY.

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MULE-DEER (*Mazama nemionus* or *cariacus macrotis*).—This deer, which derives its name from the size of the ears, is found in considerable numbers throughout the Western States of America and British Columbia, although, in the larger

portion of the area over which it is distributed, it is known as the "black-tail" deer. With the exception, perhaps, of



MULE-DEER. (No. 1.)

the ears, it may be described as a handsome deer, although it has not the majestic appearance of the wapiti, nor the gracefulness of the white-tailed deer.

Colour.—This varies according to the season of the year, the summer coat being a dull yellow turning towards autumn and winter to grey. The belly is very dark, almost black, becoming lighter towards the groin, while between the thighs it is nearly white, this colour extending to the rump, and making a conspicuous mark when the animal is viewed *a posteriori*. Below the knees and hocks the legs are of a dark cinnamon-colour, which, however, becomes lighter as the season advances. The forehead is generally dark, in some cases nearly black, to a point ending between the eyes, while the throat is frequently almost white. The tail, which varies from 6 to 10 inches in length, is of a yellowish white colour,

with the exception of a tuft of hair at the extreme point, which is black. Different individuals, however, vary somewhat in regard to colouring.

Antlers.—These appear to be subject to considerable variations in shape, in some individuals the beam and tines having a greater general inward tendency than in others. The average pair of antlers shows 10 points (although a much greater number is by no means uncommon) and may be described as spreading laterally and upwards from the head in a line with the face with a double bifurcation of the beam, each bifurcation forking into two tines. One or more snags appear from 2 to 3 inches above the burr. The accompanying illustrations are from photographs of the heads of deer killed in Colorado, and are good specimens, although, perhaps, a little above the average in the cases of Nos. 1 and 2, and far above in the case of No. 3.

In No. 1 the right antler is 25 inches long, round the burr is $7\frac{1}{4}$ inches, while 2 inches above the burr the beam is $5\frac{1}{2}$ inches in circumference. The left antler is $24\frac{3}{4}$ inches long, round the burr $8\frac{1}{2}$ inches, and 2 inches above the burr $5\frac{3}{4}$ inches. The width between the antlers is $26\frac{1}{2}$ inches. The points are 22. This head is an example of the general inward tendency of the beam and tines.

In No. 2 the right antler is $27\frac{3}{4}$ inches long, round the burr is 8 inches, and 2 inches above the burr $5\frac{3}{4}$ inches. The left antler has the same length, while round the burr it is $7\frac{3}{4}$ inches, and 2 inches above it $5\frac{5}{8}$ inches. The width between the antlers is 29 inches. The points number 12.

No. 3 is by far the most remarkable pair of antlers I have ever met with. It will be noticed that the antlers grow out laterally in nearly horizontal directions, no other deer except the moose showing this lateral direction. The result of this abnormal direction is that the antlers show the astonishing spread of 41 inches, the actual measurements being as follows:—Right antler 30 inches in length, round the burr $10\frac{1}{4}$ inches, $2\frac{1}{2}$ inches above the burr, $5\frac{3}{4}$ inches. Left antler 30 inches, burr $10\frac{1}{2}$, $2\frac{1}{2}$ inches above burr, $5\frac{3}{4}$ inches. Width between the antlers 41 inches. Points 18. When it is remembered that the average number of points cannot be said to exceed 12 in any event, while the average width is about 25 to 26 inches, it will readily be understood what a marvellous head this particular deer carried.

Weight.—The average live weight is about 200 lb. (25 stone), although individuals have been killed up to 300 lb.

Habits and Shooting.—The mule-deer is probably the most sporting deer on the American continent, for it is occasion-



MULE-DEER. (No. 2.)

ally possible to stalk him in the orthodox fashion, although by far the larger number are killed by what is called "still hunting" in America—namely, by crawling after them in thick timber and chancing a shot at close quarters. They feed at night, and the older bucks generally betake themselves in the early morning to the highest available timbered ground, and lie down for the day. They are not so gregarious as the wapiti, although considerable bands of does, young bucks, and fawns may often be met with, and consequently the stalker will not be likely to encounter more than one buck at a time. They are also much shyer than wapiti, and have a trick of creeping away unseen, but when "jumped" and thoroughly alarmed, bound rapidly away, all feet leaving and striking the ground at the same time, a means of progression which soon seems to become fatiguing. They have four paces, a walk, a shambling kind of trot, a gallop, and the rapid and exhausting bound above referred to. Notwithstanding its awkward movements, it is astonishing what a great distance a wounded buck will travel. The

rutting season commences early in October, the antlers being, as a rule, out of the velvet by the beginning of September. When the



MULE-DEER. (No. 3.)

heavy snows commence on the mountains, a considerable migration takes place to lower grounds, and it is at these periodical movements that the Ranchman takes so heavy a toll on the herds for winter meat. A sure but by no means sportsmanlike way of shooting this deer is to watch a salt "lick," and many a good buck and even doe is killed in this way. A '303 rifle can safely be recommended for mule-deer, although the majority of sportsmen on the American continent use a Winchester of various models.

In recent years most of the State legislatures have passed enactments protecting game within their jurisdictions, and in consequence of these laws (which, however, it may be stated, are unfortunately often exceedingly difficult to enforce), the mule-deer shows no sign of diminution in numbers—in fact, in some districts, appear to be actually increasing. Aided by protection and its own habits and favourite locations, it will probably hold its own as long as any deer in America.

HENRY A. JAMES.

MULLET, GREY (Thick-lipped).—

MEASUREMENTS, &c.—Length of head $4\frac{3}{4}$ to 5, of caudal fin $5\frac{1}{2}$, height of body $4\frac{1}{2}$ to 5 times in the total length. *Eyes*—without adipose lids. *Snout* obtuse; upper lip rather thick, with two or three rows of papillæ on its lowest portion. A narrow strip of the chin is uncovered. *Teeth*—fine, labial ones in the upper lip. *Fins*—the dorsal commences somewhat nearer the

caudal fin, or midway between it and the end of the snout; spines stout, the two first of the same height, and equalling that of the post-orbital length of the head. The interspace between the two dorsal fins equal to, or slightly exceeding, that of the base of the first dorsal. Second dorsal anteriorly slightly higher than the first. Pectoral inserted somewhat above the centre of the depth of the body, and its length equalling that of the head excluding the snout. Ventral inserted midway between the origins of the pectoral and first dorsal fin. Anal below the second dorsal and rather higher than it. Caudal forked, the length of each lobe being about equal, and rather less than that of the head. *Scales*—about twenty-six between the snout and the base of the first dorsal fin. *Colours*—Grey shot with bronze about the head, cheeks golden, sides silvery dashed with gold; a dark line along each row of scales along the back and sides.

Day, *Fishes of Great Britain and Ireland*, vol. i. p. 232.

MUNTJAC (*Cervulus muntjac*).—This animal is also known as **Barking Deer** and as **Rib-faced Deer**. In the Himalaya mountains and their vicinity it is called *Kakar*, in Nepal *Ratwa*, and in Madras by the anomalous name **Jungle Sheep**.



MUNTJAC.

Distribution.—Muntjac of various kinds range all over south-eastern Asia. They are found in almost all the more or less

hilly forest tracts of Hindustan, including the Himalayas, up to an altitude of about 8,000 feet. They occur also in Assam, Ceylon (there called **Red Hog Deer**), Burma, the peninsula and many of the islands of the Malay Archipelago, and in China, but are seldom met with north of latitude 32°.

Description.—Muntjacs are distinctly jungle-loving animals, and usually solitary,



FEMALE MUNTJAC.

although two or even three may sometimes be found together. The height of an Indian kakar is about 23 inches. The hair is short, smooth, and bright rufous bay in colour, becoming darker on the delicately formed limbs; white on the throat and beneath the tail, which is comparatively long for a deer. The head is peculiar, that of the buck being surmounted with two prolongations of the V-shaped, ribbed frontal bone, about 3 inches long and covered with skin and hair. On these hairy pedicels grow the antlers, which, in a good buck, are 4 or 5 inches in length, curving inwards near their tips, and having one short prong just above each burr, projecting forward and slightly upward. The buck's upper jaw is provided with a pair of sharp canine teeth, sometimes extending quite half an inch over the lower lips. For what purpose they are intended is uncertain. Care is necessary when handling a wounded buck, lest in its struggles it should inflict a nasty cut with one of them. The doe is similar to the buck, with the exception that it lacks the hairy pedicels, the antlers, and the long canines.

Habits.—The kakar is most frequently found where thick cover is interspersed with patches of cultivation. In the latter, when the crops are green, it may often be found out feeding in the early morning and the dusk of evening, but usually so close to cover that, in the grey dawn and twilight,

it is not easily detected until the white of its tail is seen bobbing off into the jungle, whence its alarm-note—a hoarse, single bark, more often heard at night—comes at short intervals. When moving quickly through cover, it carries its head low and its tail high, and generally makes a succession of clicking sounds, but how these are produced the writer has been unable to ascertain.

In the Ningpo district of China a darker species, with a tuft of long hair on the top of the head, is found.

When guns are posted, the drivers should move as noiselessly as possible, otherwise kakar are as likely as not to break back. Up to about 30 yards a charge of No. 5 shot will roll one over, but where met with in partially open, hilly tracts they often afford pretty shots for the rifle.

DONALD MACINTYRE.
R. LYDEKKER.

MUSK-OX (*Ovibos moschatus*).—The Musk-Ox, despite its name, has no affinity with either oxen or sheep, but is probably more nearly related to the takin and serow. The hair is so long as to make the beast appear larger than it really is, and to conceal the ears and tail. The massive horns, which are rougher and of lighter hue at their base than at the tips, curve downwards in a remarkable manner. The limbs are short, a character emphasised by the thick hair with which they are clad; and the flesh has a peculiar flavour that has suggested the name.

Habitat.—In the early ages of the world's history, the musk-ox was widely distributed throughout the northern parts of Europe, Asia, and America, but its present range is limited to the little-known corner of North America lying to the north and east of a line drawn from Fort Churchill on Hudson's Bay to the mouth of the Mackenzie and the adjacent islands of the Arctic Sea. It occurs in Greenland also, and Peary met with it at the most northerly point of one of his journeys: so we may reasonably suppose that the musk-ox exists as far to the northward as the mosses on which it lives.

Two methods of reaching this country are open to the sportsman. The first is to take a small vessel through Hudson's Straits in the summer and sail as far as the ice allows up Chesterfield Inlet. From there a short inland expedition would no doubt bring you among the musk-oxen, but this would probably entail a long, dreary winter's inactivity with vessel and crew lying idle, for the Straits are

closed by ice early in autumn. Until comparatively recently an agent of the Hudson's Bay Company used to make an annual visit to Marble Island from Fort Churchill to meet the Esquimaux, and many musk-ox skins were brought there by the inhabitants of Chesterfield Inlet, but this trading expedition has been abandoned.

By far the easiest method of reaching the musk-ox country is to start from one of the Hudson Bay posts on the Great Slave Lake, easily reached by the company's



[From a drawing by E. Caldwell.
MUSK OX.

ordinary trade route from Edmonton. If a man is capable of making up his mind that he will really start the next summer, his best plan is at once to notify the Hudson Bay Company officials at Winnipeg of his intention. A winter packet is sent to the north from Winnipeg every year, and arrangements can thus be made by which the sportsman will reach the Great Slave Lake by the middle of July and find hunters, canoes, and everything he wants in readiness, instead of having to wait perhaps a couple of months before he can get anyone to go with him. Early in August he should be at the north-east end of the main lake ready for a start to the Barren Ground. A large and a small canoe should be carried over the mountain to any of the chains of lakes well known to the Indians.

Hunting.—Let the hunters take their wives, dogs, and household gods with them to the last bunch of straggling pine trees about one hundred miles from the big lake. Here a main camp should be made, with due consideration of the habits of the caribou and the chances of catching fish. During the absence of the hunters the women will be fully occupied in drying

meat and making snow-shoes and moccasins. No attempt to carry any great amount of provisions should be made, as the Indians insist upon eating everything promptly instead of carrying it. Take an abundance of tea, tobacco, and ammunition for trading purposes—a small barrel of powder assumes a fabulous value in the Barren Ground when the caribou are passing. By September 1st the hunters should be off to the north, taking with them the little canoe for crossing lakes and streams—one man can carry her easily except in a strong wind. The direction chosen will probably be towards the copper mine on the Great Fish River, according to Indian advice. Musk-ox are pretty sure to be found within a few days, and caribou are everywhere abundant at this time of year, so there will be no difficulty about provisions. Skins and heads could be *cached* away among the rocks, to be hauled in later by dog sleighs. They should be made as light as possible, but it is not necessary to clean them perfectly, as the weather will be cold already. The musk-oxen, when found, are easily approached with the most ordinary precautions. When enough have been killed, a return should be made to the main camp and a few weeks passed in hunting caribou till the ice in the lake admits of travelling with dog sleighs. Should the hunt have failed, another journey must be made in November, but this involves hauling wood for fuel besides all the usual discomforts of Arctic travel in winter. It is a dirty, miserable experience, and ends in finding a band of musk-ox which are held at bay by dogs and slaughtered to the last one, or, worse still, in a disastrous flight for the shelter of the woods, if no musk-ox are found, for all the caribou take to the woods when the intense cold sets in.

By the middle of December the ice on the Great Slave Lake has set right across, and if the hunter is in a hurry to reach civilisation he can quite easily continue his journey to Edmonton on snow-shoes. There are trading posts at convenient distances where he can replenish his provisions by the way.

WARBURTON PIKE.
R. LYDEKKER.

MUSKALONGE (*Lucius maskinonge*).—The muskalonge is a fish of the pike family, inhabiting the Great Lakes, the St. Lawrence basin and waters to the northward, the Upper Mississippi Valley, the basin of the Ohio, and lakes in Western New York and Western Pennsylvania. It is not now abundant in any part of the Great

Lakes region, but is still common enough in the St. Lawrence, Northern Michigan, Wisconsin and Minnesota, and in Chautauqua Lake, New York, to maintain the enthusiasm of anglers who seek large fish.

Name and Characteristics.—The origin and meaning of the name are unsettled, and, in fact, the priority of the Indian word, *Maskinongé*, is well supported; but, whether it be a "long nose" or a "spotted pike," the species is a highly-prized member of a widely distributed family of game fishes, and is so well set off by important characters as to be easily distinguished from its kinsfolk, the pike and the pickerels. First, it has no scales upon the lower half of the cheek and gill-cover, in this differing from all other members of its family. Second, its gill-membrane is supported by a much larger number of bony rays than in the pike and pickerels. Third, it is usually grey on the upper part of the body, pale below, the sides with many roundish, distinct, or confluent dark spots, the fins being also black-spotted. The small eye has a ground colour of silvery-white overlaid with lemon-yellow, at least in the muskalonge of Chautauqua Lake. The latter variety lacks dark spots and has numerous irregular, dark cross-bands interspersed with half-bands and blotches. There is also, in lakes of Wisconsin and Minnesota, a variety which lacks both spots and bands, and has the sides uniformly bluish-grey.

The pike has elongated, pale blotches on a dark grey ground, while the pickerels have more or less distinct dark bands or a network of narrow dark lines upon the sides. Differences of colour, however, are far less important in separating the fishes of the pike family than the anatomical characters above mentioned.

Races of Muskalonge.—The latest classification of the varieties of muskalonge admits three forms—the typical black-spotted fish of the Great Lakes region and northward, the Ohio muskalonge, which is also black-spotted and appears to differ little from the northern type, and the unspotted muskalonge of lakes in Wisconsin, Minnesota, New York, and Pennsylvania. If this last variety has been correctly interpreted, the bands become obsolete with age and spots are never present. The writer has seen only the head of an Ohio muskalonge. This was obscurely black-spotted, but those who saw the fish stated that the head was spotted with dark, regular, round spots on the jaws and gill-covers, and that the entire body was similarly marked.

The muskalonge of Chautauqua Lake is

very beautiful and is in good repute as a food and game fish. The body is olive-green with golden tints. The lower third of the pectoral fins is pink. The eye is silvery-white overlaid with lemon-yellow. The sides bear about twenty irregular cross-bands with several intervening blotches and partial bands. The fins of the back, tail and anal region have dark blotches forming pseudo-bands. Series of tubes resembling those of the lateral line are distributed over various parts of the body with little regularity.

Ferocity.—A glance at the inside of the mouth of a big muskalonge will suffice to determine its character as a predaceous animal. In a fish 44 inches long the head measured 9 inches. Besides the formidable bands of teeth in the jaws, there is, in the middle of the roof of the mouth, a patch $3\frac{5}{8}$ inches long, and a band on each side of the palate $3\frac{3}{8}$ inches long. The tongue has a long series of sharp teeth, coming to a fine point in front and widening out behind; the fronts of the gill-blades are heavily armed with forty or more clumps of stout, spiny tubercles. This armament, in connection with its great size, often exceeding 50 lb., and its giant strength, makes the muskalonge one of the most formidable of the fresh-water fishes of prey.

Habits.—The species is not gregarious, but usually occur in pairs, and there is a strong bond of personal attachment. It feeds upon smaller fishes, and, sometimes, upon vegetable substances growing under the water. Favourite feeding-grounds are over shallow bars, whereon water plants grow and almost reach the surface. In Chautauqua Lake the fish feeds in summer and winter in nearly the same places, and always near to the weeds. When the lake becomes very clear (in February) it goes into deeper water, but it is found in the depths more or less all the year. It is reported that the fish feed and are often caught on bright moonlit nights.

Spawning begins in April, soon after the ice leaves the lakes. The fish go into water 10 to 15 feet deep and spawn on the mud, generally in bays, or they may go among the rushes and grasses near the shores of streams. The eggs are free, non-adhesive, and about one-tenth of an inch in diameter. Some writers state that they are slightly adhesive and stick to water plants. A large female in Chautauqua Lake furnished sixty thousand eggs. In artificial hatching the ova are placed in boxes provided with screen tops and bottoms; the boxes are sunk from 1 foot to 2 feet under the surface, and every day or two they are

drawn up, the covers removed, and all the sediment and bad eggs cleaned out. In Chautauqua Lake the males are four times as numerous as the females, but the females are much the larger.

spoons of the sizes Nos. 7 and 8 are recommended. The boatman will row along, about 20 feet distant from the edge of the reeds. The angler, with about 50 feet of line, casts a live bait or spoon among the



[By courtesy of the Grand Trunk Railway system.]
A GOOD CATCH OF MUSKALONGE.

Game Qualities.—As a game fish it ranks below the salmon, most of the trouts, and the black bass; but it is the best of its family, and, in Chautauqua Lake, at least, it is highly esteemed for its fighting qualities and its delicate flesh. September is a favourite month for the fishing, and the frosty, moonlit nights of October and November often afford fine sport when one is trolling with chubs or suckers for bait. The muskalonge does not strike fiercely at live fish, and it must usually be allowed to hook itself. When hooked, it may leave the water two or three times and shake its head to dislodge the hook, or it may go to the bottom and sulk there as sullenly as a salmon. An hour or longer may be required to bring the fish to boat, and in handling such a giant with light tackle, great care and skill are necessary.

The muskalonge is usually caught by trolling with hand-line or rod and line, using a spoon hook or spinner, or with a live frog or minnow for bait. A rod 8½ or 9 feet long, weighing 7 to 10 ounces, about 300 feet of No. 9 Cuttyhunk line, and

weeds, especially the lily pads, or the line may be trolled astern. The rod should be held parallel with the surface of the water, with its tip well down when the fish leaps, as it is almost sure to do, and the line must be kept as taut as the strength of the rod permits. It is equally important to gaff the fish carefully when exhausted, unless circumstances may render necessary the less sportsmanlike method of killing with a club or a pistol-shot.

TARLETON H. BEAN.

[After the black bass, the "lunge," as many American sportsmen call it, is perhaps the favourite fish sought by anglers in the great Canadian Lakes. Lake St. Louis, which may be fished from Ste. Anne de Bellevue, some twenty miles west of Montreal, is a favourite water for these fish, and very fine examples are also taken in Georgian Bay and French River, fishing from Fenton's Camp at Pickerel Landing. The "spoon" is a monstrous affair, of one huge spoon, painted red inside, or two used tandem on brass wire, a tuft of wool or

feathers, and sometimes, though not always, a frog or a pound white carp on one of the tail hooks. Amateurs spend many days in the attempt to hook a big muskalonge, and pay their white or Indian guides demoralising bonuses in the event of success. At the same time, fishing for muskalonge is more of a lottery than even other kinds of fishing, and the visitor will be well advised to devote only a day or so to this capricious fish, spending the rest of his time catching the black bass, which inhabit the same lakes.—ED.]

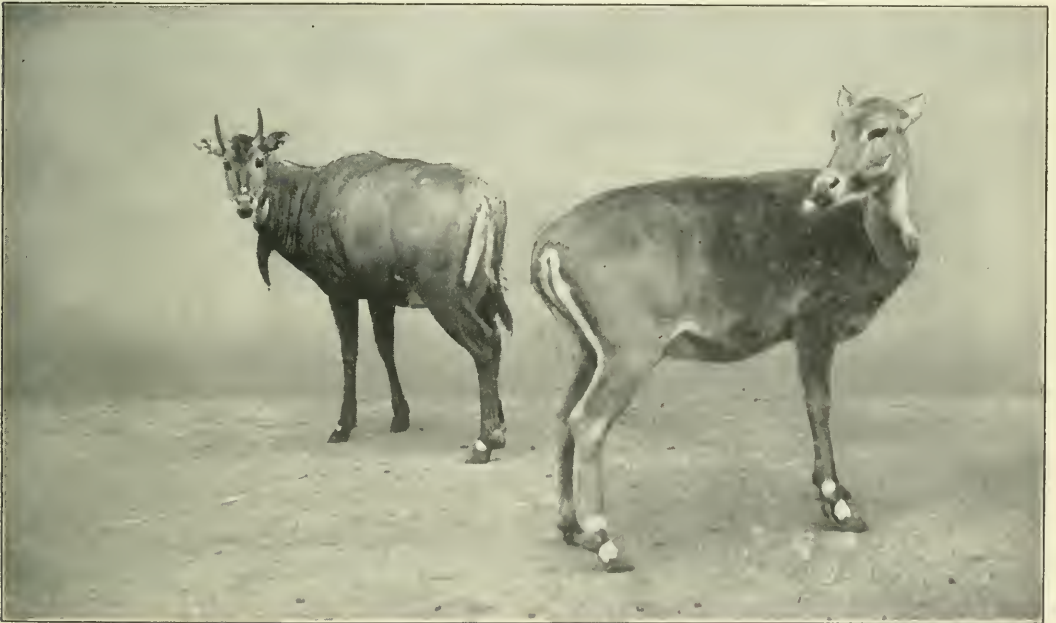
NILGAI (*Boselaphus tragocamelus*, or *Portax pictus*).—The Nilgai is the largest of Indian antelopes, and belongs to the tragelaphine group, of which two types only are found in India, viz., the nilgai and the four-horned antelope (*Tetraceros quadricornis*), both being peculiar to the country.

Description.—Nilgai literally means "blue cattle," and the name is derived from the iron-grey or blue colour of the adult male. The females and young males are

of that section, *e.g.*, the kudu and the lesser kudu. Immediately below the white patch on the throat, the male nilgai has a long tuft of black hair 6 or 8 inches long, and a short upright mane is found in both sexes. Only the males have horns, which are smooth and recurved, slightly corrugated at the base. They are, in good specimens, between 9 and 10 inches long.

The nilgai, or, as he is often called, "the blue bull," stands about 13½ hands high at the shoulder. The back slopes downwards towards the tail, which is about 20 inches long, with a tuft of black hair at the end. The females are much smaller.

Habitat.—The nilgai is found throughout India, though rarely in the north and south; it is, generally speaking, a jungle animal, but also inhabits the cultivated fields of Guzerat and Katywar. In the latter districts it is remarkably tame, and allows of a close approach. In the jungles it is as wide awake and as difficult to stalk as any other animal. The old males are often found solitary. The fields are sometimes composed of a large number, but more usually



MALE AND FEMALE NILGAI.

light brown. The male, if castrated when young, remains a light brown, and does not become grey. The old males are marked with white rings on the fetlocks, a white patch on the throat, and white spots on the cheeks. These white markings are common in the tragelaphine group of antelopes, and are found in several of the African species

half a dozen or so. The smaller herds have usually one old blue bull in charge; a herd of twenty would perhaps have as many as three old bulls. The female brings forth one or two young ones.

Shooting.—Nilgai carry but poor trophies, and are seldom shot by Indian sportsmen. When found in cultivated

lands, they can often be approached by the simple process of walking so as to pass within shot. Stalking them behind a cart or horse, which is driven or led near them, in the same way as black buck are shot, can also be resorted to. In the jungle they are wary enough, and not easy to get near. They can be stalked, for the sake of the stalk, without firing at them. If you shoot one, you waste time that is better occupied in looking for deer, for, if shot, the animal has to be skinned, cut up, and the meat carried to camp; for this reason it is as well to let them alone. Tigers often kill them, and I have found an old female killed by a panther. Solitary males I have seen more than once feeding in company with herds of wild buffalo.

Nilgai have been frequently ridden and speared when found away from jungle. They should be pressed at top speed at first. Shields are made from the skin. Natives look on the nilgai as an ox, and those to whom the cow is sacred object to their being killed.

J. D. INVERARITY.

OBsolete Sport—Badger Baiting.—Many animals—the fox, for instance, have to pay a price for their existence, and a century or so ago this is what the badger had to pay for his.—“They dig a place in the earth about a yard long, so that one end is four feet deep. At this end a strong stake is driven down. Then the badger’s tail is split, a chain put through it, and fastened to the stake with such ability that the badger can come up to the other end of the place. The dogs are brought and set upon the poor animal, who sometimes destroys several dogs before it is killed.”—This is a friendly description, and conveys but little idea of the barbarities actually practised. That the badger was not alone the victim of this fiendish cruelty is evident from the concluding sentence of the above quotation. Often half-a-dozen dogs were maimed for life in the contest, a jaw torn away being a common result. A glance at a badger’s armed cranium suggests a good deal in this connection, the interlocking teeth, the “holders,” and the way in which the lower jaw is articulated with the upper, explaining the hold which the badger is able to take and keep.

Even to-day there might be legitimate and illegitimate methods of badger baiting—only the former is never practised. For instance, but few terriers could “draw” a badger from a properly constructed badger-box. In this case the conditions would be something like equal. In the old badger

baiting, however, the badger was often half-starved and maimed; the conditions under which the drawing was practised did not give it a chance, and after being placed in a tub, every dog in the neighbourhood was “tried” upon it. The poor imprisoned brute generally managed to leave its mark upon each of the snarling crew, and often had to be knocked on the head in the end. Public-houses in town and country were generally the scene of these barbarisms, and the week-end the chosen time for the “sport.” The sickening scenes which were the sequels to these encounters did much to form public opinion against them, and in time the brutal exhibitions were proscribed. Subsequently the number of badgers rapidly declined, but now, thanks to the intervention of several landowners and country gentlemen, the species is again establishing a fairly firm footing. The badger is a harmless, unoffending creature, extremely interesting to watch and study, and long may it survive in the peace to which it is entitled.

J. W.

BEAR AND BULL-BAITING.—It is not impossible that the chief performers in certain sports that rank as obsolete, such as badger-baiting and cock-fighting, might, if cross-examined under promise of indemnity, confess to some practical experience even now of pits and mains, of badger-bones and stakes; but the glories of bear and bull-baiting have now absolutely passed, without a possibility of return, in spite of the impassioned defence of a certain military member of the House of Commons which discussed the matter in 1809. He stoutly upheld the latter manly exercise as a prime cause of the growth of our population and a most necessary foundation of our militant spirit. Such an argument carried conviction to the mind of the House, and the Bill for the suppression of bull-baiting was thrown out by seventy-three votes to twenty-eight, and the militant spirit was saved for the moment.

The Reformed House, however, put a stop to the custom in 1835, to the intense disgust of the few faithful adherents, who frequently, as at Wokingham, were by no means satisfied by the mere present of beef which it had been hoped would be found full recompense for the loss of their sport.

As to the origin of the amusements, bear-baiting seems to have needed no other motive than ordinary cruelty, and the invariable desire on the part of the owner of a good dog to try its mettle to the full; but bull-baiting had excellent medical excuse.

Bull's blood, as the ancients knew, was a swift and deadly poison; bull-beef, as Thomas Muffett explained (*Health's Improvement*, 1655), "unless it be very young, is utterly unwholesome and hard of digestion, yea, almost invincible. Of how hard and binding a nature bull's blood is may appear by the place where they are killed: for it glazeth the ground, and maketh it of a stony hardness. To prevent which

corrupt flesh killed within borough and towns, sayeth and presenteth upon his said oath that John Hingston, butcher there, upon Friday, being the fourteenth day of this instant month (August), did kill a bull unbaited, and did put the flesh thereof unto sale, and thereupon he is emerced by Mr. Mayor at iijs. iiijd." Twenty-eight years later another Hingston, Justinian, was fined for the same offence.



After H. Alken.]

BADGER DRAWING.

[By courtesy of Messrs. Robson and Co.

mischievous either bulls in old time were torn by lions, or hunted by men, or baited by dogs, as we use them: to the intent that violent heat and motion might attenuate their blood, resolve their hardness, and make the flesh softer in digestion. Bull's flesh being thus prepared, strong stomachs may receive some good thereby, though to weak, yea, to temperate stomachs, it will prove hurtful."

The local authorities were much occupied in carrying out this regulation. At Leicester, "on Thursday before St. Simon and St. Jude," an order was made at a Common Hall that "no butcher kill a bull till baited." At Southampton it was part of the mayor's duty to see that plenty of bulls were provided for baiting, and at Weymouth, in 1618, one Edward Hardy, butcher, "one of the searchers sworn and appointed for the viewing and searching of

Fitzstephen, in his well-known description of London about 1174, describes the amusements of the populace. It may be as well to give the original, for the translation is no way overcertain—"In hieme singulis fere festis ante prandium, vel apri sputantes pugnant pro capitibus et verres fulmineis accinctis dentibus addendi succidia vel pingues tauri cornupete, seu ursi immanes, cum objectis demorant canibus."

Bear-baiting appears always to have been an expensive amusement, and, therefore, was chiefly kept up by the Court, the royal bears giving displays from time to time during the sixteenth and seventeenth centuries. The London Bear Garden itself, situated in Southwark, was coupled by Sir Walter Raleigh with Westminster Abbey as one of the national sights to be shown to foreign visitors.

From 1550 to about 1680 seems to have

been the palmy time of the sport, and Philip Stubbs, in his *Anatomy of Abuses* (1583), rails fiercely against it. "Is not the baiting of a bear, besides that it is a filthy, stinking, and loathsome game, a dangerous and perilous exercise? Wherein a man is in danger of his life every minute of an hour, which thing, though it were not so, yet what exercise is that for any Christian? What Christian heart can take pleasure to see one poor beast to rend and tear and kill another, and all for his foolish pleasure."

It would seem that Philip somewhat exaggerated the danger, for the spectator, unless he were one of the enthusiastic owners who would rush in to rescue the dogs when they were in difficulties, would seem to have been as safe as the supporter of a modern bull-fight.

Again he denounces the bear-baiters—"And some, who take themselves for no small fools, are so far assotted that they will not stick to keep a dozen or a score of great mastives and bandogs to their no small charges, for the maintenance of this goodly game, (forsooth,) and will not make any bones of XX, XL, C, pound at once to hazard at a bait with 'fight dog, fight bear,' (say they,) 'the devil part all.' And to be plain, I think the devil is the master of the game, bearward and all."

Of course the sport was by no means confined to the rich, and one poet describes in rather hobbling verse the enthusiasm of the commons—

"And yet every Sunday
They will surely spend
One penny or two
The bearward's living to mend.
At Paris Garden each Sunday
A man shall not fail
To find two or three hundreds
For the bearward's vail.
One halfpenny a piece
They use for to give,
When some have no more
In their purse, I believe."

As to the dogs, we are told that "the force which is in them surmounteth all belief, and the fast hold which they take with their teeth exceedeth all credit: for three of them against a bear, four against a lion, are sufficient to try masteries with them." Mention is made of an English mastiff in France who pulled down successively a bear, a pard, and a lion in one day before the French king; but this record lacks detailed confirmation.

The passion of bear-baiting grew so fast that the Court of Aldermen of the City of London, in a reply to the Council in 1583, assigned the general desire for it as the

prime cause for the neglect of archery, and deplored that even "the recent judgment in Paris Gardens," whereby seven or eight lives had been lost, had failed to check the popular liking. This judgment, on Sunday, January 13th, 1583, was caused by the collapse of a gallery when overcrowded, and gave emphasis to the denunciations of Stubbs and his sympathisers, and recalls Sir Thomas More's anecdote of what befell at Beverley, "when, much of the people being at a bear-beating, the church fell suddenly down at Evensong time and overwhelmed some that were in it. A good fellow that after heard the tale told, 'Ho,' quoth he, 'now may you see what it is to be at Evensong when ye should be at the bear-baiting.' Howbeit the hurt was not in being at Evensong, but that the church was falsely wrought."

During the next century there was a steady opposition on the part of the Puritans to the whole practice of bear-baiting. It is to be hoped that the historian sacrifices strict truth to antithesis when he declared that they hated it, not because it gave pain to the bear, but because it gave pleasure to the spectators; but it must be confessed that the sport was usually stopped by the short and easy method of shooting the bears.

The Restoration naturally saw an enthusiastic revival. Pepys recounts his evening with his wife at the Bear Garden, and Evelyn was disgusted by the baiting of a gallant horse, upon which no dog could fasten till the assistants ran him through with their swords. On this occasion, however, even hardened baiters felt some excuse to be necessary, and they therefore pretended that the horse had killed a child, "which was false."

Suspended during the Plague, and deprived of Court patronage after the Revolution, bear-baiting sank out of fashion. It cannot be denied, however, that the public was loath to let it go, and the Paris Garden was from this period eclipsed in celebrity by the "New Bear Garden" at Hockley in the Hole, a part of Clerkenwell.

At this spot bear-baiting was still kept up, but was no longer the chief feature. From an advertisement in 1709 we learn that, with other diversions, "there are two dogs to jump three jumps at the bear, which jumps highest, for ten shillings to be spent." Bears seem to have grown too valuable by this time to be baited to death, and the chief events of a Hockley entertainment were "trials of skill between masters of the noble science of self-defence." It is interesting to note the following advertisement in

1716:—"At the request of several persons of quality, on Monday the 11th of this instant of June, is one of the largest and most mischievous bears that ever was seen in England, to be *baited to death*, with other variety of bull-baiting and bear-baiting; as also a wild bull to be turned loose in the game place, with fireworks all over him." Efforts were made in 1724 to suppress the sport altogether; but they do not seem to

medical authority, and, which one may hope was the chief factor, the bull had a fair sporting chance of getting on even terms with his persecutors. Beyond question, he would have done ill to exchange his chance with the trapped pigeon or the enclosed rabbit of to-day. The bull could put down as paid not a few of his tormentors, including an enthusiastic publican of Stamford, who was driven into the river, when



BEAR-BAITING.

[After H. Alken.]

have been wholly successful, for in 1730 the following advertisement was issued on behalf of His Majesty's Bear Garden:—

"A mad bull to be dress'd up with fireworks and turned loose in the game place. Likewise a dog to be dress'd up with fireworks over him, and turned loose with the bull amongst the men in the ground. Also a bear to be turn'd loose at the same time; and a cat to be ty'd to the bull's tail.

"*Note*:—The doors will be opened at four and the sport begin at five exactly, because the diversion will last long, and the days grow short."

The expense of the amusement and the growing sense of its brutality had done the work required before the eighteenth century was half completed, so far as the bear was concerned, but the bull was in a worse plight. The sport, for one thing, was cheaper, it improved the quality of the beef, as men were informed on the highest

heated with liquor and the chase, and expired forthwith from apoplexy.

It is well to distinguish between the bull-running and the bull-baiting proper, of which the former was seen in its greatest perfection at Tutbury in Staffordshire and at Stamford.

The traditional origin at Stamford was a chance fight between two bulls in a meadow by the town. A dog interfered in the fight and drove one of the bulls into the town, where it was promptly beset by all the other dogs, and "became so stark mad that it ran over man, woman, and child that stood in its way." The lord of the town, William, Earl of Warenne, was attracted by the tumult, and it appealed so keenly to his sense of humour that he bestowed the meadows in which the quarrel started upon the butchers of the town, upon condition that they should provide a mad bull for the continuance of that sport,

every year on the day or week before Christmas.

The bull was always stabled overnight in an alderman's outhouse, and for the next day all shops were closed, all business suspended. The only rule of the game seems to have been that there must be no iron on the bull-clubs. The bull was turned out, and then, in Butcher's picturesque style, "hivie, shivie, tag and rag, men, women, and children of all sorts and sizes, with all the dogs in the town, promiscuously run after him, with their bull-clubs scattering dirt in each other's faces, as when Theseus and Pirithous conquered Hell and punished Cerberus. 'A ragged troupe of boys and girls doe follow him with stones; With clubs and whips, and many nips, they part his skin from bones.' And (which is the greater shame) I have seen both *senatores majorum gentium et matrones (sic) de eodem gradu*, following this bulling business."

The bull running at Tutbury was also not without its smack of quaint ceremony. Blount describes it in the *Tenures of Land and Customs of Manors* as follows:—

"After dinner all the minstrels repair to the Priory Gate in Tutbury, without any manner of weapons, attending the turning out of the bull, which the bailiff of the Manor is obliged to provide, and is there to have the tips of his horns sawed off, his ears and tail cut off, his body smeared all over with soap, and his nose blown full of beaten pepper. Then the steward causes proclamation to be made that all manner of persons except minstrels shall give way to the bull, and not come within forty feet of him, at their own peril, nor hinder the minstrels in their pursuit of him; after which proclamation the Prior's bailiff turns out the bull among the minstrels, and if any of them can cut off a piece of his skin before he runs into Derbyshire, then he is the King of Music's bull, but if the bull gets into Derbyshire sound and uncut, he is the Lord Prior's again. If the bull be taken and a piece of him cut off, then he is brought to the bailiff's house, and there collared and roped, and so brought to the bull-ring, in the High Street at Tutbury, and there baited with dogs; the first course, in honour of the King of Music; the second, in honour of the Prior; the third for the town, and if more, for the divertisement of the spectators, and after he is baited, the King may dispose of him as he pleases. This usage is of late perverted; the young men of Stafford and Derbyshire contend with cudgels about a vard long, the one party to drive the bull into Derbyshire, the

other to keep him in Staffordshire, in which contest many heads are often broken. The King of Music and the bailiff have also of late compounded, the bailiff giving the king five nobles (£1 13s. 4d.) in lieu of his right to the bull, and then sends him to the Duke of Devonshire's manor at Hardwicke, to be fed and given to the poor at Christmas."

The Duke of Devonshire in 1778 abolished the whole ceremony "respecting rather civility than antiquity."

The *modus operandi* of ordinary bull baiting was thus described by John Houghton in 1694:—

"I'll say something of baiting the bull; which is by having a collar above his neck, fastened to a thick rope about three, four, or five yards long, hung to a hook so fastened to a stake that it will turn round; with this the bull circulates to watch his enemy, which is a mastiff dog (commonly used to the sport) with a short nose, that his teeth may take the better hold. This dog, if right, will creep upon his belly that he may, if possible, get the bull by the nose, which the bull carefully tries to defend by laying it close to the ground, where his horns are also ready to do what in them lies to toss this dog; and this is true sport. But if more dogs than one come at once or they are cowardly and come under his legs, he will, if he can, stamp their guts out."

According to a contributor to *Notes and Queries*, the custom was for owners of dogs who wished to bait the bull to pay one shilling each entrance fee, and if the dog "pinned" the bull, they received five shillings.

As mentioned at the beginning of the article, bull-baiting lasted well into this century. The abandonment of Queen Caroline's trial was celebrated by a baiting at Aylesbury in 1820, and the jubilee of George III. in 1809 by a like performance at Windsor, and so late as 1828 there was a baiting at Oakley, for which the bull was dosed with beer and gin "to promote a little excitement in him."

Wokingham had always been proud of its bull-ring, and great resentment was felt when the Corporation suppressed the practice in 1822. Two bulls per annum had been bequeathed from 1661 to the populace by one George Staverton to be first baited and then distributed. The authorities decided to kill the beasts mercifully; but the poor resented deeply the loss of the sport. For several years they carried out informal baitings, breaking into the yard where the bulls were penned before the killing and dragging them off to the bull-

ring. Actually as late as 1835, the year of the definite legal suppression of baiting, they broke into the place where one of the bulls was kept and baited him in the market-place. It is said that an enthusiastic amateur, lying on the ground, actually seized the poor brute by the nostril with his teeth! A sharp sentence of imprisonment on the ringleaders ended the sport as far as Wokingham was concerned, and though sporadic cases occurred for another year or two, by 1840 tethered baiting could fairly claim to rank as an obsolete sport.

COCKFIGHTING.—**History.**—For centuries this was the national sport of the British peoples, and certainly so from the reign of Henry II. to the end of the Great French Wars: a period contemporary with the rise of England to pride of place among the nations. It is significant that during the various periods when Britain made herself most signally felt as a military and naval Power, cockfighting was ever at its best; and there can be little doubt—as the Athenians under Themistocles had found in their day—that the example offered in the



After H. Alken.]

BULL-RUNNING.

[By courtesy of Messrs. Robson and C

The Stamford bull running also came to an end in that year, after a very animated fight for existence in the face, not only of local, but of national, authority. Lord John Russell as Home Secretary, a regiment of dragoons, and hundreds of special constables all took part in the efforts to stop it, but for five years local ingenuity managed to smuggle one or more bulls into the town and to let them loose in the streets. Legal penalties failed to secure their object, but on November 3rd, 1840, the inhabitants of Stamford held a public meeting and decided that the enormous expense of their military garrison and of special constables obliged them to abandon their ancient custom. All that now remains of it is the bull-song, which for some time might be heard in the streets or in the theatre on great occasions, and may be heard even now.

C. S. COLMAN.

cockpits of our men-of-war (which always carried a team of game-cocks aboard as the only means of providing sport for their officers and men) contributed not a little to our great naval victories. Admiral Boscowen was a great breeder of fighting-cocks, and never sailed without his pens being full of birds; and the sea-fights of the days before steam and "ironclads" resembled so closely a main of cocks, when frigate engaged frigate, or when the ships of the line engaged each other in a species of "battle-royal," that, could the modern "descriptive reporter" have been present, he could have given no truer account of Trafalgar, for instance, than to have described it in terms of the Sod. On land, too, cockfighting was the principal amusement of the victorious British armies; and our most skilful commanders, down to the days of Sir H. Vivian, who led the final charge at Waterloo; Lord Clive, and General Sir Walter Raleigh

Gilbert, the conqueror of the Sikhs at Sobraon, Chillianwalla, and Attock, were the keenest patrons of the cockpit. In this they but followed the example of Julius Cæsar, and of Gustavus Adolphus, one of the greatest cockfighters, as he was one of the greatest soldiers, of his age. Indeed, he made cockfighting one of the chief elements in the military training of his armies.

The history of cockfighting goes back to some 2,000 years B.C., and the existence of the enormous open-air cockpits found at Gwennap and elsewhere in Cornwall, and undoubtedly constructed in pre-Roman days, shows that the sport was pre-eminent among the Celtic conquerors of aboriginal Britain. That it was enormously popular among all classes of the community, from princes, prelates, peers, and parsons to penmen, painters, and pitmen, is shown by the large number of words and phrases incorporated into the English language which owe their origin to the sport of the Sod, such as to "live like a fighting cock," to "beat cockfighting," to "die game," "to stand steel," "to show the white feather," and "to turn tail," to name none other.

The Law as to the Sport.—Cockfighting is generally, but erroneously, supposed to have been made illegal in the British Isles by the Act of William IV. c. lix. (1835), which merely prohibited the keeping of a cockpit within five miles of Temple Bar under a £5 penalty to the "keeper," but none to the frequenters. The reason adduced for this enactment was that the cockpits were great nuisances and annoyances to the neighbourhood in which they were situated, and tended to demoralise those who frequented them: a reason that might as easily be made applicable to certain modern football grounds. The only other enactment of the legislature that applies to the sport is Victoria c. xcii. (1849), known as the Prevention of Cruelty to Animals Act, which extends the prohibition as to keeping a public cockpit to the whole of the country, the "keeper" again being only liable to a £5 penalty.

In the two appealed cases that interpret these statutes it was laid down, firstly, that "it is no offence . . . to assist at a cockfight unless in a place kept or used for the purpose" (conviction quashed); and, secondly, that "a person who takes part in a cockfight *after one or both is disabled*" is liable to conviction for cruelty to animals (fine of 5s. confirmed). The moral of these rulings is sufficiently obvious to modern cockers if they would not be harassed by police interference. As a matter of fact, cocking is in no sense of the

word "obsolete" (or *per se* illegal) either in the British Isles or in other parts of the civilised world. Indeed, in most countries it is fostered and encouraged.

Breeds and Colours of Cocks.—There are many breeds and colours of game-cocks, some of them taking their names from famous cockers of the past, as the black cocks of Lord Vere, the Derby black-breasted reds, with daw eyes and white legs; the Mansell pyles, and so forth. At the present day the breeds may be enlisted as:—

Reds (including black-breasted dark reds, crow-wings, and brown-breasted brown reds).

Greys (including duck-wings and birchens).

Pyles (of various sorts).

Duns (including blues and blue-reds).

Blacks (including charcoal-blacks, brassy-wings, and furnaces).

Whites (including spangles, cuckoos, and creels).

With Henny, muffed, and tasselled game of various breeds.

The hens for the first breed are known as light and dark partridge, and clay or wheaten. Modern breeders for the pit (as opposed to the show pen) have each their own breeding secrets; but the chief policy to be pursued if success be desired is that of in-and-in breeding, coupled with the principal of "youth to youth at proper intervals of time." By its observance alone can a good fighting strain be maintained in its purity over a long series of years. An out-cross in pit-game breeding should not be sought more than once in twenty years.

The Cockpit.—This may be covered or open to the air. If the former it should be high, windowless, and lighted from a glass dome. The pit itself should be 18 or 20 feet in diameter, and either circular or octagonal in shape. The sides from 18 to 24 inches in height, padded with chopped hay, and covered with canvas. The floor should be sodded with fine turf, or may be covered with carpet or matting of a sort in which the birds' spurs cannot easily catch. The centre of the floor should be marked with a X, and lines should be drawn 12 inches on each side of the centre for the convenience of the setters.

Implements of the Sport.—The principal of these are the artificial spurs, employed in order to prevent the birds from tearing each other with their natural spurs (which are removed), and to bring a battle to a decisive and prompt conclusion. Silver spurs are still used by those fortunate enough to possess them; but the art of making silver spurs, as practised by the

Clays, Gregory, T. Smith, Gatesfield, Green, Toulmin, and Vincent—whose business gave its name to Cockspur Street, London—is now a lost one. The greatest makers of steel spurs were (in the past) Singleton of Dublin, Kendrick of Redditch, Ross of Bloxwich, and J. Watling of Exeter. Good steel cockspurs are still made, but the old ones are more valued. They may be recognised, as in the case of silvers, by the initials

made in the colours of the owners, and embroidered with crests or initials. Many historical examples are still in existence. Bags of commoner material, boxes, and baskets are requisite for conveying birds to the place where a main is to be fought. In dubbing, the half-moon shape of the comb should be preserved.

Feeding, Training, and Matching.—Young birds at between 5 and 8 months are



THE COCK PIT.

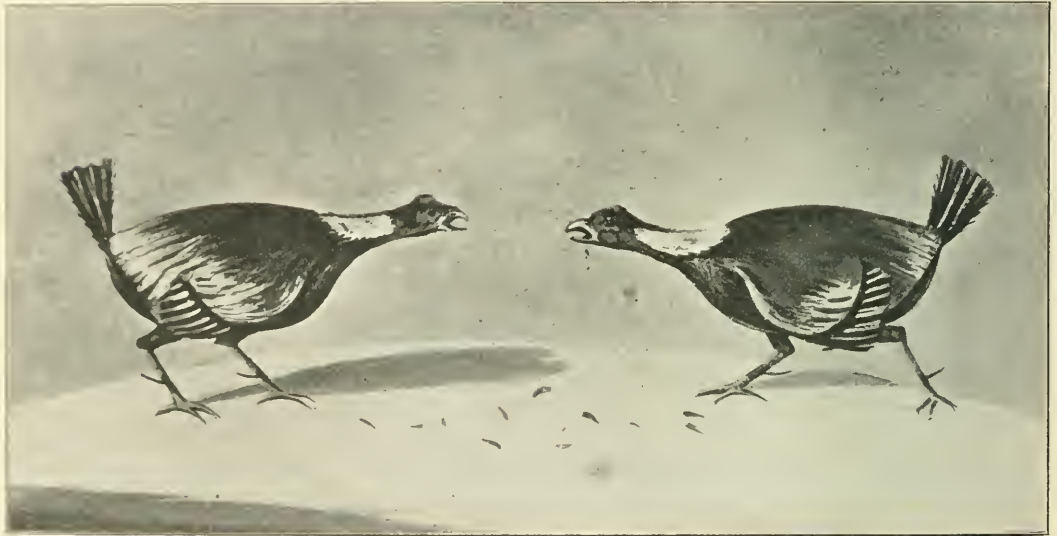
(After Hogarth.)

of the makers stamped on the heel of the socket. Spurs vary in length from 1 inch to 3, according to the style of fighting exhibited by individual cocks. Beside spurs, muffles (or miniature boxing-gloves) for sparring birds in order to test them or improve their wind, saws for shortening the natural spur, scissors for dubbing or removing the comb and wattles from young stags to prevent their suffering by getting these torn when fighting, markers for rendering the identification of birds easy, and bags for conveying birds into the pit, are all necessary. These bags should be

taken from the runs, where at this age they commence to quarrel and fight among themselves, dubbed, marked, and sent out to walk on suitable farms, in the same way as foxhound and greyhound puppies. There they remain for perhaps a twelvemonth, and are then taken up and prepared for fighting. They are medicined, penned, and fed for a fortnight or three weeks, each "feeder" (who answers to the trainer of racehorses or greyhounds) having his own secret system of preparation. The birds are sparrd and exercised during this time, and "sweated" by the placing of cloths of

various thicknesses over their pens in order to reduce them to the requisite weight. After weighing and matching, three days are allowed for the feeders by the use of cockbread (for which there are many quaint and secret recipes) to bring them up to the top of their form, and make them ready for battle. Among the most famous feeders of the past were Beatal, Sant, Potter, Faultless Gilliver (who still survives as a monogenarian), Nash, Varley, Woodcock, and Martin. Before matching, the birds were "cut out of feather," their hackles, wings, and tails being shortened, so that their adversary should obtain no unfair advan-

each battle, and 5,000 guineas the main; but 5 or 10 guineas the battle and 50 or 100 the main is now more usual. More birds are "shown" than the main quota, and these unmatched birds are fought in bye-battles at 2 guineas the battle. In these days of mains of "11 aside, to show 13 birds," the stake is sometimes £50 aside, the winner of the odd battle taking the stake. For a less stake than this it would not repay a cocker to fight under modern conditions. Bye-battles in these abbreviated mains are generally for a guinea a side. The birds are weighed three days before the main, a maximum and minimum weight



After H. Alken.]

COCKFIGHTING.

[By courtesy of Messrs Robson and Co.

tage by laying hold of the long feathers while using his spurs.

Mains.—These are of various sorts. In the Welsh main sixteen birds are matched one against the other according to weight, and fought in rounds and ties, as in coursing, the eight winners in the first round fighting again in the second, and so on, so that the final survivor must fight four battles. The ordinary main may be either a "long main" of sixty-one battles, or a "short main" of twenty-one battles, the one taking a week, and the other two or three days to fight, though in these degenerate times a still shorter main of eleven birds that can be concluded in a day of two "ingoes," with an interval for refreshments, is more common. Proper "articles" are usually signed for a main in the shape of a quasi-legal document regularly witnessed, the conditions being so many guineas each battle, and so many the odd or main. Mains have been fought in the past for 1,000 guineas

(which was formerly between 3lb. 6oz. and 4lb. 8oz., but is now considerably higher) being agreed upon, as many birds as fall within one or two ounces of each other being fought in the main, the extra cocks fighting the bye-battles. At the same time, the marks of each cock are taken and duly entered on match-bills, which are subsequently compared. Cocker's shorthand (the origin of racing and coursing shorthand words) is used in making out the match-bills. Thus an entry reading:—

Ran B. B.R. rd. eyd. hi. cl. co. bk. Erd. bk. bek. beys. rt. ot. 4.10.3
would mean that the cock was a raven-breasted black-red with red eyes, a high clear-cut comb, black beak, blue legs, marked in the outside web of the right foot with the owner's mark, and weighing 4lb. 10oz. 3gr.

The rule is that the main shall begin by fighting the lightest pair of cocks first, proceeding upwards to the end, that every

lighter pair may fight earlier than those that are heavier. This is one of the Westminster rules.

On the day of the main, the first pair of cocks is heeled—by having the silvers or steels fastened to their legs over their natural spurs, a great art—and, having been placed on the mark, the battle begins, and is usually over in three minutes at the longest, sometimes in as few seconds. The cocks fight for their own pleasure, not for that of their owners, no human being possessing the power to make two reluctant birds engage. Accusations of cruelty against the sport thus fall incontinently to the ground; and, indeed, cocking may truly be described as the least cruel of all sports, everything being arranged to prevent the slightest unavoidable suffering to either of the combatants. One bird drops dead instantaneously, and the other—if wounded at all—can be speedily and painlessly healed, especially if the battle be fought in silver.

The "Battle Royal" serves the purpose of "cutting-up" those cocks that are too large to be fought in regular mains. Here the birds are unweighed, and are all turned out on both sides into the pit together. The side that owns the surviving bird wins the stake-money. Private matches are also made between owners of favourite birds; but in most mains confederacies of owners give and accept the challenges of other confederacies.

L. C. R. CAMERON.

Bibliography.—Any one wishing to know more about the sport of cockfighting should consult the following books: *The Royal Pastime of Cock-fighting*, by R. H. (1709, reprinted 1899); *The Cocker*, by W. Sketchley (1814, reprinted—as part of *The Game Fowl*—1903); *Cocking and its Votaries*, by S. A. Taylor; *The Old English Game Fowl*, by Herbert Atkinson, 1899; *The Life of John Harris*, by H. A. (1910); and articles in *The British Legacy*, *Hoyle's Games*, *The School of Arts*, *Blaine's Rural Sports* (edition 1840), *Bee's Sporting Dictionary*, *Silk and Scarlet*, by "The Druid," and (for America) *The Game Fowl*, by Dr. Cooper, and *The Cocker's Manual*, by Gray, both published in New York.

FOOTBALL IN THE STREETS.—Amongst the Shrovetide attractions in many towns, a football match in the streets used to rank very high. Now that peaceful citizens are beginning strenuously to resent a faction fight only sanctioned by custom, it is to be feared that these great contests have become wholly obsolete. The example of Dorking shows that the most stolid conservatism, and the keenest love of such football as unnumbered sides and undefined rules provide, are both unavailing against

the yet more stolid resistance of an un-historical police force.

On Shrove Tuesday it was the custom, after a sufficiency of cock-throwing and goose-riding, to start the great *mêlée*. Usually the town was conveniently split geographically into two sections, and the rules were simple. The ball had, by fair means or foul, to be carried to some prominent landmark in the rear of the enemy's quarters. Whether it were carried, thrown, or kicked there mattered not at all; but it was usually found out that straightforward pushing was of little avail when each side ran into three or even into four figures. Strategic retreats and flank attacks were adopted, and stories were handed down how the defences had been forced by swimming rivers, penetrating drains, and even, on one occasion, by breaking through a house wall.

As the ball was probably absent in nine out of ten of the places where the contest raged, and would be in any case invisible to the majority, the game fairly incurred the often repeated censure upon its "being meeter for the laming than the making able" of those that played thereat.

By a wise provision, the ball, at the beginning of this century, was usually filled with shavings, and thereby better able to resist rough usage; but even thus there are instances on record in which the Ulysses of one side has reversed the Trojan horse method by stripping the case of its interior, and carrying it in his own bosom within his opponents' lines.

Of recent years, however, as local feeling has grown less intense, and the growth of towns in one direction or another has spoiled the meaning of such old rallying cries as "St. James" and "St. Philip," the fashion of the game has changed; to a large extent the charge is true that tradition is made a mere pretext for rowdyism. Instead of the one ball round which the contest centred, half a dozen or more may be seen, driven in any and every direction by the band behind it, who prefer taking their own line to meeting the organised force of others.

PALL MALL.—A paragraph is perhaps justifiable which recalls the famous game of pall mall, once the fashion of a brilliant Court, and, from what one can learn of it, a game that deserved to survive better than many another which has passed the test of time. Put briefly, and therefore, of course, inaccurately, it may be defined as golf played with a croquet mallet down an elongated skittle alley. The tools and implements were, by a happy chance, found in

a house that was being pulled down in Pall Mall in 1845, and are now preserved in the British Museum. The head of the mallet is curved, and its ends are both sloped, the plane running back towards the shaft. The balls, which in the only surviving examples are of boxwood, are about twelve inches in circumference.

The aim was, as in golf, to drive the ball over the course in the fewest possible strokes, but instead of holing out, it was necessary to drive under hoops which were set down the alley. From the scanty records of the game, it would appear that one feat required was to drive the ball through a ring of no great diameter, suspended, as would appear from one illustration, at the height of some eight or ten feet in the air. It is hard not to suspect that the artist, like others since his time, had trusted to imagination rather than actual inspection, for, apart from the enormous difficulty of driving a ball through the ring, there would be the absolute impossibility of persuading one's opponent that it had gone through and not outside. In the days when swords were worn, the closest friendships might have been permanently severed. In his course, the pall mall enthusiast had less variety than the golf player. With a floor of hard beaten sand, "dressed with powdered cockle-shells," says Pepys, there was every chance of a good lie, and the probability of being bunkered behind a hoop wire was extremely small. The alley itself seems to have varied, in the same fashion as a links, in its dimensions, but that at St. James's was about 800 yards long, and there were very few hoops in it, giving a very fair opportunity for a successful drive, considering the shape of the mallet. Side walls seem to have existed at Whitehall, but one cannot be sure whether they were a necessary feature or a luxury.

TOURNAMENTS.—Under the head of Tournaments it has been customary to include many varieties of contests, the fact being that on the proclamation of a tournament different kinds of encounters were indulged in on succeeding days. We must be careful to distinguish between tournaments and *pas d'armes*, on the one hand, and the serious challenges which were often made to assert or refute the justice of an accusation, on the other. Accidents often occurred at the peaceful encounters, but they were not intended, and we do not propose to deal with the judicial combats and duels.

The contests at these tournaments may be divided into horse and foot encounters.

The first would include **Tourneys** and **Jousting**, which later on became, at least in this country, tilting, and running at the ring; while the foot combats were generally fought out with axes, lances and swords, and eventually became the sport known as **BARRIERS**.

It is difficult to say if we can call the challenges which Jacques Lalain sent out to various countries, and which are so fully described in his *Life* by Chastellain and in the *Memoirs* of Ollivier la Marche, sports. Certainly the combats in which he took such a prominent part never actually led to fatal results, yet they were terribly earnest. So also, in the combat of Lord Scales and the Bastard of Burgundy, if it had been carried out to the bitter end, it is probable that the Bastard would have been slain. We are told that the English Duchess of Burgundy, sister of our Edward IV., never would attend at serious fighting, and Jacques Lalain was not allowed to spread his challenges in England, where the peace-loving Henry VI. evidently had quite enough of serious fighting without the fiery Burgundian's exploits.

Tournaments, on account of the many accidents attending them, were frequently denounced by the Popes, but for all that, and in spite of the accidents and deaths, we find mention of them continually.

As we have remarked, tourneys were one of the sports included in the term tournament, and we may as well proceed to give an idea of this class of game. For illustrations of the tourney the reader must refer to the numerous manuscripts, chronicles, and histories, of which there are so many in our national collections. The MS. of Meliadus is full of pictures of tourneys, and gives us the appearance of them in the fourteenth century. Many illustrations from this MS. will be found in Cutt's *Scenes from the Middle Ages*, where also the student will see excellent reproductions of the warlike sports of those days. But in M. Quartrebarbe's handsome work, *The Tourney Book of King René of Anjou*, we get drawings of the whole of the incidents before and at a fifteenth century tourney. In one of these we see the knights with gorgeous crests on their helmets and trappings on their horses, armed, as usual in this sport, with wooden maces and blunt, pointless swords. The knights are in a large pen formed by posts and rails, and separated by two cords drawn across and forming a lane in which stand the heralds and others managing the tourney. When all is ready the officials withdraw, and men placed at the ends of the lane or passage

cut the ropes with axes. Immediately the two parties engage and mingle and hammer away at each other till the judge or presiding officer commands them to desist. This was evidently not done at once, for the combatants soon became excited, and only those who got the worst of it would care to discontinue. In the drawings of Jost Ammon and others we see the "admired confusion" which prevailed, and in these German pictures we observe how a public square or place was often taken up for the sport. The successful combatants afterwards received the prize from the chief lady present, and the day's amusement would end with banquets and dancing.

Jousting, and its later form, tilting, was a more scientific and serious sport. Sometimes it was performed with sharp spears, and then accidents were pretty frequent, as we see in Rouse's *Life of the Earl of Warwick*, where that accomplished traveller is shown driving his spear right through the body of some unknown foreign knight in honour of his own lady.

Jousting was originally carried out in a large enclosed space, the riders fully armed and protected by armour, and their horses also wearing metal body and head defences. The two combatants rode straight at each other, and each endeavoured to dismount the other by striking him on the head or body. If the lances had blunt or rebated points, or were furnished with coronels, that is, heads with three or more short points to prevent slipping, a good blow would, if delivered straight, certainly shake, if not unseat, the person struck. If, however, the blow were not quite direct, the lance would be shivered. The terms of the challenge would decide how many courses were to be run and the nature of the weapons employed. This was generally arranged by those wishing to take part

touching with their spears certain shields hung up near the lists. One shield would be for sharp lances, another for lances with coronels, and so on. If a knight and his friends issued the challenge to last for so many days, then as many knights duly qualified by birth, &c., as chose would ride against the challengers, who would be called the *Tenans*, while the others were the *Venans*. Prizes would be given to the most successful.

But it was found that some riders tried unfair means to unseat their opponents, jostling them, and otherwise departing from the true sportsmanlike practice. Accordingly, in 1443, we find a new style of jousting introduced, which in some places almost entirely superseded the open running. This was the running at the tilt. The tilt was originally a stout rope with a cloth (*toile*, Anglice *tilt*) hung over it, and stretched across the lists for some ninety yards.

The two riders were placed at opposite ends and at opposite sides of this *toile*, and then riding towards each other, each, with

his left arm to the *toile*, endeavoured by a well-directed blow to dismount his opponent. Of course, in order to reach the other, each jouster had to place his lance on the left side of his horse's neck. It is clear that the right hand of each rider was at least three feet from the *toile* throughout the course, and the spear being but fourteen feet long from butt to point, it is evident that the spears were inclined at an angle of some 30° from the line of the *toile*. Thus no direct blow could be given, but, considering the combined weight of the two horses and their riders, a shock sufficient to break the spears, if they struck the head or body, was obtained. A rider might be knocked out of his saddle, but it was not likely, as the blow would be a very light one, and the lance would break before



FIG. 1.

From the *Weise König*, showing how by a toy the youth of the middle ages was instructed in the sport of Jousting.

the person hit would be unseated. Soon the *toile* was changed into a wooden barrier, and in the challenge would be noted the height it was to be. It seems to have varied from five feet to six feet, and perhaps more. Now it is evident that two men riding in opposite directions, one on each side of a six-foot wall, would not see much of each other, and so it was. In the splendid tournament roll of the first year of Henry VIII., now preserved in the Herald's College, we can only see the head of the knight who is charging along on the other side. The chances of hitting him would be small, except for very expert jousts. Then again it was sometimes difficult to get the horses to run close alongside of the barrier, and in that case the knights would be out of reach of each other. Sometimes double lists were used, forming a narrow lane for each horse to travel along. At the Field of Cloth of Gold, Henry objected to these double lists, but on one occasion at least he had to change horses, as the one he rode would not keep to the track. Besides this difficulty, a high wind sometimes quite prevented the lance being held steady, and such was the case more than once at the Field of Cloth of Gold.

The rules for the jousts at the tilt appear in England to have been drawn up in 1466 by John Tiptoft, Earl of Worcester. This was the year of the challenge of the Lord Scales and the Bastard of Burgundy, though the fight only came off the next year, and in that contest no tilt was used. These rules were, with slight differences, in use for many years, and are said to have been commanded to be observed and kept by an order in the fourth year of Elizabeth, 1562-1563. Generally speaking, they were as follows:—

| | |
|---|-----------|
| Breaking a spear between the saddle and the fastening of the helmet to the breast-plate (for so we may interpret the <i>charnell</i> of the helmet) | 1 point. |
| Breaking a spear above this spot | 2 points. |
| Breaking a spear so as to unhorse the opponent or to unarm him so that he could not run the next course | 3 " |
| But breaking a spear on the saddle caused a forfeiture of | 1 point. |
| Striking the <i>toile</i> or tilt once | 2 points. |
| Striking the <i>toile</i> or tilt twice | 3 " |

Breaking a spear on the sight of the helmet thrice, counted towards the prize before the breaking of most spears, and striking coronel to coronel was again better, whilst unhorsing the opponent was best of all. No prize would be given to the jousts who struck a horse or a rider with his back turned, or who struck the *toile* or tilt thrice.

Nor could a prize be won by a jousts who lost his helmet twice, except by fault of his horse. If the spear broke within a foot of the end, it only counted as a good attempt.

Now it is clear that in the later days of jousting, with a six-foot tilt, some of these conditions would never be fulfilled, as but little more than the head of the opponent could be seen or touched. And hitting the *toile* or tilt was a clumsy thing, like playing into the net at lawn tennis.

Of course, in the case of striking coronel to coronel, each rider was equally expert, and one may suppose points were allowed to each.

In the early days of jousting the ordinary armour for war was used, with the addition of the tilting helm, which, unlike the helmet, rested on and was fastened by staples and buckles to breast and back, and was large enough to allow of the head being moved inside it, as in the case of a diver's helmet. But as time went on, it was doubtless found more convenient to have stouter and richer armour for the showy occasions of the tournament, where the blows were more deliberate than in the field, and also where there were spectators who could admire at their ease. And in Henry VIII.'s time we find that, taking into consideration the fact that the lance blows could only be received on the side next to the opponent, that is, on the left, it was thought a good idea to strengthen that side of the armour by wearing additional pieces. The helm had its air-holes only on the right side, so as to avoid any chance of the lance-point or the coronel *biting* on the surface of the left side, and the rivet-heads were either flush with the surface, or so rounded as not to arrest the lance-head if it struck. For the defence of the left side of the rider the *volant*¹ piece was devised. This protected the left side of the helmet, and just came round the front medial line, the helmet being bolted to it, and the lower part of the volant piece bolted to the top of the breast. With this was worn sometimes a sort of shield of metal called a *manteau d'armes*; in other cases, as for the German jousting with sharp spears, a stout wooden shield, covered with small plates of bone, was fastened by a stout plaited thong to the breast-plate. This thong passed through the breast-plate, then through a wooden ball to keep the shield the proper distance from the body, and then through the shield itself, the two points being tied on the outside of the shield and hanging down on its face.

¹ *Volant* is the term applied on the Continent to movable pieces.

Yet another form of additional defence was used. This was a stout piece of metal, which stretched across the upper part of the body, turning forward on the right shoulder, but backward over the left, and reaching down the crest of the breast-plate to a point about four inches above the waist. To the upper part of this was riveted the *volant piece*, and a bolt passing through the crest of the breast-plate near the lower part attached this *grand-guard*, as it was called, to the breast-plate, to the curves of which it closely conformed. On the left elbow also was fixed a pin, to which by a linch-pin could be fixed a large plate protecting the elbow and parts of the upper and fore arm. This was the real *pasguard*, though in modern times the name has erroneously been transferred to the upright plates springing from the pauldrons or shoulder armour, and to a certain extent protecting the sides of the neck. Below this *pasguard* again was worn over the left gauntlet a large manifer, or *main de fer*. This was a heavy miton-shaped gauntlet with long cuff and no finger divisions. This covered the back of the hand and forearm, and, while not fitted for holding a weapon, was quite sufficient for the rein hand. This series of additional pieces is seen in the armour of Robert Dudley, Earl of Leicester, made between 1566 and 1588 (Fig. 3), and similar pieces belonging to Henry VIII. are still at Windsor Castle and the Tower of London.

Now it is evident that when the joustier had these pieces put on over his armour he was more helpless than ever. First his helmet was latched to the *volant piece*, which was riveted to the *grand-guard* in its turn bolted to the *breast-plate*. The rider thus had his head fixed in such a way that from his waist upward he was all one piece, and any movement to avoid an impending blow or for any other purpose was impossible. Nor could he see much—in fact, all the sight he had was through the slits in his helmet just above the *volant piece*. Considering this, we shall better understand the state of Charles Brandon, Duke of Suffolk, at the time of the accident described by Hall in the year 1524, when the king, having forgotten to close the vizor of a newly designed helmet, on the signal to go being given, the two joustiers rushed along the course. It was too late to stop them, and Brandon shivered his lance on the brow-piece of the king's helmet. Brandon himself said that he was not only short-sighted, but that he could not see, for "my headpiece taketh from me my sight."

There was one unwritten rule, the non-

observance of which cost Henry II. of France his life. That was that, after breaking the lance, the butt end should be cast away at once. Now, when Mongommeri, by a dexterous stroke, had shivered his lance and knocked off the king's plume of feathers, instead of casting away the stump, he rode straight on, and the splintered end of the stump, entering the sights of the king's helmet, pierced his eyes, and so led to the fatal termination.

From all this it will be seen that jousting



FIG. 2.

George, Earl of Cumberland, temp. Elizabeth, in tilt-yard costume. From his portrait at Skipton, Vorks.

at the tilt was a very peculiar sport. It required a good horse that would run truly along the course, and a steady hand; but there was a great deal of chance in it. If the opponent's horse swerved, however good one might be, one could not touch his rider, and one could not see enough to be able to vary by much the direction of the lance stroke. It was more a matter of the opponent riding on to the lance-head than of finding him by any movement of the lance itself.

In fact, the more one considers the conditions of jousting at the tilt, the more one is surprised that so much could be done. The joustier could not suddenly shift the position of his lance, nor follow the rider

whose horse broke away from the track. What he had to consider was, where the opponent would come into contact with his lance-head, and, of course, two good riders with steady horses might score hits each

half-turn to the right, and, giving the spur at the same moment, would drive the horse alongside of the tilt before he had time to swerve off. George Peele, in his *Anglorum Fera*, describing the jousting, 1595,



FIG. 3.

Armor of Robert Dudley, Earl of Leicester, with the Grand-guard, Pasguard, and Main de fer for the tilt. This armor, now in the Tower of London, was made 1566-1588.

course, whereas the best man in the tilt-yard would fail to hit a bad rider. Pluvinel gives a hint for overcoming the unsteadiness of the horses—namely, that each rider stood at his end of the tilt, but with his back to the course; then, on the word to go, he would make his horse wheel suddenly a

on one of the many Queen's days in Elizabeth's time, speaks of young Dudley, whose "armed horse made dreadful harmony grating against the rails." This may sound well in poetry, but it could hardly have been pleasant for young Dudley. Certainly some of the valiant jousts of Elizabeth's Court

took all precautions not to be hurt, for we see William, Earl of Worcester, esteemed the best tilter of his day, wearing a breast and back plate, which alone weigh upwards of 40 lb. The suit is in the Tower collection, and seems more suited to keep out a musket ball than to guard the rider from a light deal lance. Such a suit would give every reason for the platform of three steps which Pluvinel tells us was erected at each end of the lists for the riders to mount their horses, after they had been armed by the armourer and his assistant. There would be no vaulting lightly into the saddle with such equipment, and it must have been more of an embarkation than a mounting. So also when the six or more courses were over and the knight had to be got out of his armour.

Illustrating the difference between the armour for the field, called "hosting harness," and that for the tilt yard, we have an interesting account written in 1547 by Sir H. Poulet and Sir J. Harington to the Protector Somerset, of a sort of Gymkhana got up by the gentlemen of the garrison of Calais to celebrate the accession of Edward VI. to his father's throne. Of course these gentlemen had only their war armour with them in that outpost of the English on French soil, so they had to do the best they could with what they had. The *fête* took place outside the town, and though the old plans of Calais show a tilt within the walls, they had for want of one outside to "run at random." Young Henry Dudley and Jerningham determined to rehearse the sport, and ran at each other in their hosting harness and with coronel staves—that is, lances with coronels in place of the usual sharp steel head. At the second encounter "they met so freely that both went to the ground, their harness flying about the field and their horses astonished, but without hurt both leaped on horseback again and brake sundry staves very honestly." Of course, the cause of this disarrangement of their armour was that while the portions of suits for the tilt yard were mostly bolted together, the war armour was to a great extent connected by straps. Sully himself tells us how at the assault on Rouen, 1591, he got upset and all his armour disarranged, so that he had to withdraw to get it put in order again.

Although the word *Carrousel* has been in later times associated with the sport of running at the ring, it appears from the work *L'Arte del Cavallo* by Nicola Luigi Santa Paulina, published at Padua in 1696, that the original sport took its name from *carosello*, a hollow ball of chalk varying in

size from a hen's egg to an apple. The persons taking part in the game were divided into two parties, each of which had a supply of these *caroselli* besides reserves held by attendants on foot. The sides then rode towards each other and threw them, each one guarding his head with a shield borne on the left arm. The encounters first took place by two against two, and then by squads. Paulina says this game was much played in Spain, where it was known as *Alcançias*, and often light canes were used for throwing instead of the chalk balls, and then it was called the *Feste di Cannas*.

As late as 1760 we see, in the beautifully engraved work by Johann Elias Ridinger on the *Manège*, a gentleman in a three-cornered hat and the costume of that date exercising with a tilting lance both at *Turks' heads* and also at the ring.

In the *Armeria* at Madrid is preserved the arrangement for the ring business, and Jubinal has figured it. There is a split tube, down which slides a spring holding the ring. The compression of the tube is sufficient to keep the ring suspended at the lower end until it is forced out by being caught by the lance-point. The lance for this ring running in the Tower has a small conical button on the point so as to prevent the ring slipping off the lance after it has been taken from the tube.

Running.—If we may distinguish running at an inanimate object from the same at a living person, we shall find that the former was practised at a very early date and by the humblest classes as much as, if not more than by the wealthy. Thus we have the running at the quintain fixed or swinging, and the running, if we may so call it, in boats at a water quintain. Of these sports a famous MS. of the life of Alexander the Great in the Bodleian Library dated 1344, has supplied Strutt with illustrations for his work. We see boys and youths pushing with poles, now at a fixed mark on a post, at other times at a mark on the one end of a horizontal revolving bar, at the other end of which is suspended a sandbag. In other pictures we see an ambitious youth imitating his betters, being mounted on a wooden horse which two of his companions are pulling along, while the rider poises his lance at a fixed mark. In another picture some naked lads are about to charge against a tub of water set on a post. In the water tilting the lance bearer is on a small platform rigged up on a boat propelled by four or five of his companions, and the penalty of not striking the mark is apparently that the person so failing would overbalance and fall into the

water. Then, again, in another MS. at Oxford we have a sort of inverted tug of war. Two boys, instead of pulling at a rope, are endeavouring to push each other backward, each having hold of one end of a pole.

As to the use of the swinging quintain, it is difficult to see what relation it bore to the jousting or tilting, for as the blow of the counterpoise could only be avoided by a quick movement of the body, a feat quite impossible in the later days of tilting, as we have already shown, it was evidently on quite different principles from the nobler variety of the sport. Plot, in 1677, mentions that at Deddington in Oxfordshire he had seen the running at the quintain, but that it was then only "in request at marriages." From what is said of the sport, it was evidently performed on horseback.

Running at the ring was an improvement on the above exercises, and became a sport for the richer classes, who took to it very seriously. In time it became the sole surviving form of mounted exercises of this class, and we may refer now to some notices of it in history.

The earliest mention of running at the ring in Hall's chronicles is on the occasion of the Spanish ambassadors being entertained in 1509 by Henry VIII. We are told that with other sports they witnessed Running at the Ring, when Henry and six courtiers ran against seven others. Each person ran twelve courses, but the king won the prize by taking the ring five times and touching it three times. Henry, however, seems to have preferred the rougher play of jousting, and the running at the ring does not often occur in his reign—at least, Hall does not mention it.

In Elizabeth's time the sport was used, but probably more as practice for the nobler pastime of the tilt yard. With James's accession this mild exercise was more in favour than the manlier game, and in 1606, on the occasion of Christian IV. of Denmark's visit, we find the royal brothers-in-law excelling all their competitors. In 1612 the young Prince Henry and five others ran at the ring a match for a supper, which he won, and the next year, at Somerset's wedding, the King and the bridegroom also ran. So on during James's reign on state occasions running at the ring was one of the chief items of amusement, and, as might be expected, the Prince Charles generally took the prize. Pluvinel in his great work on horsemanship deals at length with the sport and gives most minute directions for the handling of the lance.

The Lists.—As to the lists where the

jousting took place, this was an enclosed space of ground with posts and rails and sometimes a bank and ditch round it. The ground was hard, even, and firm, and in the preparation for the Field of Cloth of Gold Sir Nic. Vaux mentions that it will not do to scatter the earth from the enclosing ditch, over the lists, "for it will mar all the ground that none shall gallop nor runne surely upon it." Of course, the arrangements varied with circumstances, but the general idea was to have stages for the stable litter being used. Across the lists and at each end were entrances and exits for the jousts. There were also pavilions or chambers for the chief actors to prepare in, and the grand stand was richly furnished. The general shape of the lists was rectangular, but longer in breadth than in depth. At the Field of Cloth of Gold they were 150 paces long. In many towns there were places kept for the jousting, and in the Tilt yard at the back of the Horse Guards we have the survival of the name, this place being the site of the tilt yard in the latter part of the sixteenth century.

In some places we read of jousts taking place under cover, and in 1513 they were held at Lisle in a large chamber paved with black marble, the horses being shod with felt or flock (*felto sive tomento*) to avoid slipping. In other instances we read of stable litter being used. Across the lists, but not reaching to either side, ran the Tilt, and it is said that such a tilt still exists in Mantua. At each end of the tilt were the small platforms on which the jousts with their armourers and attendants could stand to have the finishing touches given, and the last strap or bolt arranged, and from which they got on to their horses. Representations of the tilt are to be seen in numerous manuscripts, and we may quote the fine Froissart in the British Museum, which was, however, executed some seventy or eighty years after the events therein recorded. Consequently we have the tilt shown at the joustings at St. Inglevert, though at that date, 1389, the use of this arrangement was not known. Then in Rouse's life of the Earl Warwick, which has been engraved by Strutt, in the 2nd volume of *Horda*, we have good contemporary illustrations, and in the College of Herald's Tournament Roll of the 1st year of Henry VIII. we see the arrangements very clearly. Pluvinel and Perissem in their engravings also show the latest form of the tilt. In or near the lists would be arranged, on an artificial tree or mound, or in some such way, the shields, the touching of which by the "Venans" would

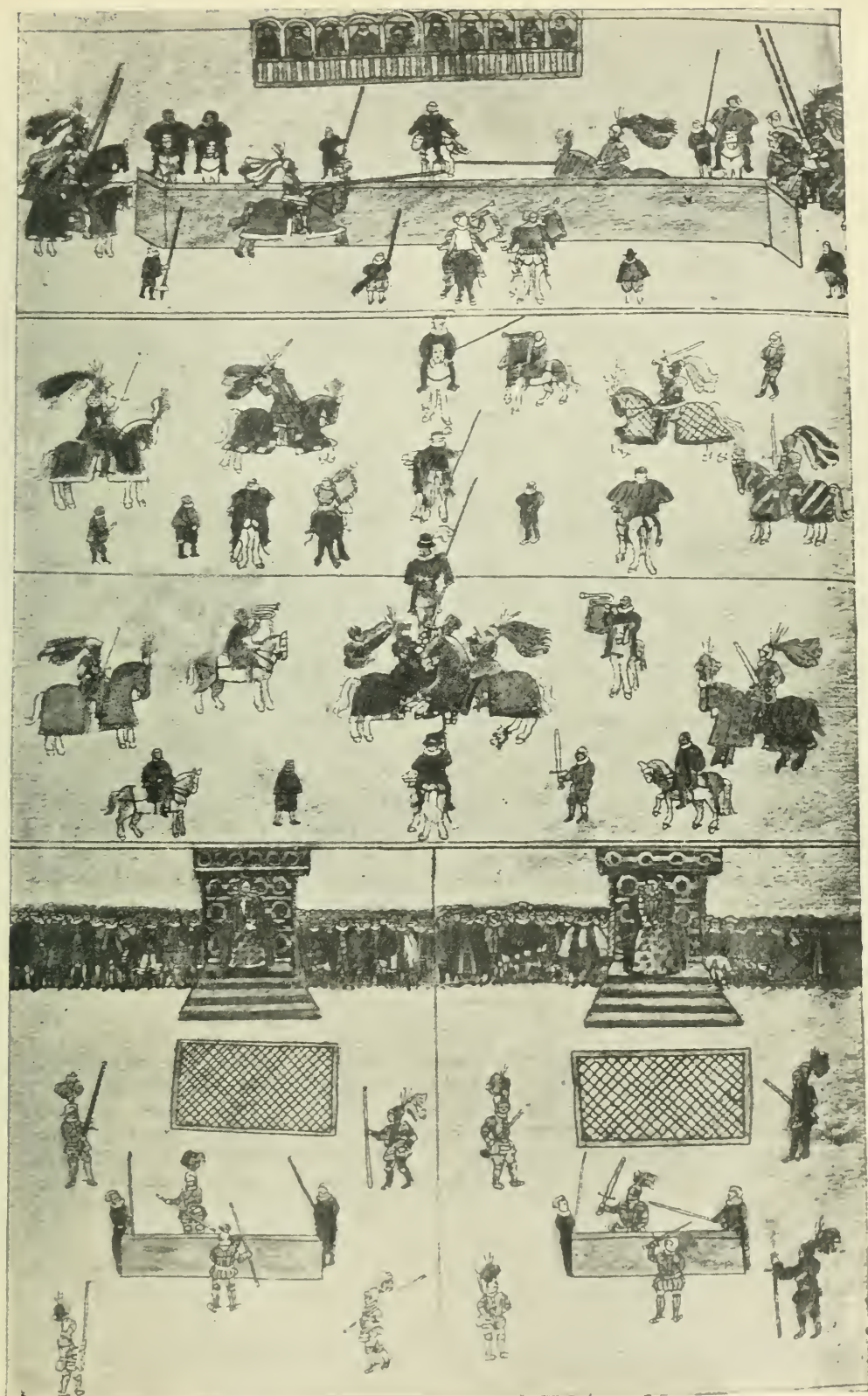


FIG. 4.

From a manuscript by Sir William Gregory, Garter King at Arms, and now the property of A. Wood Acton, Esq. of Acton Scott, Salop. The manner of the Tilt, the Tourney, and the Barriers, as practised temp. Elizabeth, is well shown in this exceedingly interesting drawing.

indicate the class of combat in which they wished to engage. A very good idea of the whole arrangement may be had from the large picture at Hampton Court of The Field of Cloth of Gold, in the upper corner of which we see the lists, stands, tilt trees, &c. Of course, in Germany, where these sports were very common, we find numerous illustrations by the hands of Jost Ammon, and by others, though Jost Ammon shows the jousters riding right arm and

between Arras and Lens, with four jousters on each side to represent the French and Burgundians, managed to have *lances graciscuses* only used, and so no harm was done. St. Remy, who mentions the incident, uses the above term, but *lances courtoises* is also often met with.

The *ladies' lance* appears to have been an extra course at joustings and was run last, just as in Henry VIII.'s time, after a regular set of courses, we are often told

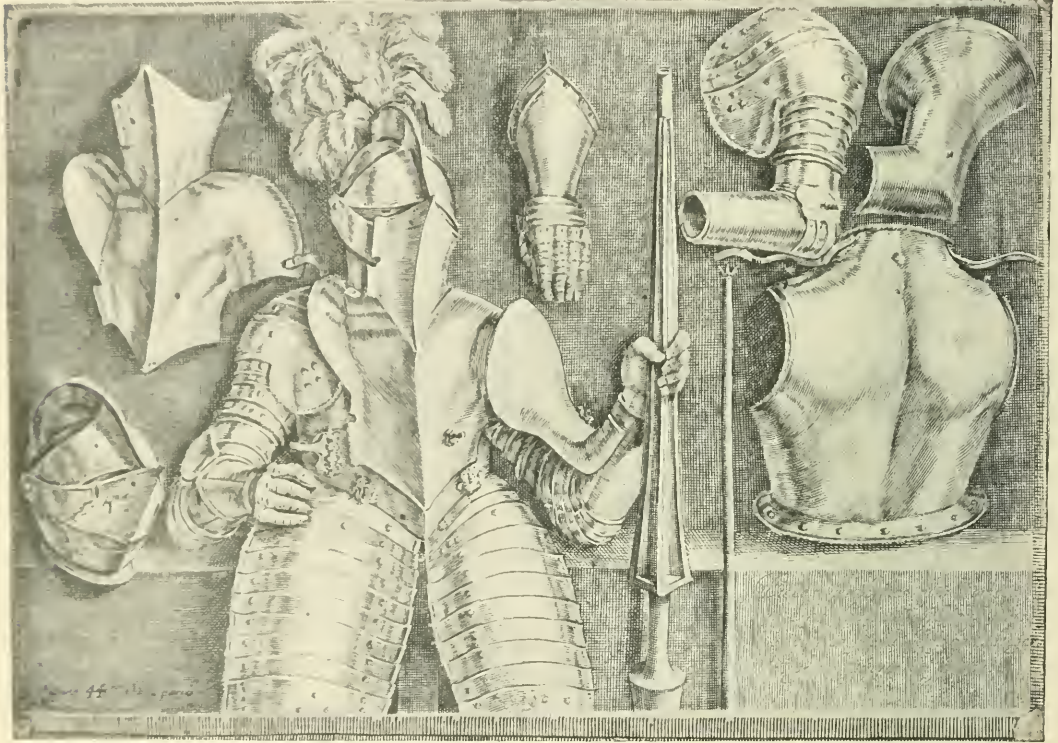


FIG. 5.

Tilting Armour of Lance (1627), from Pluvinel's *Instruction du Roi*.

right arm along the tilt, which, if it ever took place, must have been peculiar to Germany.

It is quite clear that jousting was not an exercise to be taken up suddenly, but one which demanded a long course of training. We read of jousts held at Dijon in 1442 where jousting armour was used, but smooth saddles, *i.e.*, without high backs. These were for new jousters to learn the business, and we are told that many of them were knocked out of their saddles. It is natural to find also that the older and more experienced knights scorned to take advantage of the young tirots, as in the case of Cotte Brune, a stout captain, who, when he learnt that he was to oppose the young Bastard of Bourbon in a match held in 1414

that the jousters ran *volant*, *i.e.*, without the *toile* or tilt, as a sort of extra show for the beholders.

Some of the blows given at these joustings were pretty severe, and the armour often was pierced and broken, though as some portions of the armour were attached by straps only, a man might have much of his panoply displaced without anything being broken.

The lances used for jousting were probably in the early days the stout war lances of every day use, but later on we find very light lances of soft wood used. These lances were made of little weight by being deeply fluted on the outside, or, in some cases, hollow for a considerable length. Of these lances the Tower collection fortunately

possesses some specimens, and from the dimensions and the actual weights it will be seen how much lighter they were than they looked. When Hentzner the German traveller visited the Tower of London in 1598, one of the objects shown then, as now, was the lance said to have belonged to Charles Brandon, Duke of Suffolk. Hentzner describes it as *tres spithamos crassa*, and in fact its girth at its largest part, that is, just in front of the hand grip, is $27\frac{1}{2}$ inches, with 12 deep flutings extending some $6\frac{1}{2}$ feet towards the head. The

yard with abnormally large lances, as did Sir John Peche in 1514 at Paris where he ran a course with a spear "12 inches in compass." On the same occasion the Comte Galeas ran a course with a spear 5 inches square at the point and 9 inches square at the butt. At the Field of the Cloth of Gold the master of the horse of France ran a course with a spear four fingers in diameter at the point.

Philip de Commines refers to the large spears called Bourdonnasses, which were hollow, and of which many were picked up

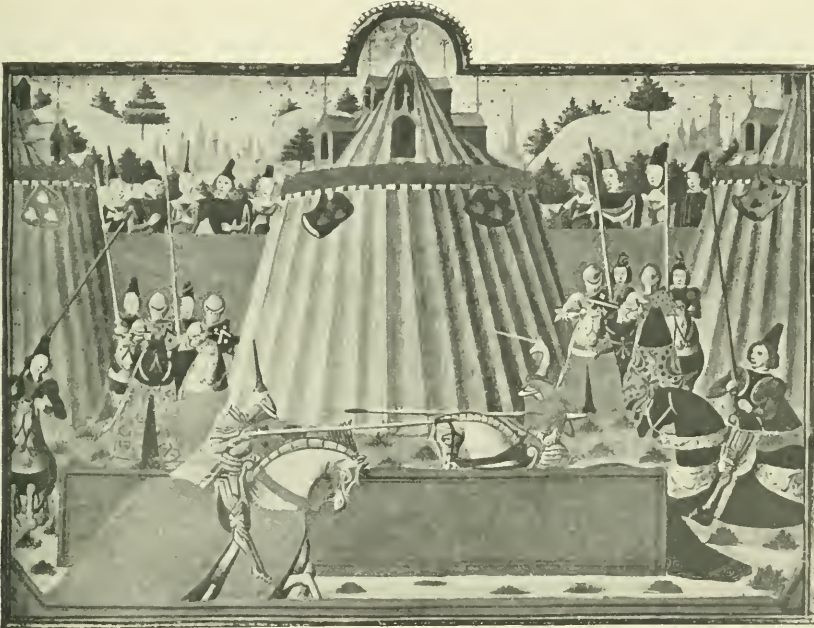


FIG. 6.

Tournament of St. Ingelvert (1389), from the fifteenth century MS. of Froissart, Harl., 4370, British Museum.

total length is 14 feet 4 inches, and its weight is but 20 lb., showing what a large hollow space there must be. Two other lances of probably the same period are also in the Tower. One of these has been broken, and we are thus able to examine the construction of it. The maximum girth is 15 inches, and the total length is $12\frac{1}{2}$ feet, the weight 10 lb. From the broken specimen it can be seen that there is a hollow groove some 2 inches in diameter extending to about $1\frac{1}{2}$ feet from the point.

There are several lances in the Tower, evidently of the Elizabethan period. They are 11 feet 7 inches long and weigh about 7 lb. Externally they are fluted with 8 grooves. The section in front of the grip is octagonal, but none of the vamplates in the Tower have any but a circular mouth.

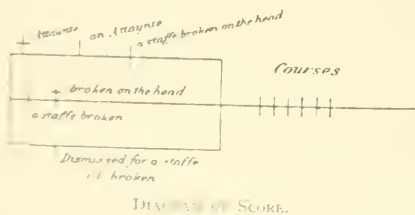
Sometimes jousters appeared in the tilt

on the field of battle of Fornoue. These were Italian, and in 1523 Henry VIII. received as a present four large Neapolitan and two Spanish spears. The military lances of the period were called chasing staves and punching staves, also Collen cleves, from their place of manufacture, Cologne.

The expression lance stroke is perhaps misleading. In war, a man riding at another with a spear would on some occasions move his spear arm freely so as to follow and reach his object, but with the joust it was quite different. Having a stout substance to encounter, a strong resistance would either break or strain the wrist, or the lance would be driven backward through the grip. Now in the case of the joust all this was avoided by the lance rest, a metal bracket (sometimes fold-

ing) which was fastened to the right side of the breast plate. The lance was held on this bracket and at such a point that the *hürre* or ring of iron or leather, fixed round the lance just behind the grip, rested against the bracket and thus the force of the shock was distributed over the whole of the body of the joustier. With the heavy lances sometimes used in Germany the lance was further supported by the *rusthaken*, a long bracket reaching backward and curling over at the end so as entirely to support the spear in conjunction with the breast lance rests. The spear had then merely to be steadied by the right hand of the joustier. Anyone couching a lance close up under the armpit will see how feeble the unassisted wrist would be in this constrained position to withstand any great resistance. Of course, in old military pictures we see cavalry charging lance in rest, but for individual fighting the lance would have to be carried either under hand, as the English horsemen did in the Irish wars, or overhand, as their opponents are shown in the curious work *Derrik's Image of Ireland*, where we see the two methods of using the lance. Of course, with running at the ring there was no occasion for the lance rest, except as a help to the hand in keeping the lance properly poised.

In Elizabeth's days the score was kept by marks on a series of lines opposite to the joustier's name on the roll, or cheque as it has been called, of the performers. Such a cheque is to be seen in the Bodleian Library, and refers to a great match in 1570. The arrangement is as shown below, and seems to have been that in use in the early part of the sixteenth century also. The courses run are marked outside the figure, while the nature of the hits is shown by marks on different parts of the diagram.



Barriers.—In volume xxix. of the diaries kept by Sanuto of the events of the Field of Cloth of Gold, held in June 1520 on the selected site between Guisnes and Calais, we have an interesting description of the exercise of Barriers.

He tells us that in front of the Queen's stage was a square stockade with sufficient space for ten couple of men, and in its

centre a long bar, about three feet high, with two side bars apparently touching the centre one. The opposing bands of men then fought two at a time, thrusting at each other with rebated spears until their weapons broke, and then they continued to cudgel each other with the fragments until separated by the smaller side bars being swung outward by four men, one at each end of each side bar. Even then they would hurl the fragments of their broken weapons at each other. The separation of the excited combatants could only be safely effected by these side bars, and wrestling was thus prevented. The fighting with swords at barriers was conducted in a similar manner.

In an engraving by Hogenberg, representing Spanish officers amusing themselves at Brussels, dated 1569, we have a good representation of the sport, though the side bars are not shown. The well-known engraving by Dunkarton after Passe shows Henry Prince of Wales in one of the postures adopted by those at barriers, though for portrait purposes the head is, of course, bare, the helmet lying on the ground.

For this exercise, a special form of gauntlet was often used. It resembled the manifer or left-hand miton gauntlet, so often seen with mounted suits, but it had in addition small upright plates which, when the hand was closed round the spear or lance, fitted close to the wood and so prevented the opponent's lance point getting between the lance and the hand. This did sometimes happen with ordinary gauntlets, and in the very fine MS. of the life of Petit Jean de Saintré in the British Museum one of the illustrations shows a combatant whose hand is bleeding, the other fighter's lance having penetrated the palm and of course made him drop his weapon.

In the combat at barriers between Galiot de Baltasin and de Ternant, 1446, the latter held his lance with the butt end in his right palm and the left hand at the balance. Baltasin held his in the ordinary way. He broke a piece off his lance point when striking, and Ternant broke his helmet. The guards then interfered, and produced a knotted rope, to show the seven paces of two feet each, and the combatants were stationed at this distance from each other. They then advanced again and after seven strokes had been exchanged the combat ceased.

May 29, 1510. Luis Caroz de Villara-gut, writing to Ferdinand the Catholic from London, says: "The King of England amuses himself almost every day of the week with running at the ring and with

jousts and tournaments on foot, in which one single person fights with an appointed adversary. Two days in the week are consecrated to this kind of tournament, which is to continue till the feast of St. John, and is instituted in imitation of Amadis and Lanzilote and other knights of olden times of whom so much is written in books. The combatants are clad in breastplates and wear a particular kind of helmet. They use lances of fourteen hands' breadth long with

occasion of the marriage of Mary of England to Louis XII., Lord Gray fought with a big Frenchman who "tried to pluck him over the barrier."

In Hogenberg's drawings it appears as if the combatants at barriers had no upper part to their vizors, and, in fact, with the lower part covering the face, such an arrangement would be much more comfortable and nearly as safe. The blows would be given from below upward, and with the



FIG. 7.

Spanish Officers at Barriers. From Engraving by Hogenburg, 1569.

blunt iron points. They throw these lances at one another and fight with two-handed swords, each of the combatants dealing twelve strokes. They are separated from one another by a barrier which reaches up to the girdle in order to prevent them from seizing one another or wrestling. There are many young men who excel in this kind of warfare, but the most conspicuous among them all, the most assiduous and the most interested in the combats, is the King himself, who never omits being present at them."

Barriers was no doubt a very exciting sport, and the separating bar was perhaps often the only thing which prevented the combatants from proceeding to more extreme measures when they had lost their temper. In 1515, at the barriers on the

upper part of the vizor closed it is difficult to understand how there could have been much science or ability to see and avoid the opponent's strokes.

The rules of barriers forbade either of the combatants to touch the bar with the hand, to strike below the waist, or to use a closed gauntlet, or have any arrangement for fastening the sword or lance to the hand. Of course, thrusting under the barrier was also strictly forbidden.

DILLON.

OKAPI.—Until the year 1900 nothing whatever was known of this singular animal, which for centuries had escaped the attention of Europeans, and, hidden in the forests and swamps of Central Africa, remained absolutely unknown, except to a

few savage tribes such as the pigmies of the Semliki forests and the Mobatti dwarfs. In that year two strips of skin were procured from the Semliki Forest by Sir H. H. Johnston, and forwarded to Dr. P. L. Selater, of the Zoological Society. It was impossible to identify them with any known mammal, but in the same year the entire skin of an okapi was received from Sir Harry Johnston, which is now to be seen mounted in the Natural History Museum. Since that date a few other examples have been sent to Europe, but up to the present time it is believed that not a single specimen of this strange and elusive animal has been shot by a European sportsman.

The okapi (*Ocapia johnstoni*) may be looked upon as a connecting link between the giraffe and the antelopes, having marked characteristics common to both races. It resembles the giraffes, modern and extinct, in the structure of its teeth and in the short-skin-covered horns, which, however, in this species, are borne only by the males. Palæontologists regard the nearest ally of the okapi as the long extinct *Samotherium*, remains of which have been found in the upper tertiary formation of the Isle of Samos, and of Greece. In this creature the males were horned, the females hornless; in the modern giraffe, it will be remembered, the males and females both carry rudimentary horns. In general appearance the okapi bears a strong resemblance to some of the antelopes, especially to those allied to the hartebeests, such as the tsesseby and the topi or tiang. The neck is lengthy for an antelope, but much less prolonged than in the case of the giraffe; the withers are high, and the body has the peculiar downward slope towards the rump so characteristic of the hartebeest group. The okapi stands about 4 ft. at the shoulder; the body colour is a rich purplish chocolate, or dark red. The buttocks and upper parts of both front and hind legs are curiously striped with black and white horizontal markings, reminding one somewhat of a zebra. The leg shanks are white, with black rings upon the fetlocks, and dark markings down the fronts of the fore limbs. The tail, reaching to the hocks, is somewhat giraffe-like, with a short, terminal tuft. The sides of the face are puce-coloured. The ears are very broad, much resembling in appearance those of the koodoo and bongo; and it is probable that, as in the case of these forest-loving antelopes, the okapi is very keen of hearing. The head appears to be carried rather low, and it is probable that the attitude of the okapi, with

outstretched but not uplifted neck, is almost identical with that of the great, jungle-haunting bushbuck, the bongo. The feet much more resemble those of antelopes than of giraffes.

The range of this very singular animal may be stated as the great Congo Forest region, where, however, the okapi seems to be found only sparingly and in certain localities. The okapi dwells in the denser parts of this country, and, being extremely shy and suspicious in its habits, and feeding chiefly at night, has hitherto largely escaped the notice even of African natives. Although much frequenting the neighbourhood of water—rivers, rivulets, and shallow lagoons—the shape of the okapi's hoofs indicates that it is not so water-loving in its habits as the situtunga or lechwe antelopes, the feet of which are much elongated. Its food is stated to be chiefly water-loving plants, such as arums, donax, and phrynium, and, from the elongated and mobile muzzle of the animal, it is probable that it is more of a browser than a grass feeder. The late Mr. Boyd Alexander, who brought home the skin of a male okapi from the Welle River region, reports that the animal is found usually singly or in pairs, the Mobatti hunters stating that occasionally three are seen together. These probably would be the parents and calf. In that country the favourite food of the okapi seems to have been a large-leaved water plant, growing on a single stalk. Although in search of the animal, Mr. Alexander never saw it in the flesh, and on the three occasions when he was at close quarters with them the okapis were concealed in the recesses of this leafy, swamp plant. Near the Welle he found its spoor on ground frequented by buffalo and waterbuck, but this seems to be unusual. Its forest companions are chiefly elephants, bongo (greater bushbuck), and the yellow-backed and small red duikers. The okapi feeds by night until eight o'clock in the morning, after which it seeks the seclusion of the forest until dusk, when it again cautiously emerges. This strange animal would appear to have been never very plentiful. Its numbers are now being steadily reduced by native hunters, and those British sportsmen who desire to obtain specimens will probably find the species year by year more and more elusive and difficult of approach. Okapis are believed to have only a single calf, stated by the Mobatti hunters to be born in May. The now accepted name for this animal is derived from the Semliki Forest pigmies, who

call it *okapi* or *o-api*. Near the Albert Edward Lake the animal is known as the *kengi*, and in the Nepo country as *makapi*.

H. A. BRYDEN.

OORIAL—The oorial or shapo (*Ovis vignei*) is a wild sheep, about nine hands high, reddish-brown in colour, with white markings on the lower part of the body and legs.

The old rams are darker in colour, bearded from throat to chest, and show a saddle-mark on the body of longish sepia-coloured hair, with a central crescent-shaped curve of white.

The horns are circular, and in some districts reach 30 inches in length, but the more massive specimens seldom exceed 26 inches. The true oorial (*O. vignei cycloceros*) is found in small herds on the lower ranges of hills forming the Salt Range, between the Indus and Jhelum rivers. They are restless, keen-sighted animals, but a persevering stalker will generally get within 150 yards of them, when any light Express rifle will do all that is required, provided the powder be straight.

On the western slopes of the Salt Range, about 9 A.M. on December 15th, 1895, I sighted a herd of fifteen oorial, which I followed for six hours before an opportunity occurred for a shot at the best buck, as he grazed at the foot of a cliff some 300 feet vertically below me, my shikari holding my legs while I craned over the edge. We descended and dismembered him, and the meat was placed in a bag extemporised from his skin; two men were despatched with it to camp, while I—having detached scouts to the flanks to reconnoitre—carefully proceeded towards Vasnal Peak, near which my tent was pitched, on the central plateau of this range.

During the next hour we discovered and stalked two herds, but the rams' horns did not exceed twenty inches; so we continued to plod along, as the hill-shadows were lengthening, and we had a stiff three hours' trudge before us to gain our camp.

The shikaries had joined me on a narrow track, the only way up the slope, when suddenly I descried two old rams gazing at us from the opposite side of a deep and broad chasm to our left. Sinking to the ground, I ordered the shikaries—who had not yet seen the oorial—to continue moving on, while I described to them the position of the rams, which were still standing at gaze on a red crystalline bank some 200 yards distant.

The shot was a difficult one—for they were enveloped in the shadow of a high hill

which lay behind me towards the setting sun; but the telescopic sight of my rifle, a '400 Express by Fraser, gave me a fairly clear definition of the animals, while it also enabled me to select the best horns.

When I fired, the ram bounded forward in a tucked-up fashion, and disappeared into a ravine along with his companions, but after the lapse of a minute one of them reappeared and, slowly ascending the opposite brae, soon vanished over the crest.

Telling the shikaries that my aim had been steady, and that the second ram was



OORIAL.

probably badly wounded, I despatched one of them, Kootub by name, down into the valley to reconnoitre. In a few minutes he struck their tracks, and, carrying them into a ravine, presently emerged in a high state of excitement, signalling vigorously that the buck was ascending a rocky slope towards the peak of Vasnal. The wounded oorial soon came in view. Being unable to face the steeper slopes, he was making his way slowly up a ravine below them; so I ran forward to cut him off, and posted myself on its brink, some 200 yards higher up. Kootub, however, signalled that the ram had halted lower down, so, descending by a *détour*, I again approached the ravine, and when within fifty yards of it, the ram raised his head above some long yellow grass in its bed and stared towards me for a few seconds. He then lowered his head, whereupon, beckoning to Kootub to advance, I crept quickly forward to a boulder overlooking the ravine, some seventy yards

higher up the hill. The ram soon appeared, and as he was in the act of gathering himself together to jump up a sheet of rock in the watercourse, I shot him through the heart.

The first bullet had struck a little high and in front of this spot. His horns were nearly perfect at the tips and 26 inches long, and his dark skin displayed a handsome and well-defined saddle-mark.

A closely allied race (*O. v. blanfordi*) inhabits Kelat, the Peshawar Valley, and Afghanistan. The shapo (*O. v. typica*) is a native of Ladak and Astor.

ARTHUR POLLOCK.

OPOSSUM AND RACCOON HUNTING—The first syllables of both these names might as well be dropped, for in actual practice the two animals are never spoken of as anything but "possum" and "coon." They are utterly dissimilar beasts: one a low grade marsupial with dirty white fur and a scaly rat-tail, the other a distant kinsman of the bear, but in appearance like a semi-arboreal fox, with a ringed tail; but they are ordinarily hunted in precisely the

neath the trees and around the edges of the streams or in the cornfields, after their food; and the method of pursuit is simply to walk through likely ground until the dogs



RACCOON.

strike the trail of some unhappy wanderer and follow it up. Each man carries a torch, and of course goes on foot, and the dogs may be of any breed, provided only they will follow the track of a coon or possum, and will not follow that of a rabbit. It is not a very lofty kind of sport, but for pure fun nothing can come much ahead of such a midnight scramble. The coon is found in the forests all over the United States, and the possum as far north as the latitude of New York; but both are most plentiful in the southern States, and it is there they are most commonly hunted. On the plantations, negroes are usually taken along with the white hunters, to manage the dogs and perhaps to cut down a tree or so.

Both the coon and the possum are exclusively beasts of the woodland, which usually spend the daytime in hollow trees, and take to a tree when followed. When a party of sportsmen start out on a hunt, they simply trudge along, with the dogs working all about, until one of the latter strikes a trail. As soon as he gives tongue, everybody runs in the direction of the cry, getting through the tree-trunks and brushwood as well as he can, with due regard



OPOSSUM.

same way, and so, as regards their chase, can be treated together.

The recognised method of hunting the coon and possum is at night, with a pack of dogs trained to their pursuit. They are nocturnal in their habits, coming out after nightfall to wander around the ground be-

both to himself and his torch. With a possum there is not usually a long run. The possum is a singularly slow and stupid creature, and speedily takes to a tree, around which the dogs gather in an excited, barking ring. Unless there is a hollow in the tree, a careful search with the torches soon discloses the possum, its eyes shining in the light as it sits on a branch or clings to the trunk. Somebody then swarms up the tree, grabs the possum, and climbs down with it. It opens its mouth wide, and will bite if it has the chance, but it is so sluggish that it is perfectly easy to seize it by the back of the neck and pluck it off its perch as if it were some large hairy fruit. It is then popped into a bag, and the hunt proceeds. If caught by the dogs it shows no fight, but "plays possum"—that is, feigns death.

The coon offers much more excitement. It can run at quite a good pace, in addition



OPOSSUM DESCENDING TREE, SHOWING USE OF PREHENSILE TAIL



OPOSSUM ASCENDING TREE.

to swimming and climbing, and it is a very game fighter. There is thus usually a smart run, and if the coon is overtaken on the ground, there is a savage worry. If

he is treed, the tree may have to be cut down; otherwise the coon must be knocked off its perch with a bludgeon, for he is much too tough a customer to be seized as if he were a possum. It would be about like seizing a fox. A coon's fur is valuable, and negroes eat the flesh of the possum; but white men never pursue this method of hunting except for sport only.

Of course, the amount of game that can be procured depends entirely upon its abundance in the locality chosen. I remember one night that our party got thirteen possums at Quantico Island, some thirty miles down the Potomac from Washington. A secretary of the British Embassy and a professor of the Smithsonian Institution accompanied me down, under the guidance of a Washington friend, who had spent a year or two in his early boyhood as a kind of amateur bushwhacker in the Confederate army.

In the north, coons hibernate, but frequently come out and wander around over the snow if the weather grows mild. I once got one in very deep snow in northern Maine, spying it as I was riding on the mail sled that ran out of Island Falls. Both the coon and possum, being nocturnal beasts, and hiding closely during the daylight, often exist in some numbers, even in thickly settled localities, provided there still remain considerable patches of woodland. I gave

my eldest small son, when he had just passed his fifth birthday, his first experience in the chase, by an exciting and successful impromptu coon-hunt, near a little pond beside the wood-pile, a couple of hundred yards from my stable at Sagamore Hill. One cold Thanksgiving, two or three years later, he and I celebrated our return from a long walk, taken for the purpose of chopping out an overgrown bridle-path, by the capture of a possum, after dark, in the woods but two or three hundred yards from the house.

THEODORE ROOSEVELT.

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"OPOSSUM," AUSTRALIAN.—The so-called "opossums" of Australia are, it may be premised without dipping deeply into their anatomical peculiarities, quite distinct from the true or American opossums treated of in the foregoing article, notable features of the Australian forms being their bushy tails and the union of the two outer toes of the hind feet, from which the Australian "opossums" are often denominated phalangiers. The teeth, too, are of totally different types, those of the American opossums being suited to a carnivorous or insectivorous diet, whereas those of the Australian group are adapted to vegetable substances.

Opossum-shooting ranks high among the national pastimes of Australia, and the young colonial, as soon as he is old enough to shoulder a gun, spends all the moonlight evenings abroad, roaming through ring-barked timber, his dog sniffing the air and, like its master, keeping its gaze fixed on the moon. When the dog has indicated the presence of an opossum in a tree, the sportsman tests its veracity by endeavouring to call it off; but if, refusing to quit the foot of the tree, it stakes its reputation on the presence of game overhead, then its master must step backwards and from side to side, with the object of running the moon over each limb; and it is during this operation that his attention is often riveted so exclusively on things above, that he not seldom falls foul of logs and stumps, or becomes more than slightly entangled in an outlying wire-fence. Wire-fencing is all but invisible by moonlight.

All the excitement of the expedition may be said, indeed, to lie in this "mooning." If the dark object which the hunter fondly imagines to be an opossum lie higher than the line of the moon, he must perforce fix his eyes on it and walk steadily backwards until the moon is directly behind it. In doing this, he more often than not lands

himself in a water-hole. The beast can obviously be mooned from one spot only at any given moment, and so it will sometimes happen that two companions start 20 yards apart on the same errand and "bump" at that spot.

The "new chum," at whose door is laid the perpetration of all that is ridiculous, very often slaughters lumps of bark or the great nests of the white ant; but the old hand never fires until the rounded head and upright, pointed ears are unmistakably outlined against the moon. Sometimes the afore-mentioned solitary point from which the opossum can be mooned is occupied by a tree, in which case the animal is safe for the moment, unless, as rarely happens, it can be persuaded to shift its position.

Some unfortunates have been known to mistake a "native bear," or koala, for an opossum, and, after emptying a dozen cartridges into its hide, have returned to camp under the impression that they are bewitched, for the "bear" treats ordinary 'possum shot as dirt, and refuses to budge for anything under a handful of slugs or two or three bullets.

A thoroughly trained dog is a great help, as it undertakes all the preliminary hunting; and once an old "'possum-dog" barks up a tree, its master is certain that it has not erred, nor will it rush in and worry when the opossum falls to earth, which it sometimes does at the least touch. Then ensues a general *mêlée*, in which men and dogs tumble over each other in the half darkness in futile pursuit of a small animal that runs and doubles like a hare, often indeed gaining another tree and disappearing down a hollow limb ere it can be mooned again.

All these arboreal beasts have the trick of climbing the far side of a tree, and even the great iguana will keep its pursuer running round and round a tree without affording a sight of more than the tip of its tail. An educated ear is of great use in this work, and the experienced 'possum-hunter listens, after he knows that the shot has struck home, for the drip of blood on the ground and the scratching that tell of the struggle to maintain a foothold. If the little beast is touched, it remains motionless, if unhurt, it bolts for the nearest hollow.

Beginners cannot by any argument be persuaded to leave their victims where they fall. They have, in weak moments, promised rugs to friends in town, and, as each rug contains from fifty to eighty skins, they tackle each morning the pile of stiffened corpses in the hope of making some headway. As a matter of fact, however, the amateur will find two or three as

many as he can skin carefully at a sitting. Those, of course, who hunt these animals for a living are able, if good shots and quick skimmers, to make a fair wage, as the skins sell at present for something approximating to 10s. the dozen, and fifty an evening are no unusual bag for one gun.

The beautiful flying squirrels, as the members of a smaller group of marsupials are called, are shot by moonlight in much the same fashion, though, owing to their capricious distribution—for they abound on one slope of some ranges without ever occurring on the other—their pursuit is far less general. Again, they frequently disappear from their haunts to re-appear after an indefinite absence.

The chief point in which their chase differs from that of the opossum is the fact that a dog is, in this case, worse than useless, for it would make them so shy that they would fly from spot to spot before their pursuer could get them in line with the moon. Moreover, as they do not touch the earth, but fly from tree to tree, there would be no scent for the dog to follow; and their incessant chattering makes them easy to locate. So silent indeed is the bush, that even the noise of their flight can be heard at some distance.

When struck, they mostly fly 40 or 50 yards before falling, and their appearance, as they cross the moon's rays with distended membranes, gives an exaggerated impression of their size, just as their skins are invariably disappointing to the newcomer, for the fur, though long, soft, and thick along the back, is very thin on the sides, and all but disappears on the "wings." This moonlight shooting for such small game reads as feeble judged by the standards of old-world sport, but there is in it a charm all its own, not alone for born Australians, but also for many from home who pay the bush a visit.

ARTHUR EDEN.

ORYX—Distribution.—The oryx is a large and very remarkable antelope, of which some five species are to be found in Africa, while the sixth (*Oryx beatrix*) has its habitat in Asia, and is to be met with chiefly in the deserts of the interior of Arabia and in Mesopotamia, at the head of the Persian Gulf. This Asiatic species is much smaller than its African congeners. It stands at the shoulder something like a foot less than the well-known gemsbok of South Africa (*Oryx gazella*), and its horns measure, in good specimens, no more than 26 or 27 inches. In North-west and Central Africa is to be found the Leucoryx,

or White Oryx (*Oryx leucoryx*), whose habitat is chiefly in Nigeria and the Soudan regions. The horns of this species extend, in the finest specimens hitherto secured, to as much as 44½ inches. In Somaliland and North-east Africa the Beisa antelope (*Oryx beisa*) is the representative of this family. The beisa, like the next species, is about equal in size to the gemsbok; it, too, carries fine horns, which occasionally run to 40 inches in length. In East Africa the handsome *Oryx beisa callotis*, or "Fringe-eared Beisa," which for some time was confused with the beisa, is to be found. This oryx may be easily singled out by



the black ear tufts, which are not to be found in any of the species. Quite recently a new form of oryx, believed to connect the Beisa with the fringe-eared oryx, has been discovered on the Laikipia Plateau, British East Africa. This antelope has been named *Oryx annectans*, and will be found fully described in Vol. LVI., No. 2, of *The Smithsonian Miscellaneous Collections*, published at Washington. In North and East Africa the oryxes are chiefly bagged by stalking, and as they are shy and suspicious antelopes, they are, when secured, valuable and well-earned trophies. The horns of the East African, or "Fringe-eared," oryx are shorter than those of its other African relations, seldom exceeding 33½ inches in length.

In South Africa is to be found the noblest of all these handsome antelopes. The **Gemsbok** (*Oryx gazella*)—*Kukama* of the Bechuanas, *Ko* of the Masarwa Bushmen

—formerly abounded in considerable troops from the Karreos of Cape Colony to the Lake Ngami country, including the Kalahari, Great Namaqualand, Damaraland, and Bechuanaland. Its most easterly limit seems to have been the Ramokwebani River in South-western Matabeleland. A few gemsbok still linger in the arid north-west of the Cape Colony, just south of the Orange River. The northern portion of the Kalahari Desert is now the chief stronghold of these fine antelopes. Here in the waterless solitudes of these regions they still wander in large troops. They are also found here and there in the desert portions of Khama's Country, and occasionally in the lower Kalahari and the western parts of British Bechuanaland. Westward, beyond Lake Ngami, the gemsbok still ranges in Damaraland and Ovampoland, and thence to South Angola—Portuguese territory—where it is fairly abundant in the country behind Mossamedes.

Description.—The gemsbok stands about 4 feet at the withers and is a heavily built antelope, strikingly marked upon the legs, croup, and flanks with black. The belly and extremities are white. The body-colouring is of a warm grey. The tail is long, black and sweeping. The head is remarkable for the strong black markings, which resemble at a distance a head-stall. The horns are long, straight, sharply pointed, and annulated for some distance from the base. Those of the female are longer than the male's, the greatest length hitherto recorded being $47\frac{1}{2}$ inches. The gemsbok, which in South Africa is pursued on horseback, is a notable beast of chase, fleet and enduring. It requires a very good horse to run into one. These animals seem, in the Kalahari, to be perfectly independent of water. When wounded and brought to bay the gemsbok often defends itself fiercely, and ought to be approached with great caution. Its long horns, which it wields most dexterously, have slain many a good dog. There is a persistent legend in South Africa that this oryx defends itself successfully even from the lion's assaults.

H. A. BRYDEN.

OSTRICH — Classification. — Most systematists at the present day agree in recognising three great primary divisions or groups of the class *Aves*, namely (1) the *Saurura*, or lizard-tailed birds, represented by the fossil form *Archæopteryx*; (2) the *Carinata*, or carinate birds, characterised *inter alia* by the possession of a keel (*carina*) to the sternum or breast-bone for the attachment of the muscles which move

the wings in flight, and (3) the *Ratitæ* or flightless birds, in which the keel is absent and the sternum presents the appearance of a raft (*ratitæ*) rather than a keeled boat.

The Ostrich (*Struthio camelus*) is by common consent the typical representative of the last-named group.

"The genus *Struthio*," says Professor Newton (*Dict. Birds*), "forms the type of one group of the sub-class *Ratitæ*, which differs so widely from the rest . . . as to justify us in regarding it as an order, to which the name *Struthionces* may be applied; but that term, as well as *Struthionida*, has been often used in a more general sense by systematists, even to signify the whole of the *Ratitæ*." The most obvious distinctive character presented by the ostrich is the possession of two toes only (the third and fourth) on each foot—a character absolutely peculiar to the genus *Struthio*.

As in the present work we have to consider the ostrich chiefly in its relation to sport, it will be unnecessary to refer in detail to its peculiar structure, to its natural history, or to its commercial value as the producer of far-famed feathers. Nor will it be incumbent on us to say much of its relatives, the South American rheas (*Rhea americana* and *R. darwini*), the Australian emus (*Dromæus novæ-hollandiæ* and *D. irroratus*), and the various species of cassowary and apteryx, inhabiting Australia, New Guinea, New Britain, and New Zealand, of which full descriptions may be found in a monograph by the present writer. Attention may be here confined to those species only which enter into the category of sport, and are hunted as "big game" in Africa and in South America.

Distribution.—Whether there is more than one species of ostrich in Africa is a question which is not satisfactorily settled. It has been remarked that birds from North Africa have the skin of the naked parts flesh-coloured, while those in the South have the same parts bluish, which has led to the specific separation of the latter form as *Struthio australis*. On even more slender grounds the ostrich of Somaliland, with leaden-coloured naked parts, has been separated as *Struthio molybdophanes*. The statement that ostrich eggs from North Africa are smooth, while those from the South are pitted, is probably to be explained by the fact that the former are usually procured from the Arabs, whose practice it is to get rid of the rough surface, and to improve, as they think, the appearance of the eggs by rubbing and polishing them between their hands with sand.

The most northerly limit of the ostrich's ordinary range at the present day, says Professor Newton, cannot be further than that portion of the Syrian Desert lying directly to the eastward of Damascus. In Palestine it is regarded as a straggler from Central Arabia; and from the confines of Barbary to those of the European settlements in the south it appears to inhabit every waste sufficiently extensive to afford it the solitude it loves, and to be still almost as abundant as ever in many wide districts where the influence of the markets of civilisation is feebly felt.

Methods of Capture.—In the case of a bird whose feathers form so valuable an article of commerce, it is not to be wondered at that many and various methods should be devised for its capture.

In Arabia, as a rule, the hen bird is killed while sitting on its eggs. The hunter, after burying the blood and laying the dead bird again on the eggs, digs a hole in the sand at a little distance. Here he conceals himself until sunset, when the male returns only to share the same fate. (Finsch and Hartlaub, *Vögel Ost Afrikas*, p. 606.)

Between Alexandria and Dernah, Minutoli found that the ostrich hunters resort to the old device of the screen and stalking horse, behind which they conceal themselves, and so cautiously steal upon the birds unawares. (*Reisen in der Libyschen Wüste und nach Ober Ägypten*.) The great difficulty is to get to leeward of the flock, for if once an ostrich winds the hunter, away they all go, and his trouble is taken for nothing.

In Morocco, according to Dr. Leared (*Morocco and the Moors*, 1876), the ostrich is hunted by Arabs, mounted on desert horses. The party advances cautiously against the wind, and with long intervals between each horseman, until tracks of the birds are discovered. These are followed up until the game is in sight. A dash at full speed is then made, until the ostriches turn and face their pursuers. They do this because their pace is interfered with by the action of the wind upon their wings. The gauntlet has then to be run among the armed sportsmen, who either shoot the birds or maim them by throwing at their legs a short thick stick formed of hard-grained and heavy wood. In the use of this implement the Arabs are extremely dexterous.

The mode of hunting the ostrich in other parts of North Africa has been well described by Hartmann in Cabanis's *Journal*, and, so far as the Sahara is concerned, by Canon Tristram in his work, *The Great Sahara*. Hartmann's statement that certain

of the Bedouin tribes hunt the ostrich on dromedaries is confirmed by the observations of Captain Sir Richard Burton, who states that in Somaliland the natives hunt the bird on camels, and shoot it with poisoned arrows.

In the Sahara it is ridden down on horseback, and its capture in this way, says Canon Tristram, is the greatest feat of hunting to which the Sahara sportsman aspires.

The Bushmen, like the Somalis, kill the ostrich with poisoned arrows, or catch it very cleverly in pitfalls, or with the lasso,



OSTRICH.

and the Sukurich and Hadendawah tribes likewise use the lasso, with which the bird, when once fairly caught, is strangled. (Hartmann, *Journal für Ornithologie*, 1863, p. 318; 1864, p. 154.) A favourite plan is to wait for the birds in a place of concealment as near as possible to the pools to which they come for water, and then, with a gun loaded with swan-shot, to fire at their necks as they stoop to drink, when perhaps half a dozen are laid low at once.

Another plan to which the Bushman often resorts is simpler still. Having found an ostrich's nest, he removes all the eggs, and, ensconcing himself in the nest, quietly awaits the return of the bird, which he shoots with a poisoned arrow before it has

time to recover from its surprise at finding him there instead of the eggs.

In Senaar, the Abû-Rôf bring it down by throwing a curved flat stick from two and a half to three feet long, not unlike the Australian boomerang, and made of tough acacia wood or hard zizyphus.

Heuglin states that the Eisahirt people (*Eisahirten*) keep tame ostriches on purpose to hunt the wild ones (just as tame elephants are employed to hunt wild ones), and that they profess also to charm the wild ostrich with the soft notes of a reed pipe.

None of the above-mentioned devices can properly be termed sport; they are rather the methods adopted by those who hunt the ostrich for food or for the value of its feathers.

The legitimate form of sport is to pursue the bird on horseback at full gallop, and, having got within range, to dismount and shoot it with a rifle—a feat requiring both skill and practice. A graphic description of this modern plan, written by Mr. Arthur Glynn of Leydenburg in November, 1895, will fitly close this portion of the subject. The country described by him is that portion of the South African Republic lying between the Sabie and Crocodile rivers, bounded on the east by the Lebombo Mountains, and on the west by the Drakensberg. A few years ago this was regarded as one of the best game countries in Africa, and ostriches were fairly numerous. In the year referred to, Mr. Glynn's party made a splendid bag of game, including thirty-one ostriches. These birds were found in a particular locality, attracted by the berries of a creeper which there grows along the ground and to which they appeared to be extremely partial. The *modus operandi* is thus graphically described by Mr. Glynn:—

“After proceeding about three miles we sighted a troop of twenty ostriches. The country was covered with rather low thorn bushes, and slightly undulating but still moderate galloping ground. On sighting the troop at about 200 yards, we immediately gave chase. There was a single bull wildebeeste amongst them. After a stiff gallop of half a mile we got within 70 yards of the troop, so, reining in, we both dismounted and fired, bringing down one ostrich and the wildebeeste bull. The latter was hit in the head, and how he was hit at all is strange, for neither of us saw him when we fired. We quickly mounted and continued the pursuit, the ostriches never running for any distance in a direct course, but always turning and twisting, which made it difficult for us to keep them

in sight. We were well mounted, and did not fear losing them for want of speed on the part of our horses. After proceeding a mile through bushy country, we entered an open glade about half a mile in length, and let out our horses at their best pace. We went sailing on, neck and neck, regardless of holes or anything else, only thinking of the grandly plumaged birds in front of us, our horses straining every nerve to overtake them, as only old hunting horses know how to run when in pursuit of game. We had now approached within 50 yards, and, jumping down, we fired at two cock birds running separately from the troop, bringing them both down. Hastily mounting, we continued on after the retreating troop, but at this juncture my friend's horse trod in a hole, sending his rider over his head, thereby completely putting him out of the run. My friend immediately jumped up and fired a few long, fruitless shots at the birds, but did not continue the chase, as one of his stirrup leathers had broken. We had an after-rider, but he was considerably in the rear, being mounted on a slow horse. I now continued the chase by myself. For a mile the ostriches gained on me, as they continued to run in a straight line, thereby not enabling me to cut off at any point, but obliging me to keep in their rear all the time. The country here was more open than that we had already passed through, and more broken. I got off twice and fired several fruitless shots, and then continued the chase for certainly two miles without dismounting once. My horse was wet from head to foot, and I was just thinking of relinquishing the pursuit, when I saw five cock ostriches emerge from behind a patch of bush and join the troop I was in pursuit of. This influenced me to continue, and I urged my tired steed on, using my spurs freely. I now got within 100 yards and jumped down, thinking to have a few parting shots and then return to look up my friend. The first shot I fired brought down a fine cock bird, but the second struck over the others, turning them to the right along a low ridge. They appeared very much exhausted, and ran with their wings spread out. I fired several shots at 120 yards, but none of them took effect. One bullet struck in advance of them, turning them in my direction. I saw they were coming direct for me, so waited until they were close. In the meantime I felt my cartridge belt, and to my mortification discovered that I had only one cartridge left besides the two in my rifle. Anyhow, when the ostriches approached within 15 yards I selected the best-looking bird and put a

bullet through him. He ran on for about 20 yards and fell dead."

Pace of Ostrich.—Two points of interest remain to be noticed; the length of stride in the ostrich, and its rate of speed.

When going at its best pace, the length of stride, as measured by Canon Tristram in the Sahara, varies from 22 to 28 feet, and its rate of speed has been estimated by Dr. Livingstone at 26 miles an hour. He says:—"The ostrich, when feeding, has a pace of from 20 to 22 inches; when walking

pampas of Tapalguan on the south-western frontier of Buenos Ayres (*The Field of June 24, 1876*), says:—"I have often seen runs that lasted for an hour and a half, and more. The pace was always most trying, and although there are no fences to be negotiated the riding is far from easy, or free from danger. Frequently large tracts of country have to be crossed which are entirely covered with tufts of high coarse grass, where it is all blind going. In other parts the ground is full of holes, and under-



A HERD OF OSTRICH.

at other times about 4 inches more. In general the eye cannot follow its legs. I was once able to count the steps by a stopwatch, and if I am not mistaken, the bird made thirty strides in ten seconds. Reckoning each stride at 12 feet, we have a speed of about 26 miles per hour."

Rhea Coursing.—The Rhea, or, as it is often called, the South American ostrich, is hunted in the province of Buenos Ayres, with half-bred greyhounds, and, in the words of an eye-witness, it is difficult to conceive anything more exciting than a run after one of these birds. Their speed is astonishing; they almost invariably run down, or side on to, the wind, and, if there is a good stiff breeze blowing, as is almost always the case on these pampas, they raise one wing, which acts as a kind of sail, and when this happens few horses or dogs can live with them. It is only by fairly wearing them out that they can eventually be approached; to succeed in this, however, both horses and dogs must be in excellent condition.

Captain C. S. Smelt, formerly of the 98th Regiment, describing this sport on the

mined by biscachas, foxes, and other animals, and it is only the wonderful cleverness of the horses that prevents many awkward accidents from happening. Frequently, however, one gets a run over as fine turf as any man would wish to ride over, where the ground is perfectly sound, and nothing is to be met with to prevent the most perfect enjoyment of the sport.

"In running these birds, when the dogs get alongside of them it is wonderful to see the manner in which they double just as a hare does before greyhounds, but apparently shorter and with greater ease, if such a thing be possible."

Use of the "Bolas."—The natives of Buenos Ayres and the Indians never hunt any kind of game with dogs; they use the *bolas* or balls. These are three pieces of lead or hard heavy wood or stone, rudely fashioned into a round shape, cased in raw hide, and attached to thongs of the same material, which are joined together in the centre. In use they are swung round the head with great rapidity, while the horseman rides at full speed, and, when within throwing distance, they are launched at the

game. They twist round its legs, head, or wings, and completely cripple it, and, indeed, often stun it, if one of the balls happens to strike the head or any sensitive part. The distance to which these *volas* can be thrown, and the wonderful precision which is exhibited in their use is said to be quite marvellous.

Distribution of the Rhea.—According to Mr. Ronald Bridgett, H.B.M. Consul at Buenos Ayres, the rhea twenty years ago

An interesting account of this bird has been given by Darwin in his *Naturalist's Voyage Round the World*, and he remarked that it does not expand the wings when starting at full speed, after the manner of the northern bird, but keeps them close to its sides—an observation subsequently confirmed by Mr. Chaworth Musters in his entertaining volume *At Home with the Patagonians*, 1872.

Of the other species of struthious birds



RHEAS.

existed in this province only beyond the Indian frontier, and was plentiful in the provinces of Entre Rios, Santa Fé, and Cordova, as well as in the republic of Uruguay. So great has been the slaughter of these birds, however, during the last few years, for the sake of the feathers, which are largely exported to the United States and Europe, that one may now ride hundreds of leagues from Buenos Ayres without seeing one. From another source we learn that for some years back the number of birds killed has averaged 400,000 per annum, and as a consequence the species has already disappeared from nearly half the territory of the River Plate.

In Patagonia a smaller species is found known to naturalists as **Darwin's Rhea**. It differs from the common rhea in its smaller size and shorter legs, which are feathered to the tarsus, and in having the plumage mottled, or less uniform in colour.

it is unnecessary to treat here, since neither their habits nor the modes of capturing them seem to bring them within the category of sport.

J. E. HARTING.

OUANANICHE (*Salmo trutta*).—The ouananiche, falsely called the land-locked salmon, is a salmonoid inhabiting some of the rivers and lakes of the Great Labrador Peninsula. The fish is said to be the same salmonoid which inhabits various lakes in the Province of Maine on the north-eastern corner of the United States territory. There, from the name, Sebago, of the lakes that it inhabits, it is known as the *salmo salar* (Sebago). Whether the land-locked salmon of Maine be identical or no with the Canadian fish, it is known to be somewhat different in some of its habits from the ouananiche—notably in not rising to a fly—and it is of the Canadian fish, the ouananiche itself, that I now write.

Classification.—Before going into further details, I must justify the name which I give to this hitherto unclassified fish of *salmo trutta* (ouananiche), instead of assuming that of *salmo salar* (ouananiche), which my friend and angling companion, Mr. E. T. D. Chambers, of Quebec, is inclined to assign to it in his splendid book on the fish, entitled *The Ouananiche and its Canadian Environment*. Mr. Chambers, in suggesting this nomenclature for the fish, accepts the opinion formed by Professor Samuel Garman, of Cambridge, Mass., that the ouananiche and the sea-salmon—the *salmo salar*—are one and the same fish. From this opinion I have always dissented. In my introduction to Mr. Chambers's book I find that I made use of the following sentences:—

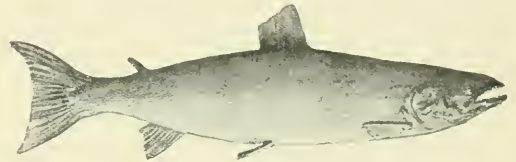
“From the observations I took of the behaviour of the fish, my previous opinion, that the ouananiche was a salmon trout and not a salmon, was confirmed. Except in two cases, all of the fish confined themselves chiefly to jumping, as is the way with all the varieties of sea trout (be they known as whitling, sewen, salmon peel, truff, or merely salmon trout), which we catch in the British Islands from the northernmost island of the Shetland group down to the southernmost extremity of Cornwall. Now, as all salmon fishers know, the *salmo salar* may jump occasionally, and in fact, unless an unusually heavy fish, will throw himself out of the water once or twice—three times even: but his principal tactics lie in making spirited dashes up and down the stream, making the reel screech again, and bringing the angler's heart further up into his mouth with every extra yard of line taken out.”

These were my words regarding the fish in 1892, and further experience of the ouananiche—his habits, customs, and general appearance—in 1896 did but convince me more firmly than ever that the ouananiche is not a land-locked salmon, but a land-locked salmon trout. I merely use the word land-locked here in the sense of a fish that does not go up and down to the sea. Land-locked in the rivers and lakes of the Labrador Peninsula he never really is; he has everywhere free access to the sea, and in almost all the rivers and lakes where he has hitherto been found he would, did he so choose, with his enormous leaping powers, be able to re-ascend to the waters whence he originally came. But with one or two very rare exceptions, when he has been taken in the higher tidal waters of the Saguenay River, the fish has never been found in the salt water. As regards his

appearance, I have compared together a Scotch salmon trout and a grilse, or small salmon, of similar weight. The former was so like a ouananiche that I would have defied any Montagnais Indian to have been able to select him from among a heap of the latter fish. The grilse was not like a ouananiche at all. Therefore, after having taken the opinion of an experienced angler who has, like myself, caught *salmo salar*, *salmo trutta*, and ouananiche galore, I am convinced that the correct generic name for this hitherto unnamed species of the salmon tribe should be that with which I have headed this monograph—*salmo trutta* (ouananiche).

But now to describe the fish and its habits from a sportsman's point of view.

Habitat.—The word ouananiche—pronounced *whan-a-niche*—is the Montagnais Indian name for a small species of the salmon tribe which was, until lately, considered to inhabit solely the waters of the Lake St. John in the northern part of the



OUANANICHE.

Province of Quebec, the magnificent rivers feeding the lake, and the upper waters of the mighty Saguenay River by which the lake discharges its flood into the Atlantic Ocean. Although in very recent years Mr. A. P. Low, of the Geological Survey of Canada, has established its presence in many far-away rivers in the hitherto unexplored portions of the enormous Labrador Peninsula, such is the inaccessibility of those rivers, and so many hundred miles of trackless forest separate them from civilisation, that for many years to come it is to the Lake St. John rivers that the ordinary angler will still have to go who wishes to form a closer acquaintance with this very sporting specimen of the salmon tribe.

Habits and Methods of Capture.—In these rivers the ouananiche loves to dwell in the most furious and rapid waters. The foaming eddies at the sides of the most frightful rapids, the whirlpools at the side of the main stream just at the foot of some mighty cataract, are usually, after the ice has melted, the best places for the artificial fly, the phantom minnow, or some other small artificial bait. In the still waters of Lake St. John itself, in Lake Tschotogama, which is a beautiful lake far up the Peri-

bonca River, in the Lac à Jim and various other lakes, he is also taken, and all the year round by the Montagnais Indians, and the French Canadian "habitants" of these districts, by trolling with a spoon and with various natural baits. In the winter season, they take him in Lake St. John by nets cunningly set under the ice. The ouananiche, as caught by the angler in the terrible waters of the Grande Décharge—as the main issue of the River Saguenay from Lake St. John is called—vary much in size, according to the season of the year. They can be caught with a fly there from the beginning of June till the middle of August, from half a pound in weight to four or five pounds, all the larger fish being taken in the earlier part of the year. As the season advances the large ones travel round the lake and ascend the great feeders, the Peribonca, Little Peribonca, Ashuapmouchouan, Mistasibi, and Mistassini. Further down the Saguenay, some seven or ten miles from the Grande Décharge, both large and small fish can be taken with fly all the season in the awful rapids and whirlpools round the "Ile Maligne"; but none but those who have a stout heart will care to trust themselves, in a birch bark canoe, to run the tremendous rapids, while the return up the river is still more alarming. By far the best fly fishing after the third week in June is to be found up the Mistassini and Peribonca Rivers, where a small Jock Scott used on a trout rod, with a strong trout cast, will be found to give the most successful results. A very good second fly, to be used as a dropper, is the Haggard fly on a No. 8 or No. 9 hook. It is tied as follows: Body, yellow wool with gold tinsel ringing; partridge hackle, and a woodcock wing. These rivers must be ascended with Indian or half-breed guides in birch bark canoes, and a camping-out kit must be taken, which can be obtained at the Hotel Roberval at the terminus station of the Quebec and Lake St. John railroad, 190 miles from Quebec.

The best river of all in August is undoubtedly the Metabetchouan, which flows into the lake from the south side at a point twenty-five miles from Roberval village. It is, however, the phantom minnow rather than the fly which will take the fish in the Metabetchouan at that time of year, when they are running up to spawn.

Dimensions.—The ouananiche has rarely been known to exceed 8 lb. in weight, and it is indeed doubtful if any fish caught with fly or bait, and said to be of 8 lb. in weight, has ever been weighed in such a public manner that there could be no doubt about

his dimensions. For all practical purposes a 7-lb. fish is a very large one indeed; 6-pounders even, although I have caught them, are not at all common. Here is a list of the largest known to have been caught and names of the captors:—

Louis Webbe, of New York, in 1892, with fly, one of 8 lb.; Mrs. J. B. Lee, at the Grande Décharge, August 10th, 1894, with a spoon, one of 7½ lb.; Thomas La Roche, a French Canadian guide, with bait, in Lake St. John, one (said to weigh) 8¾ lb.; A. J. Ritchie, with a small Jock Scott fly, at the Ile Maligne, in July, 1896, one of 7 lb.

I saw this last fish myself after he had been out of the water many hours. He then only weighed 6¾ lb., but he had dried up considerably with the sun.

Sometimes a very free rising creature, at others most capricious and hard to move, when actually hooked the ouananiche is probably the most elastic fish in creation. He has an enormous tail for his size, and, making the most tremendous leaps, tears away at the fly in the air like a bulldog shaking a rat. Naturally he often escapes. He is in colour and marking usually just like a salmon trout that has been some time out of the salt water.

His flesh is pink, or rather red, being a different shade from that of a salmon. To be really good, he should be cooked absolutely fresh—within half an hour of catching, if possible. If kept a few hours, the flesh becomes woolly.

For any further information on this most lively and game trout of the inland waters of the Labrador Peninsula, the sportsman should turn to Mr. E. T. D. Chambers's book, which was published by Harper Brothers of New York in July, 1896.

ANDREW C. P. HAGGARD.

OVIS AMMON—In dealing with this sheep it is necessary to discriminate between the true *Ovis ammon* and the so-called ammon of the Himalayan sportsman. The former is an inhabitant of the desert ranges of Southern Siberia, whereas the latter, which should be termed *Ovis ammon hodgsoni*, is the big sheep of the Himalayan sportsman, and is known to the Tibetans as nyan.

Horn Measurements.—As regards the true *ammon*, Mr. Rowland Ward gives the maximum length of the horns as 62 inches round the curve, with a circumference at the base of 19 inches, whilst the record length of *hodgsoni* is 57 inches, and girth at base, 18¾ inches. It will be noticed that though the length of the horns in the two races is very different, the girth at

the base does not seem to be proportionately so—a fact which gives to the head of *hodgsoni* a very massive appearance. The horns are rugose, especially at the base.

So far as the shape of the head is con-



OVIS AMMON.

cerned, in the horns of the true *ammon* the lateral twist which is so prominent a feature in those of *poli* is observable, whereas the horns of *hodgsoni* terminate with a forward and upward curve, close to the head, and but slightly turned outwards. In fact, an instance is known to the writer in which the eye is so completely covered by this upward turn that a lateral view must have been an impossibility to the animal. A circumstance which renders it difficult to get an absolutely accurate measurement of the horns of these sheep is the fact that in almost all the heads of old rams that are obtained, a portion, often some inches in length, is broken off the tips of the horns, the result of fighting.

Habits.—The habits of the rams of both races are similar; the rams separating themselves from the ewes during the hot months, and living in isolated herds or groups. Two facts have been especially noted by sportsmen who have pursued the ammon: first, that while several good herds may be found upon ground not apparently very favourable, the hunter may subsequently search a locality for weeks without seeing a track, though the country may appear in every way suited to them; secondly, that it is the old rams which are the most difficult to find, and that herd after herd of females and young may be encountered before any ram worth shooting is met with. Not infrequently the sportsman has to leave the ground without having added the coveted trophy to his bag, though, if he is lucky, or knows where to look for them, he may come upon a herd of rams, any one of whose heads would amply repay him for the trouble he has taken.

Shape, &c.—A full-grown ram of *hodgsoni* stands, on an average, about 12 hands, and weighs from 200 to 300 lb. In colour the rams are dark brown on the back, with a slightly defined medial line, shading off into a lighter tint on the flanks and quarters; the tail is very short. An old ram has a very distinct ruff of light-coloured hair on the throat, while the neck of the female is of a darker shade, her horns being thin, and seldom exceeding 20 inches in length. By anyone unaccustomed to the appearance of the *nyan*, great difficulty is at first experienced in appreciating the probable length of the horns which are being scanned. This is due partly to their colour, and, more especially, to the peculiar curve which makes it very hard to see the horns clearly from a distance. Thus the inexperienced sportsman will not infrequently be very much disappointed when he comes to measure the head of the animal that he has successfully stalked and shot; let us hope that this is the cause of so many heads being obtained of which the possessor has no reason to be proud, and which would have been much better left to



Hildwell 1897

OVIS HODGSONI.

grow into legitimate trophies. Though the actual length of the horns is so difficult to determine, there is no mistaking an old ram when he is sighted, both from the darker colour of his body, and from the ruff of long

white hair on the throat, which is a very noticeable feature in a patriarch. A fact that is very striking in the form of these mountain sheep is the almost deer-like slenderness of the legs, which seem quite disproportionate to the sturdy body which they support; but anyone who has seen a herd racing away after his shot has been fired will realise the fact that they are eminently well adapted to the work of carrying their



HEAD OF *OVIS HODGSONI*.

owners over the rough stones of the desert hills where they are to be found.

Stalking.—The shooting of a fine specimen of *Ovis ammon hodgsoni* has been described as “the blue riband of Himalayan sport,” and there is no doubt that the pursuit of this animal is one of the most fascinating that any sportsman can desire; even the most *blasé* may well be excused an excess of “buck fever” as he levels his rifle at the shoulder of a veteran ram; such a splendid fellow does he look with his white ruff and his massive head. By many writers he has been described as being very difficult to stalk, but it is probable that though his sense of sight and scent, more especially of scent, is very acute, the chief difficulty lies in the shifting winds that prevail at these altitudes, notably in the vicinity of snow, and in the extremely open nature of the ground where he feeds and takes his midday siesta. As is the case with most wild animals, there is always one wary sentry taking his turn to watch while the others sleep. Should there be any sort of cover, or should the wind hold steady, the writer has not found him

more difficult to approach than other mountain animals; but should a puff come at your back, even though you may be at a distance of half a mile, up will go all the heads in an instant, and you will be lucky if you get a shot that day, as a *nyan* travels a good deal quicker at, say, an altitude of 17,000 feet than does any human being.

Weapon.—As regards the weapon to be used, every sportsman knows what suits him best, but the vitality of this sheep is extraordinary, and the writer has known a case where the bullet from a .450 express did not miss the heart by an eighth of an inch, yet the ram went off with the rest of the herd apparently unhurt, and did not lie down until he had covered eight miles of rough ground and snow-slopes; though (fortunately for the sportsman, who was watching through his glass, and might otherwise have thought that he had scored a miss) he very soon turned away from the remainder of the herd, a sure sign with most animals that they have been seriously wounded. In fine, the sportsman who pursues the *nyan* in his native fastnesses amongst the snowy summits and many-coloured plains of Ladak and Tibet, as he gazes on the lifeless form and massive head of the ram that he has successfully found, stalked and shot, will feel that he is well rewarded.

[See also article, “Big Game,” Vol. I., p. 248, where *Ovis ammon* and the allied forms are referred to under the Turki name ARGALI.]

F. E. S. ADAIR.

PALL MALL.—[See SPORT, OBSOLETE.]

PARTRIDGE—REARING.—Partridges found in this country are of two kinds, the common Grey Partridge (*Perdrix cinerea*) and the French, or Red Legged variety (*Caccabis rufa*). Partridges follow the plough, and although found in considerable numbers in grass countries, yet arable land is necessary to support a large stock. Some preservers maintain that partridges and pheasants require the same insect food, and that a large head of pheasants cannot be maintained without a corresponding diminution in partridges. Wild birds pair from the middle of January to the third week in February according to the locality and the season, and begin laying towards the end of April. Eggs from nests that are cut out by the mowing machine, as well as those that are laid on the boundaries, or in public situations, should be collected and hatched under foster mothers.

Exactly as in the case of pheasant rearing, the practice of buying eggs indiscriminately is open to grave objections, and the remark applies with double force to



NEST OF GREY PARTRIDGE.

the case of partridges' eggs. Rather than buy eggs of strangers, we much prefer to recommend the purchase and turning down of Hungarian birds. These can be bought at about nine shillings a brace in December. If time is not a matter of great moment, the stock of birds may be increased by turning out a few Hungarians every year, and shooting lightly for the first two or three seasons. The earlier they are turned out, the better. Birds should always be turned down at night in the neighbourhood of their water and food supply. If this does not exist, provide both. On the night that your keeper turns them down, let him first separate the sexes, and then place about four hens in one spot, and the same number of cocks at a distance, repeating the process while the birds last. This will give them the chance of mating with English birds the same season. In preference to hand-rearing partridges, some keepers adopt the plan of placing the eggs that have been picked up under other wild hens. An experienced keeper tells us that the nest of a wild bird may always be safely made up to twenty-three eggs. Of course, the eggs thus transferred must be as nearly as possible in the same state of incubation. On large estates it is a good plan to change eggs found on one part for those taken from another nest three or four miles distant. English partridge eggs placed in a red leg's nest seldom do well, but English birds make capital mothers to the young French birds. When foster mothers are required, a cross between bantam and game is the best. These will take twenty-five eggs each, and should hatch 90 per cent.

Partridges can be reared easily enough if a supply of fresh ants' eggs can be got for them twice a day. It is best if the coops can be placed where ant hills abound. In addition, they will require mixed food three times a day, a little at a time. Diarrhœa is the chief source of loss amongst young partridges, and is frequently to be traced to the use of sour food and stale eggs. After they are three weeks old there is little trouble in rearing them. When the birds are old enough to move from the rearing ground, which is at about six to eight weeks, they should be taken, in lots of from ten to fifteen, and placed by the side of roots in different parts of the estate out of hearing of each other. This prevents the birds from packing. If there are wild birds in the immediate neighbourhood, they will probably join each other unless they are too thick on the ground, which must be avoided. If turned down in larger lots, they are apt to pack and go off the manor.

Some preservers obtain their change of blood by removing the wild birds from one part of the estate to another. The ordinary coop trap is set, and the birds are taken while at feed. Kill two out of three cocks, and remove the remainder to the spot where you intend to turn them out. Keep them still under the coop and feed them sparingly. In two or three days they will get quite tame. Then go in the evening, tilt up the coop, and the birds will walk out



YOUNG GREY PARTRIDGE.

quite quietly. Poachers take partridges with long nets, and many sorts of vermin destroy them and their eggs (*see* PRESERVATION OF GAME).

REARING IN PENS. — A partridge season, good or bad, is so largely dependent upon the weather and other causes that for

some time past various schemes and suggestions have been contemplated to remedy this uncertainty, and to introduce some practical method for the breeding of partridges by more or less artificial means.

There is little doubt that the same successful results obtained in the breeding of

system that has been tried with complete success for some years past, and are well worth the attention of those who are interested in increasing their stock of partridges by legitimate means.

Although the details of this scheme seem somewhat simple, they must nevertheless be

most carefully followed, and it is hardly necessary to say that inattention or carelessness of any description will entail failure.

Permanent Large Pen.—From a quarter to half an acre will carry from 60 to 100 brace of birds, which should be in their quarters by December 1 or before.

The land should be poor, must be well drained, and there should be as much rough grass as possible. If a natural slope with a southern aspect can be found, so much the better.

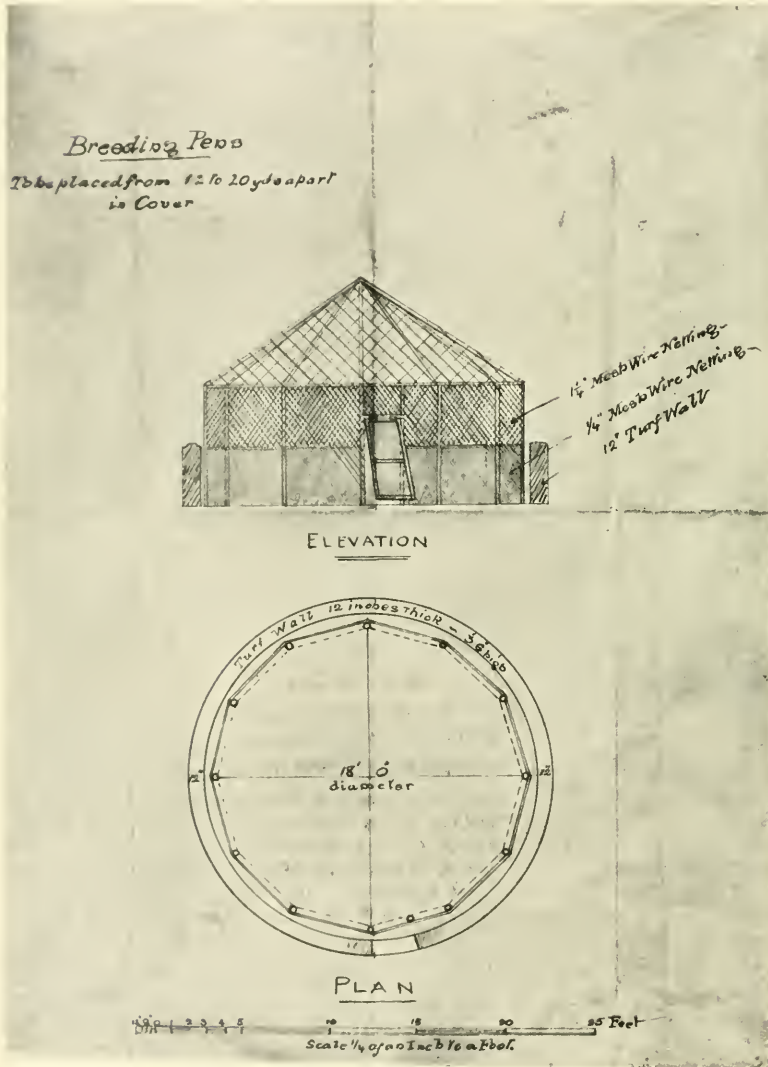
This must be enclosed in a wire fence 7 feet high (supported with fir poles), turned out at the bottom 6 inches under the soil. If the pen is placed in an open position, wattle hurdles, 3 feet high at least, should be run round it; on the north side the wattle hurdles should be 7 feet high.

Along the north side, viz., facing south, should be a

sloping shelter of thatch about 3 feet high at the back, right against the wire and wattle hurdles, for the birds to shelter in and sun themselves, and sloping to within about 1 foot from the ground.

There should be some heaps of sand for the birds to scratch and play with, and some cabbages may be planted.

Small Pens within Large Pen.—Eight small pens, with the doors left open, where



pheasants can be accomplished in the case of the wilder and smaller bird.

The first important step in the breeding and rearing of all game is to secure the services of an intelligent and sympathetic keeper, and, provided that the following instructions are carefully followed, it will be found that the comparatively small expenditure and trouble entailed will amply repay the experiment.

These instructions and plans illustrate a

the birds will retire to as they pair, in order to get away from the others, must be enclosed in the large pen, as shown.

When once inside these small pens the doors should be shut, the pairs caught in a landing net and transferred to the breeding pen.

These pens should be quite close to and in view of the keeper's cottage, as the birds require continual watching when pairing, so as to be at once removed to the breeding pens after pairing; clumps of brush-wood should be stuck firmly into the ground, and as a permanent cover patches of broom privet and birch should be planted.

Small Breeding Pens, not Permanent. — These must be round and well drained, 8 to 10 yards in diameter, and placed in a young cover or scrub, close to the keeper's house.

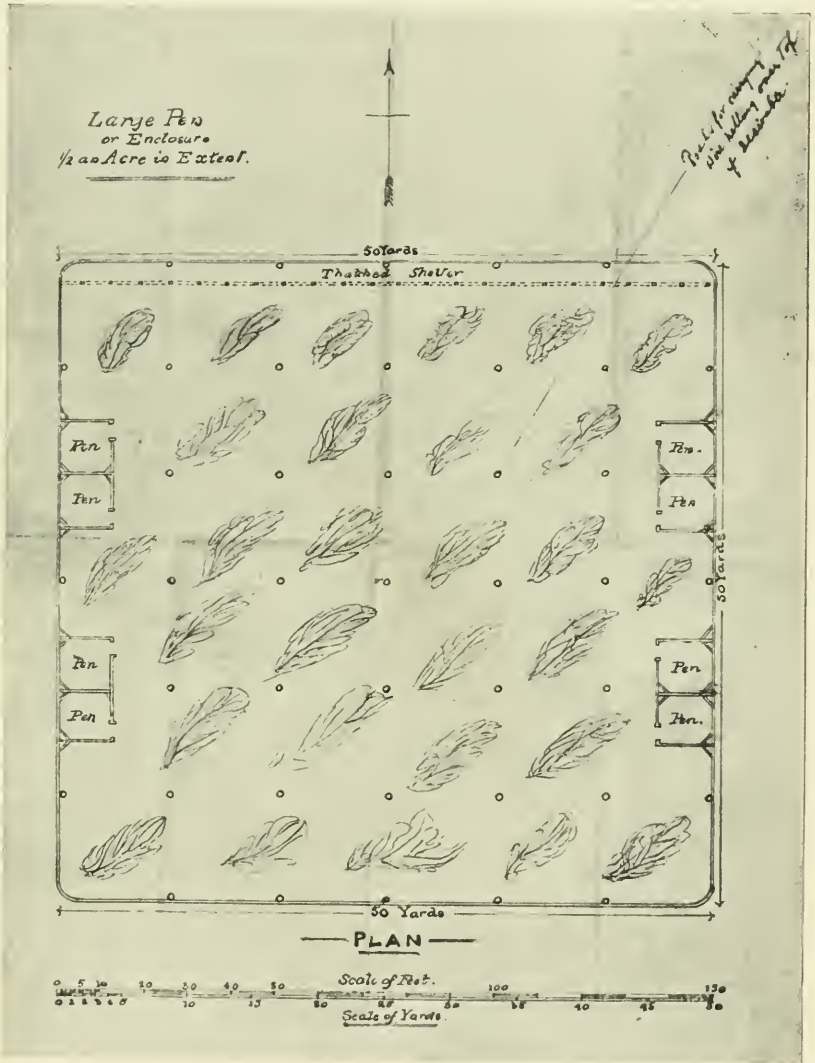
It is very important that the birds should not think they are in captivity — hence the necessity of round pens; there must be plenty of rough grass in them, and at frequent intervals good thick pieces of fir or other evergreen placed up against the wire. Cabbages should be planted, and heaps of sand provided for dusting purposes.

The whole must be enclosed with wire, which at the bottom should be of very small mesh, first to prevent vermin from coming in; secondly, to prevent the young birds when hatched from getting through.

A band of wire should also be run all round the outside of the pen, turned over in the shape of a shepherd's crook, and laced to the other wire at a height of 3 feet

6 inches from the ground, to prevent rats and other vermin walking up and entering the pen from the top; ordinary pea guards answer the purpose, but they should be made of $\frac{3}{4}$ -inch instead of $\frac{3}{8}$ -inch mesh.

Earth Sods.—There should be earth sods built up all round each pen on the outside



of the wire to the height of 3 feet 6 inches, to prevent the birds from seeing those in the next pen, which should be 12 yards away, and this is most important; if earth sods are not used, reed mats, which can be obtained in sizes suitable, can be substituted.

Only one, and he should be the same man, should ever go near the pens when once the pairs are fairly installed, which is generally by the first week in March; an old

fishing net must be strained over the top of the small pens to prevent birds and vermin from coming in; the pen should be entered only once in 8 days; all feeding, &c., to be done quietly through the door.

Food.—Birds in the big pen get wheat only, also water; pairs in the small pen get

young birds get ants' eggs twice a day, but no water.

How to Catch the Young Birds to Turn Them Out.—When the young birds are from 12 to 16 days old they are turned out with their parents, alongside of a corn-field for choice, but not near sanfoin or other green crops. As there is a difficulty in catching them out of the pen, the old birds are first caught with a landing net and put into a coop placed inside the pen with a bottom to it, and a hole at the back with a shutter, and a slide in front, which can be let down by a string after all the young birds have gone in in the evening when called by their parents; then the coop can be easily carried to the corn-field, and both the old and young birds let out.

Stock Birds.—The partridges put into the pens are either tame bred or wild birds from different localities, in an equal division as regards sex; they should be tamed as much as possible, because if still wild when put into the small pens they will not nest properly, but drop eggs all over the pens; if a bird when commencing to lay lays her eggs all over the pen, the first five or six eggs should be put where she laid her *first* egg, as she *may* then go on laying there; if she does not, the eggs should be put under a bantam, and the pair turned out.

Clips.—Clips of a proper pattern, made of soft, pliable kid, *not* stiff leather, to prevent the birds flying against the wire, are used, and these are removed when the old birds are caught for turning out with their brood.

This so-called French system of increasing the stock of partridges should only be regarded as a supplementary one, and where it is adopted keepers should in no way relax their efforts to safeguard the ordinary stock on the ground and their offspring.

It is true that in many districts where the land has been thrown out of cultivation, and where large tracks have been sown down, partridges have decreased on account of their not having been able to procure sufficient food and water, but much might be done to remedy this if they were fed, the old ones would not want to leave the ground in bad weather, and the young ones would thrive.

There are many avoidable things which militate against a good stock of partridges on the ground on September 1st:—

(1) The enormous number of rats often seen, which take all the eggs they come across.

(2) Insufficient protection of the nests from rooks, jackdaws, dogs, and possibly foxes.



Brass
Letter
Clip.

A and B, small punched holes; C, three small eyelets; D, two small rubber tubes slipped over leather band to prevent the leather cutting partridge. A and B to be placed round shoulder and C placed through the wing at third long feather and joined to A and B with a brass letter clip.

a very small quantity of water till the eggs are hatched off, and then no water at all, unless a very dry season, in which case a water-pot with rose on end may be used for sprinkling through the wire netting.

While laying, birds get a little bread, eggs, and biscuit mashed up like pheasants' food;



After Archibald Thorburn.

PARTRIDGE.

(3) Wet seasons, when the French system is found to be of the greatest advantage.

(4) Shooting too hard and not leaving sufficient stock.

(5) Covering the cornfields with hen houses, bringing in, in many cases, the diseases



GREY PARTRIDGE ON NEST.

to which chicken are liable, the hens eating all the natural food and corn which partridges would otherwise enjoy.

(6) The enormous number of tame bred pheasants, which often have the run of the stubbles and reduce the food for the partridges.

(7) Slackness on the part of keepers during the pheasant breeding, when some of the men should do nothing else but look after the partridges and their nests and keep down the vermin.

(8) Importing Hungarian partridges too late in the season.

(9) Poisonous corn dressing, sheep dips, and manure from large towns, which must be deleterious.

Statement of partridges hatched in pens and turned down by three keepers on the same estate, season 1905:—

| Keeper. | No. of pens. | No. of eggs. | Eggs hatched. | Birds turned out with parents. |
|---------|--------------|--------------|---------------|--------------------------------|
| No. 1 | 10 | 172 | 144 | 124 |
| „ 2 | 16 | 310 | 287 | 282 |
| „ 3 | 14 | 249 | 243 | 240 |
| Total | 40 | 731 | 674 | 646 |

CHARLES C. TUDWAY.

SHOOTING.—Driving Partridges has become of late years so popular, and has been found to be practicable in so many parts of the country where formerly it was unheard of, that it is fast superseding the

older method of shooting over dogs. From some points of view this is to be regretted, because the working of well-trained dogs adds pleasure to sport.

Where fields are large and birds numerous, so that the party consists of many guns, the best plan is to half-moon each field, having one or more beaters between each gun according to the ground to be covered. The line should be stopped as seldom as possible, but there should be under-men with retrievers in attendance, whose business it is to collect runners and birds that are not immediately recovered. These men, however, should be out of gunshot and in rear of the line. In some counties characterised by small fields, deep valleys, thick and high fences, and few roots, driving is impossible, but good sport can be had by a couple of guns walking up the birds. They should be accompanied by a steady pointer, a couple of retrievers who can face thick fences, two men to carry the game and beat, and two markers. The latter should be smart, active men, who can climb trees and have the eyesight of hawks. On such occasions, as on all others where you are following partridges, silence on the part of everyone is the first essential. A noisy keeper or talkative gun is fatal to sport. When you have



FRENCH OR RED-LEGGED PARTRIDGES.

settled which way you intend to work, send your markers well forward. They must take up their position on high ground or in the tops of some convenient trees, placed well apart so that the areas covered by their vision do not overlap. They must keep their eye on every root field, brake, rough pasture, or favourite fence where the birds are likely to pitch. Give the markers plenty

of time before you attempt to find birds. If you flush birds and shoot, it is not necessary that the keeper should shout "mark," but if you do not shoot, he may shout—once. The report of the gun or the one cry should suffice to put the markers on the alert. Each marker should be provided with a whistle, as partridges hate the human voice, but do not take much notice of a whistle. When either of the markers has



AN OLD GREY PARTRIDGE.

marked birds, he should blow his whistle once, to which signal the keeper replies with a single whistle. Unless you are following birds you yourself have sighted, it is best to go at once to the marker and find out where the birds are. It is not a good plan to holloa to him across two or three fields and let him shout back at you. In the first place, he cannot explain exactly where the birds lie; and in the second place, your shouting makes them wild. Having ascertained the position of the birds as nearly as possible, go at once for them. If they are in a fence, put one gun on each side; this is most deadly where roots are scarce. Having reached the spot where the birds pitched, the marker should blow his whistle once; if the birds do not rise, try your pointer and follow him up till you find them. In such a country as we have described, the day's sport will almost entirely depend upon the competence of the markers, and their competence will be a matter of patient training. Some men can never be made good markers. They will neither notice the flight of birds, nor yet be able to describe the spot where they pitched, in the rare case of their having caught sight of them.

A good marker always has his eyes and ears open. A covey may be flushed by some distant labourer, or by a blackberrying party, or the marker may see birds feeding on the stubble, or hear them calling; occasionally, also, a towered bird may fall within his sight. In any of these cases a single blow of his whistle will call the attention of the keeper and inform him that he has information to give. It is always best to work the same ground in the evening that you have worked in the morning. You will do no good with fresh birds after four o'clock. If satisfied from your keeper's observations, or from your own, that there are plenty of birds on the beat, but you cannot find them, try every corner, especially round corn ricks, old quarry pits, rough brakes, and old lanes. After a wet, rough night, birds are often found packed together anywhere where they can find shelter, while on hot days they prefer dusting in shady lanes and open fallow.

As an instance of how partridges will sometimes elude the gun, we may quote the case of a farm which was shot over in the autumn of 1895. This farm was well stocked, and the keeper, two days before, had put seventy brace off one stubble, yet on this day scarcely a bird could be found. The beat was along the seashore, and by chance a single bird was knocked down and fell over the cliff. An underkeeper, sent down to recover it, put up covey after covey from the shingle. They came up on the highest ground and a good bag was the result. It was a very hot day, and the birds had gone down to the cool sand and the shade of the rocks. When nearing the end of your beat, send the markers back, and let them take up similar positions for marking the birds, which will now be driven towards them from the opposite direction.

Driving.—For driving, many people like a sprinkling of red legs. They go singly over the guns, and generally rise before the English birds. A manor should be large for driving, with farms from 300 to 500 acres each, mostly arable, intersected with belts of fir, or high hedges. A thousand acres is about the right size for a good day's "driving." To make a good bag, the end of September is as good a time as any, as then the birds know their way about. It is not wise to make the drives too long, for, after the birds have risen the second time, they are nearly sure to go back over the beaters in order to reach their own ground. There should be two sets of beaters, from twelve or twenty in each set. While one lot are driving, the other lot should be getting the birds together for the next drive.

The beaters should approach the guns in a half-circle, with the most experienced men on the flanks and a good way in front. To prevent the birds breaking away, a man or two with flags should be placed on each side, a long way behind the guns; these will often turn the birds into the next beat. In an open down country, with no fences or belts to drive over, pits are sometimes dug at intervals about forty yards apart in a row, and planted with brushwood. Each pit is netted in with sheep-netting, and the brushwood is kept clipped; these pits answer well, not only for driving, but for sheltering the birds in rough weather and for nesting. As a rule, the stock kept for breeding purposes on the manor is too small. To secure a good quantity for driving, your keeper

till you begin driving in the last week in September. Shoot the outsides as much as you like, it will send birds on to your driving ground, but treat the latter as sacred. A month before you intend to drive, ride carefully round each beat, note the position and condition of each root piece, especially the hedges, for it is on these that you must depend for your sport. In a country with small fields, thick fences, and knolls, it is impossible to drive a big bit of country at one drive. Birds are sure to take the fences, and, when pitching on small fields, fallow, meadow, or stubble, will soon run together. Under these circumstances it is not possible to get the deadly scattered drives so often met with in the eastern counties. It is a good plan



WALKING UP PARTRIDGES.

should be able to show you 100 brace of birds on the 1st of February, and, if the beat is a large one, say, 1,000 acres, still more birds should be left. Although partridge driving is becoming every year a more popular form of sport, yet we are convinced there are many parts of the country where it is not yet introduced, but where it might be practised with considerable success. We will quote from the letter of an excellent sportsman, who has had considerable experience in partridge driving in what would ordinarily be called a bad country, and who has favoured us with his views on the subject. "The country referred to is hilly, the roots few and far between, and the fields mostly stubble. On such land the chief requirements are a good stock of birds, and a head keeper who knows his work. For driving purposes a far larger stock is absolutely necessary than for shooting over dogs. Having had a favourable breeding season, and acquired a fair stock of birds, make up your mind in August what part of your shooting you intend to drive, and do not fire a shot there

to go out with your keeper over your driving ground a few times on off days, of course without a gun. Drive all the birds you can into the roots, and then drive them over the fences. It will accustom the birds to the fences, and will enable you to determine their ordinary line of flight. As a rule, it takes a great deal to drive birds against their will, especially away from their feeding ground. Unbroken coverts must be driven in the direction they would naturally take; when scattered, you can put them where you will. Having settled your plan of campaign with your keeper, stick to it, unless the wind is contrary. When good cover exists, the beaters may be divided into three parties. Ten or twelve will be under the head-keeper, who must have thoroughly good men for the flanks. Two other parties, of four or five men each, must be under the control of competent under-keepers. While the head-keeper with his men drives the birds from the roots to the guns, the under-keepers and their men must keep on sending birds into the fields which are next to be driven. These

men must watch the flight of the birds from each drive, and, if they do not go into the roots, get round them quickly and put them there. The success of the drive will depend greatly upon the efficiency with which this manoeuvre is carried out. The head-keeper should have driven as many birds as possible into the first roots by the time the guns arrive. He must not do this too early, or the birds will run out. Meanwhile the underkeepers have driven their birds to the next drive, and are on the look-out for birds coming from the first drive. The same

the birds you have sent back from the second field, but those which have been driven there by your under-keeper's party. It will be best then to leave this ground and return to it in the evening, when you will probably have many more single birds. By the time you have driven field one the second time, your under-keeper should have driven into fields three and four, which you treat in the same way. It is far better to return over the same ground in the afternoon, rather than go on fresh ground after big coveys. Good bags are made out of single



PARTRIDGE DRIVING: WAITING FOR THE BIRDS.

process is repeated for the rest of the day. The guns being in their places, blow your whistle once; the keeper should then direct his men silently over the field, at once pushing his flanks well forward. There must be *no* noise among the drivers; no man ever stopped a bird that meant to go back by shouting at it. In the first drive (supposing there are no Frenchmen) the bulk of the birds will come over in coveys, and the result will not be very deadly, but if all has gone well they will fly to the next root field and scatter.

"You will probably have arranged in your plan to drive the second root field back to the first, and then the first again as before. By the time you have picked up your game and got into your places for the second drive, the drivers, under the direction of the head-keeper, will be in theirs. After finishing this drive, you return to the first roots, in which you should find not only

birds, not out of big coveys. You will probably find on a well-stocked manor, at the end of the day, that you have had some eighteen to twenty small drives, averaging from six to eight brace, so that the bag should be from 100 to 150 brace. But the guns must be able to hit a driven partridge. In a good season you will probably be able to have a small second day on the same ground, or to put in a few drives when covert shooting. Birds must not generally be expected to stand driving three or four days in the season, as they will in the eastern counties, for the ground will not carry so many birds, and owing to the number of large thorny fences to which they run for protection they are lost to the drivers."

There are a few golden rules applicable to all driving:—

First. Let the drivers stand some hundreds of yards from the first drive until

the guns are in position, otherwise their talking will drive every bird away.

Second. Do not talk or show yourself when going to take your stand. If ladies are out, you should try and impress this on them; you may sometimes succeed; at any rate, it is worth trying.

Third. If the fence is low and you have to keep down, see that your loader stoops also. It is no use screwing yourself into the form of an "S" if you have an erect loader behind you.

Fourth. Before blowing your whistle to start the drivers, look round and see that your field is clear of keen agriculturists; they would spoil your sport and might get shot.

Fifth. If, during the drive, birds go back, or break out, let them go, rather than shout at the keeper.

Sixth. If it can possibly be avoided, do not drive from one root field into an adjoining one, as it is much harder to pick birds up.

Seventh. Always, if possible, have your guns in line.

Eighth. Always drive down wind, if possible; if this is not possible, drive across the wind, with your down-wind flank well up.

Ninth. If you deviate from your original plan, let your under-keeper's party know.

Tenth. Impress upon your keeper, though this may be your most difficult task of all, the absolute necessity of keeping his flanks in proper position. They must be well advanced, but not too much so.

CHARLES C. TUDWAY.

JOHN F. HALL.

SPECIES SUITABLE FOR ACCLIMATISATION.—The partridges form a large portion of the family *Phasianidæ*, the second family in the order Gallinæ.

If we include the Francolins and Odontophorinæ (American partridges), we have the enormous number of 152 separate species; of these by far the larger number are inhabitants of tropical climates, and therefore are omitted from this article. Of the few species available for introduction, the first is the so-called Snow-grouse of India, or Lerwa partridge.

Lerwa lerwa. This fine bird is of the size of a grouse, and chestnut red below, variegated with greyish stripes and bars above; it inhabits the high ranges of the Himalayas, and is a very sporting bird. It would do admirably if turned out in Scotland, and, as it flies strongly, would prove a most welcome introduction.

The next to be considered are the Snow partridges, *Tetraogallus*, of which there are

six species; they are all large birds, the size of a female capercaillie, and, coming as they do from very high mountainous regions, would live easily in Scotland and the north of England. Of all the partridge tribe, they are the shyest and wildest, and certainly the very best of all species not yet established in this country. The Caucasian and Himalayan Snow partridges, *Tetraogallus caucasicus* and *T. himalayanus*, are the best to attempt to introduce, as their homes are easier to get at than those of the other four species. Every sportsman ought to strive to get these grand birds introduced, for they undoubtedly are the finest and best of the partridge tribe. We next come to the Red-legged partridges, *Caccabis*, of which our well-known bird is a good example. There are altogether five species of these, only two affecting us—namely, the Arabian Chucker, *Caccabis melanocephala*, and the Greek partridge, *Caccabis saxatilis*. The former would, from its large size and more desert habitat, be excellent to introduce into all the sandy parts of the south coast of England, while the Greek partridge would do well in the rocky parts of the north of England and Scotland. The two Sand partridges, *Ammoperdix heyi* and *A. bonhami*, now claim our attention; they come from Palestine, Syria, Persia, and Afghanistan, and therefore would be very desirable sporting birds if introduced into sandy places. Of the Francolins, which come next on our list, three only of some fifty-two species are suitable for our climate and conditions. These are the common Francolin or Black partridge, and the Chinese Francolin, *Francolinus francolinus* and *F. chinensis*, and the so-called "pheasant" of the South Africans, *Pternistes nudicollis*, a large grey bird with a naked red throat. Of the three true partridges, not natives of England, the Bearded partridge, *Perdix daurica*, is the only one worth considering. As it comes from Siberia, it would most likely be a much better bird than our common partridge if introduced into Scotland. Of the American partridges, only three or four would do well here. The painted or Valley quail, *Orcortyx pictus*, ought to do well in the south of England, and the Californian quail, *Lophortyx californicus*, in the Hebrides. *Ortyx virginianus*, the Virginian colin, ought to do in most parts of Great Britain, and has several times been introduced in numbers, but somehow did not find favour with sportsmen, and was allowed to die out.

Of all these birds, however, the very best are the Snow partridges, and every one ought to try to get them introduced.

WALTER ROTHSCHILD.

PARTRIDGE, DISEASES OF.—The diseases from which partridges suffer resemble in the main those of the pheasant, but as the former are not reared and brought up in artificial surroundings to anything like the same extent as the latter, their diseases are less numerous and less is known about them.

Those forms of disease, such as enteritis and tuberculosis, &c., which are associated with the presence of some protozoal or bacterial organism, are especially favoured by man's interference with the natural condition of things. They are intimately connected with overcrowding, too close confinement and inter-breeding, all of which aid the transference of the disease from one bird to another, and, by lowering the average of health of the bird, render it a more easy prey to disease.

On the other hand, if proper care is taken, it is comparatively easy to keep birds under control free from the grosser parasites, such as thread- and tape-worms; but when these do make their appearance they naturally spread more quickly amongst birds in a state of semi-domestication than amongst wild ones.

Partridges, like many other gallinaceous birds, suffer from tuberculosis, though to nothing like the extent that semi-domesticated birds like the pheasant do. For this there is no remedy. Judging by the analogy of the fowl, the tubercle bacillus of birds differs from the corresponding microbe in man and cattle, both in its morphology and in the characters of the cultures which can be prepared from it. It is important to destroy by burning—or burying in quicklime—the bodies of birds that have fallen victims to this disease, and to try to strengthen the survivors by the introduction of new and vigorous stock.

Fowl enteritis, sometimes termed the "Orpington Disease," is also not uncommon amongst partridges, and may be acquired from pheasants or fowls. It is an acute infectious disease, accompanied by diarrhœa and drowsiness, ending in the course of a day or two in death. The walls of the intestine become congested and lined with a yellowish-grey mucus, crowded with bacilli, which also occur in the blood. The cause of this disease may be the presence in the cells lining the bird's alimentary canal of the protozoon parasite *Eimeria avium*, but the subject requires further investigation. Fowl enteritis spreads rapidly, as the infective material passes into the soil and is readily taken up. Where possible, the affected birds should be destroyed and their bodies burnt.

Young partridges, especially when over-

crowded, not infrequently become blind. This is due to a form of purulent ophthalmia which is very infectious, and often destroys fifty per cent. or more of the young birds. The eyelids first become inflamed, and the inflammation spreads until the eye becomes completely closed up. The inflammation may extend into the lacrymal duct and throughout the nose, and often ends in the death of the sufferer. Another disease of the head which affects partridges is in appearance and symptoms very like the "canker" of pigeons.

The most destructive disease prevalent amongst partridges is the "gapes," which is caused by the presence of a Nematode worm in the trachea or wind-pipe, and in the larger air-passages of the lungs. The "worm" is known as *Syngamus trachealis*, v. Sieb., and popularly as the gape- or forked-worm. It always occurs in couples, a male and a female, and the posterior end of the male is firmly and permanently attached to the generative pore of the female, which is situated about $\frac{1}{5}$ th of the body length from the head. The females are from $\frac{1}{2}$ to 1 inch, and the males about $\frac{3}{4}$ th to $\frac{1}{3}$ rd of an inch long. Both male and female are attached by their mouths to the walls of the windpipe, &c., and their combined organisms have the form of a "Y."

The worms are red in colour, which is unusual in the group to which they belong, but they probably derive their colour from the blood of their host. They were first recorded at the end of the eighteenth century in the United States of America, and it is not unlikely that they were imported in Europe from the New World.

Young birds are most usually attacked, but not exclusively. The symptoms they show begin with a whistling cough something like a sneeze, and this is followed by a marked gaping or yawning, accompanied by a stretching of the neck, and in bad cases by the appearance of a foamy mucus at the mouth. There is a loss of appetite, a general dulness, and a ruffling of the feathers. Unless the cause be removed, death usually occurs, though the old birds show much more power of resistance than the young. The number of couples which proves fatal varies; two or three will kill a young bird, whilst it takes as many as twenty-five to thirty to asphyxiate an adult.

The disease spreads very rapidly. The female worm is crowded with eggs which in a short time contain fully formed embryos. The birds frequently cough these gravid females up, and they are at once seized and eaten by other birds in the neighbourhood. Either in this way, or through the death and decay of their host, the embryos, after rup-

turing the walls of their mother's body, reach the ground and hatch out in water or damp earth in from one to six weeks, according to the temperature. They are then pecked up with the food. The eggs are capable of resisting adverse circumstances to a remarkable degree; even when swallowed up by earth-worms they are not destroyed, and if an earth-worm has eaten them and is in its turn eaten by a bird, the latter becomes infected with the parasite.

In an interesting article in *The Field* (March 26th, 1910) Dr. H. Hammond-Smith discusses how the young worms, swallowed down the œsophagus into the crop, gains access to the trachea, and points out that there is a good deal of evidence that they work their way through the walls of the œsophagus into the lungs, and so reach the wind-pipe. Specimens of embryo worms have been found in the walls of the œsophagus and also in the air-sacs. Dr. Hammond-Smith further describes certain pneumonic symptoms which he met with in examining infected birds.

The amount of loss occasioned by this parasite is considerable; the worm attacks a great variety of birds, particularly starlings and magpies, and is especially fatal to poultry. Crisp has estimated that in England half a million pullets are annually destroyed by it; and, speaking of partridges, the authors of "Shooting," in the Badminton Library, state that it is not unusual in certain seasons to find three or four nearly full-grown birds lying dead together where a covey has brooded for the night. Hundreds of young partridges have been found during harvest dead or dying from this most destructive complaint.

Such remedies as seem efficacious are described under the article on the Diseases of the Pheasant. These are difficult of application to the comparatively wild partridge, but the conditions of breeding lessen this difficulty in the case of the pheasant.

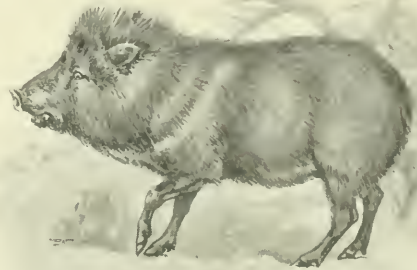
Three other Nematodes infest the partridge: *Heterakis papillosa*, Bloch, and *Trichosoma longicolle*, Rud., live in the intestine and cæca, the former in very great numbers, and *Heterakis compar*, Schrank, has been found in the intestine. They apparently do no great amount of damage. Three tape-worms, *Tania linea*, Gœze; *Drepanidotania infundibuliformis*, Gœze; and *Daviania urogalli*, Modeer, are also recorded.

ARTHUR E. SHIPLEY.

PECCARY—The peccary is the small but very fierce wild hog of America, where it is found all through the tropical and sub-tropical forests. There are two chief species, the white-lipped *Dicotyles labiatus*,

and the collared *D. torquatus*, the latter alone reaching the southern border of the United States. My own experience with peccaries has been gained in hunting them on the banks of the Nueces River in Texas.

Peccaries can sometimes be killed by ordinary still-hunting; and as they often spend the night in caves or hollow tree-trunks, leaving a sentinel posted at the entrance, they can be killed by lying in wait at such places. More commonly, however, they are followed with dogs. In the thick forests the hunters have to go on foot; but in Southern Texas, where peccaries frequently haunt the dry, open *mesquite* woods, they should be followed on horse-



PECCARY.

back; and this is, of course, much more fun. Although only weighing about sixty pounds, the peccary has extremely sharp tusks, and is a wonderfully game fighter. It does not rip like the wild boar, but inflicts exceedingly severe bites, and not only fights to the death with reckless courage against any odds, but at times makes entirely unprovoked attacks upon both man and beast. Untrained dogs, even those of large size, will speedily be killed by a single peccary, and, if they venture to attack a herd, will be literally torn into shreds. A big trained dog, however, can, single-handed, kill a peccary, and I have known the feat performed several times, the dog seizing the savage little pig either by the back of the head or between the haunches. Two or three well-trained dogs will bring a whole herd to bay, barking and threatening, but never actually seizing, while the peccaries stand in a compact mass, their backs hunched, their bristles standing, and their teeth chattering like castanets.

In Texas they are not often found in large droves; and in hunting them the riders and hounds travel leisurely to and fro over a likely country until a trail is found. This is then followed, the active cow-ponies dodging at full speed among the spiny tree-trunks and huge cacti. When the game has once been put up, the run is not long. In

spite of their tiny legs and feet, peccaries go very fast for a few hundred yards; but they are both short-winded and bad-tempered, and after a couple of minutes' galloping they usually come to bay, by preference backing up in a cluster of bushes. They then charge recklessly at man, horse, or dog, and, if not stopped, inflict very ugly wounds. It is easy to kill them with either a rifle or revolver, although a man approaching them on foot with a revolver must exercise caution unless he is a very good shot. Personally, I found the long rides through the semi-tropical landscape, the sudden, headlong, scurrying runs, and the

wards, and the presence of a strong smelling gland on the back.

THEODORE ROOSEVELT.

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PELOTA—"Pelota" means literally "ball." But, as now understood in Spain, the Basque Provinces of France, and in Spanish-American countries, the word stands mainly for the spectacular sport or exercise in the large public halls built for the purpose, of which Madrid has three or four. Originally the game was played with the hand, naked or gloved, or with a stick, and had some affinity with fives. Now the



GROUP OF PLAYERS, SHOWING THE CESTUS.

death stand of the savage little beasts very good sport, even though firearms were used; but the true way to kill them would undoubtedly be with the spear. They could probably be speared on horseback in most cases, and they are so small that a skilful man could readily kill them single-handed on foot. As I know nothing about the spear, however, I should strongly recommend that the first trial be made by two men acting together. For convenience in finding the game, dogs are always useful, and, indeed, probably indispensable.

Among other features, peccaries differ from Old World swine by the upper tusks being directed downwards, instead of up-

wards, and the presence of a strong smelling gland on the back. The cestus, or stout basket-work gauntlet, is used universally for public performances. The cestus was a Basque invention, and was used first at Ascaïn in France. It has revolutionised the old pastime by enormously increasing the propelling power of the players and the carrying force of the ball, and also by giving scope for niceties of manipulation.

Pelota, in some parts of Spain—notably Bilbao—is a close rival with the bull-fights for public popularity, and the expert pelota player readily earns £20 in an afternoon's game of less than a couple of hours' duration. Long before it fell into the hands of professionals comparable to our football

players, the enthusiasm it evoked in the Basque districts was such that the priests and parishioners of the different villages

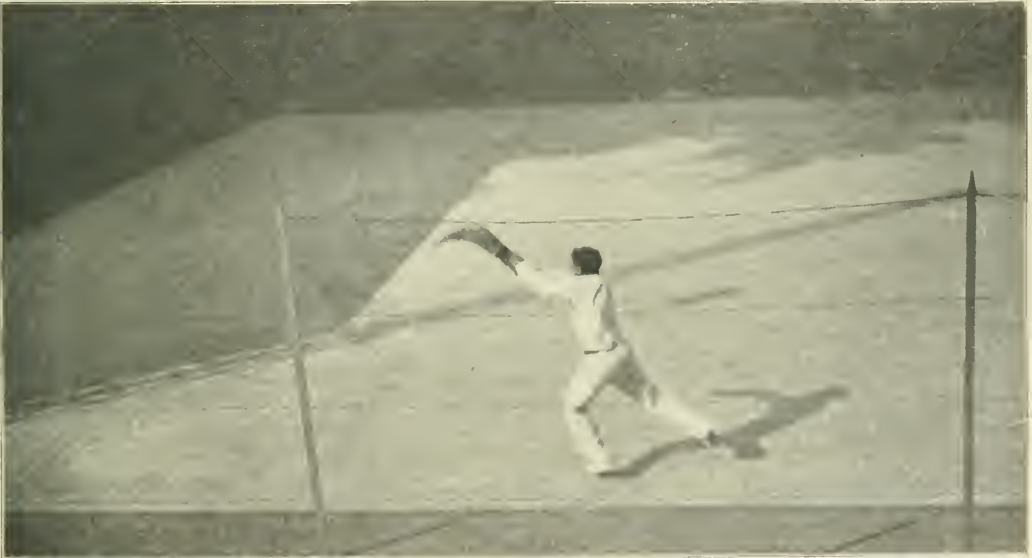
in Spanish countries, detracts somewhat from the outsiders' interest in it. The players are in fact paid only out of the



A GENERAL VIEW OF THE GAME.

were wont to make long journeys across the mountains to respond to challenges for championship. One is rather sorry to remember that these good clergy even then

betting percentages: the bookmakers are employed by the Pelota Hall Companies as registrars and intermediaries in the bets made. As may be supposed, under these



PLACING THE BALL ON THE FRONT WALL.

put money on the game. This may perhaps be held to be the beginning of the abuse which now, wherever the game is played

circumstances, there are ways of getting at the players themselves, and for them the temptation to play dishonestly is not always

resistible. For this reason the affection of the pelota public for such players as are absolutely trustworthy is extreme.

The game is played in a covered and



A BACK-HAND STROKE.

glass-lighted hall, with a cemented area that may be as much as 80 yards long by 40 wide. At least two walls are required, though four might be used. Of the two, the playing wall proper is the length of the breadth of the playing field: the long side wall is, of course, the length of the hall itself, and both are about 12 yards in height. The third wall, opposite to the playing wall, though very useful in the modern game, may be considered an addition to primitive pelota. If a fourth wall (completing the hall's enclosure) were used, there would be no accommodation for the public, who at present here mass in boxes, galleries, and on chairs on the level. A line is marked about a yard from the floor on the two chief walls and also about a yard from the top of the walls. The ball is only in play between these two lines. When it hits the wall above or below them, it is a fault, and the opposing side scores a point towards the fifty which is commonly the number of points in a game. The playing pitch is marked with straight lines, 4 yards apart, parallel with the playing-wall. Four players are usual to a game; a back and a forward to either side. Each wears the cestus, or sickle-shaped basket, fitting to the forearm, with glove for the fingers. Both arms may be used, though it is only the finest players who are equally skilful with either arm. If there were two side walls instead of one, both arms would be called upon to about the same extent for those

tricky straight deliveries which skim the side wall.

The ball is of solid rubber, small, and weighing about 4 ounces. The velocity with which it is used makes it a dangerous missile, and accidents, more or less serious, are not infrequent. Two judges are customary to a game. They sit near the boundary lateral playing line, and fulfil the part of referees. The starter of the game stands midway between the seventh and the eighth of the spaces already mentioned as belonging to a field some 80 yards in length; the ball must, in its initial rebound, fall between the fourth and the seventh space, or a point accrues to the opposing side, which then begins in its turn. With a fair start, it is for the opposing forward to deal with it. The game may then be said to be in full swing.

It is astonishing with what accuracy, force, and celerity the Basque professionals, who have played pelota and little else from boyhood, whirl the ball to and fro. Whenever an opponent fails to take this on the rebound, or returns it out of play, a point is scored, and a fresh start takes place. But often for many minutes at a time there is no break, though the ball flies from the one wall the whole length of the hall to the other facing it without touching ground; in spite, too, of the difficult angles of its rebound and the deftest of quick, low, hard strokes only just above the playing line. The spectators, at such times, shout themselves hoarse with admiration or anxiety, if they are deeply interested in the dollars of the game, and this is in a critical stage; the players perspire considerably, though clad only in flannels. The variety of the strokes—overhead, underhand, with the arm at full stretch, &c., and the pitting of craft against skill in the delivery and acceptance of balls that cross from wall to wall, make the game very fascinating to watch. The back stroke, in particular, given with the back to the playing wall, seems to the mere spectator an exceptionally remarkable achievement.

There are many technicalities and elaborations in pelota as now played by the professionals; but the above may suffice as a general outline of the game. If it were introduced into England, a great future would be assured to it.

C. EDUARDES.

PERCH.—MEASUREMENTS, &c.—Length of head $3\frac{1}{2}$ to 4, of caudal fin $5\frac{1}{2}$ to $6\frac{1}{2}$, height of body $3\frac{3}{8}$ to 4 in the total length. *Teeth*—villiform in the jaws, on the vomer

and palatine bones, but absent from the tongue. *Fins*—dorsal spines rather strong, increasing in length to the third, which slightly exceeds half that of the head; they decrease in height from the fifth to the last; second dorsal fin lower than the first. Pectoral two-fifths the length of the head, but not so long as the ventral. Second anal spine slightly longer than the first and rather above half the length of the rays. Caudal with rounded lobes. *Scales*—ctenoid, 15 or 16 rows between the lateral-line and base of the ventral fin: 75 rows descend from the back of the lateral-line. *Colours*—bright olive-green along the back, becoming lighter beneath, where it is often yellow or dark yellowish-white, occasionally tinged with pink. About five transverse black bands descend from the back down the sides, the first from just in front of and below the two first dorsal spines; the second from the fourth to the ninth; the third from the base of the last two and commencement of the soft dorsal; the fifth below its end, while a sixth often exists at the base of the caudal fin. Sometimes these bands arise from two roots, or are Y-shaped. First dorsal fin grey, with two black spots, one anteriorly, the other over its last spines.

Day, *Fishes of Great Britain and Ireland*, vol. i. p. 3.

[See also ANGLING.]

PHEASANT. — REARING AND SHOOTING.—Coverts are generally stocked in these days with hand-reared pheasants. The wild hen pheasant is a bad mother, and will very seldom bring up a large brood. Pheasant eggs are procured either by purchase or by picking up the wild birds' eggs, or by collecting those laid in pheasantries. The last plan we consider to be the best and most economical. The reasons are obvious. Where a pheasantry exists and the required number of hen pheasants have been obtained, the rest of the stock may be killed down. When the birds are in the pheasantry, not only are they and their eggs safe from vermin, but they can be fed much more economically. In feeding wild birds in the woods, the keeper will use much more food, for, besides satisfying the wants of his pheasants, he will have to stop the mouths of the squirrels and wood-pigeons, &c.

Pens.—The two plans of construction which find most favour with pheasant rearers are: the one, a series of small pens, in each of which one cock and five or six hens are confined, and the other, the large pen enclosing a considerable area of ground,

where any quantity of birds proportioned to the size of the pens may be kept. The large pens, which appear to be superseding the small, are generally erected on ground near to the keeper's house. If in a covert, a spot is selected where there is a good undergrowth; if in the open, the ground must be suitably planted with privet, small spruce, or any close-growing shrub. The size of the pen must be proportioned to the quantity of stock required. Half an acre of ground will accommodate forty hens, which should mean between 700 and 800 birds brought to the gun. A gamekeeper



RING-NECKED PHEASANT.

of large experience describes his pen as follows:—

"I have about an acre of ground sheltered from the north-east winds, including a clump of spruce and other trees. This ground is enclosed with fir poles about 9 feet high, which are boarded up 3 feet from the ground, the remaining 6 feet being covered with galvanised wire netting. In this pen I put eighty hen birds, which are renewed every season by exchange with some other preserver. I always let our own cock birds go in as they like. The plan works well, as the pen is in the middle of a wood. I get about 2,000 eggs by the 10th of June, and rear about 75 per cent. of them, after which I turn out the old birds." It is very important that the sides of the pen, up to the height of 3 feet, should be cased in all round, to prevent disturbance to the birds; but this may be effected with branches of spruce quite as well as with boards, a less expensive method. We have known pens of this construction used for some years without change of ground. Lime was freely used to sweeten the ground, and, as the pens were empty half the year, it remained wholesome. But we should advise that the pen be removed to a fresh spot every fourth or fifth year. If, in constructing the original pen, it is borne in mind that

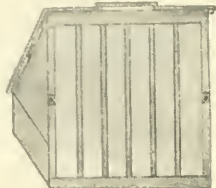
the whole structure will have to be shifted periodically, it will obviously occur to the carpenter to use half-driven staples instead of nails, and to make the attachments as few as possible, consistent with firm work. Small pens must be shifted much more frequently than large. It is best to fill the

pected to give on an average twenty strong chicks.

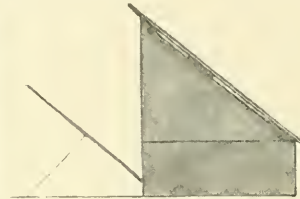
Broody Hens.—Wherever pheasant-rearing is pursued on an extensive scale, it will probably be found necessary to purchase a number of broody hens; these hens should not be heavy, and should be good



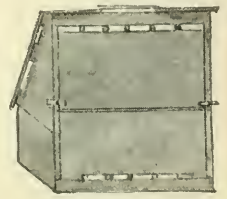
COOP SHOWING SLIDING BACK.



COOP WITH FRONT BOARD OFF.



COOP SHOWING FRONT BOARD READY PROPPED FOR STOPPING BIRDS IN.



COOP WITH FRONT BOARD ON FOR THE NIGHT.

pheasantry before the shooting season commences, because by this means a stock of perfectly healthy birds is secured. No good keeper would think of permitting an injured bird in the pheasantry. Hens are best caught at their feeding places in hazel rod traps made by the keepers. Every pen ought to contain a heap of powdered oyster-shells, and, if it is not a light soil, sand for dusting should be provided. In addition to ordinary grain, green food is essential to the health of the birds, and we have found it a good practice to supply the keepers with surplus garden stuff and mangolds to scatter about in the pen during winter and spring.

When birds begin to lay, which in ordinary seasons is about the middle of April, eggs must be collected daily and placed in safety. At the same time, up to

sitters and mothers. The black red game is one of the best, and a first cross with the Wyandotte, which is a good sitter, will produce an excellent variety. When a keeper buys hens from a farmer, he ought always to take them off the nest himself, so as to be sure they are thoroughly broody. A well-known keeper writes: "I find the best plan with freshly bought hens is to set them temporarily in very dark boxes in a quiet, cool barn, where nothing can disturb them. The best plan for feeding them is to place a number of coops in rows just outside the barn, on grass. This is a better plan than tethering them. When they are thoroughly quiet, which is generally after three days, I take them to regular sitting-boxes, which are on the turf. If the turf is fairly light and porous, I simply beat a depression in the ground and place in it a little soft hay, beating it down so that the hen does not get entangled and break the eggs. I generally contrive to keep one hundred broody hens in advance of those actually sitting on eggs. The first eggs are set about April 23rd, and then I continue setting batch after batch, every three days, through the laying season. For the first three days I allow my hens ten minutes for feeding, and gradually increase the time allowance, till at the end of sitting they have about three-quarters of an hour. The time allowance must depend a good deal on the weather. As soon as you find the eggs of one batch are well chipped, select a time when the hen is quietly feeding, and take three-quarters of the chipped eggs from each nest. Place these eggs in an incubator to hatch; but leave each hen three or four eggs so as to make a mother of her. By this means fully 10 per cent. of the young birds are saved in hatching. Young birds hatch out well in the incubator, and are



COMMON PHEASANT.

the end of May, all eggs of wild birds should be gathered and added to the stock. After the middle of June the penned birds can be turned out, and care must be taken for a time to see that they are well supplied with food. Penned pheasants may be ex-

immediately placed in the drying-box at the top. It will generally be found that they are ready to go out at the same time as those that have been hatched under the hens. It is important to observe how the hens behave with the few chicks hatched under them, as this enables you to pick out the best mothers. The coops to receive the young birds should be placed on level turf not contaminated by poultry, as close to home as possible. The coops and guards are placed in rows at intervals of two yards with the fronts facing east, so that the hens and birds get the morning sun only, and not the meridian sun, which is too powerful. In this position give the birds three days, making up any birds that may have been lost during that time by trampling, &c.

"My rearing fields, let me say, are at a distance of five miles, and there the empty coops are all placed ready in rows to receive eighteen broods of eighteen young pheasants and eighteen mothers. The horse and

they may be guarded a few hours longer. It is unwise to remove the guards when the winds are rough, as you may lose young birds by so doing."

An acre of ground is the usual allowance per hundred birds, and the selection of this ground is a matter of great importance. Birds must never be reared on stale ground, nor should any field be used where the coops have already been placed within a period of three years. In-breeding and stale ground are two of the chief causes of the mortality of young pheasants. Keepers like to get their young birds into a good feeding pasture which has been well eaten off, and so let young birds and young grass grow together.

Feeding.—No water should be given at any time to the young birds, nor to the hens, for moist food, consisting of Embden groats or boiled maize, is given at least once a day. There are many different foods and different ways of feeding, especially since



HEN PHEASANT ON NEST.

light spring-van being got ready, and my appliances for carrying young birds being brought out, I have four men at my disposal. These take out of the coops six hens in rotation, and place them in separate compartments in numbered crates. Then one man moves to the front of each coop and runs the brood into it and slips on the front board. He then catches the birds very gently, and drops them through a small hole in the sliding-lid of the box used for transporting them to the field. When all the broods are thus secured, the appliances are quickly loaded, and the van is drawn off to the rearing ground. On arrival, the process of loading is reversed, and the birds taken from the transport boxes are placed in the coops with the fronts on. The proper mother is dropped in to each lot of birds, and is allowed to brood them for, say, ten minutes. The fronts are then taken off and the birds fed, but if the weather is rough

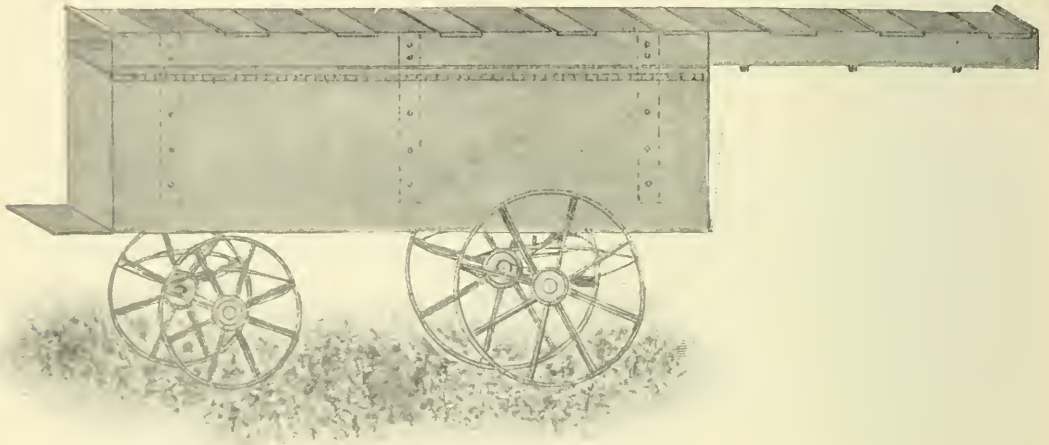
the introduction of so many artificial meals, &c. We give one specimen of the feeding adopted by a most successful rearer: "Our birds are fed five times a day, commencing at 6 a.m. and ending at 6 p.m. The food at first is composed chiefly of hard-boiled eggs, rubbed through a sieve, and a small proportion of Spratt's medium game meal. This must not be soaked, but steamed, so as to make it soft, but not wet. To these must be added sharps, sufficient to make the whole into a crumbly paste. This food is scattered broadcast among the coops. When the birds are a fortnight old we begin to add well-boiled rice with the Spratt's meal. We now discontinue steaming, and add a little seconds flour to the sharps in the proportion of one to two. We also boil old rabbits' or sheep's heads and hinges; mince the meat and add to it the food, using as an alternative Spratt's best granulated greaves, which in wet seasons is perhaps

the best food of all." Many keepers use custard with boiled rice and chopped green food, and some prefer canary seed and macaroni boiled and chopped as a change. When coops are in the rearing fields, it is best to keep them facing east while the birds are small, irrespective of rough weather. If the ground be bare of shelter, branches of spruce or some tree in leaf should be placed near every coop, so that the young ones may have shelter from the sun as well as from the hawks. The birds will remain in the rearing ground till from five to seven weeks old.

Diseases.—One of the greatest sources of mischief to young birds is the use of stale food. A lazy keeper mixes his food overnight, so as to save trouble in the morning,

more prevalent in some districts than in others. They may be due to heat and exposure, but we are inclined to think that in some instances the disease is induced by rearing the birds on a new clover field. The pollen from the rye grass gets into their throats and eyes, producing a sort of hay fever. If the birds are being reared under such conditions as these, move them away.

Foster Mothers.—The food of the hens while birds are young should be steamed or boiled, for, if fed with hard uncooked food, the young birds are apt to get killed by swallowing it. Whole maize is very fatal in this respect. Good food will consist of two parts of finely kibbled maize and one part wheat. The whole is put into a



WAGON FOR TRANSPORTING COOPS.

The food becomes tainted, and thousands of birds are lost annually by eating this sour indigestible stuff.

Gapes are common among young birds. When the disease first shows itself, lime-dust blown into the coops early in the morning is a good remedy. Subsequently, garlic, chopped fine, should be given once a day, mixed with the food. Ground ginger added to the last feed at night is also recommended.

Diarrhœa is generally due to stale eggs or sour food. It must be stopped at once. Arrowroot mixed with the food soon checks it.

Cramp is one of the worst diseases, especially on sandy soil. In hot Mays, with frosty nights and north-east winds, it is almost sure to make its appearance. The best treatment we know is to move the birds at once on to some sheltered low-lying field on a heavy soil.

Ophthalmia and Blindness seem to be

bucket with boiling water just to cover it. When cool, sharps are added sufficient to thicken. Barley meal may occasionally be substituted for sharps.

In ordinary cases, where only a moderate number of birds are brought up, it is the usual practice to move the coops from the rearing grounds direct into the coverts; but when a very large number of birds are reared, and there is a danger of stale grounds, the rearing ground may be situated some miles away. In the latter case many keepers prefer to shift their coops in the first instance to some fields in the immediate neighbourhood of the coverts. After the birds are about five or six weeks old there is trouble in getting them to enter the coops, so it is unwise to defer the process of moving longer. The plan adopted by the authority already quoted is thus described:—

"On the night when I propose to move my birds, I have thirty loose bottoms

ready. One man takes the front of the coop and raises it gently till it rests on the back part of the bottom board. He then draws the coop with its contents on to the board, and, whilst he is doing this, another man, kneeling down at the back of the coop, works his hands underneath it to prevent the hen and birds from being nipped. A screw-driver should always be carried to tighten the buttons and make the front board secure. The bottom board should be as tight as possible, and should be made fast to the coop by string. When the required

When daylight dawns he will find his birds draw out as readily as if nothing had happened. I may say that by adopting these precautions, which to some people may appear too minute, I have removed thousands of birds with merely a fractional percentage of loss."

When the birds have been a week or two in the field they will begin to draw into the coverts, and then the coops may be dragged in too.

The Feeding.—As the birds gradually get older, the soft food is replaced by Indian



PHEASANT SHOOTING: SHOWING THE ARRANGEMENT OF THE GUNS HEADING A BEAT.

number of coops are ready, the wagon is led between two rows, and they are carefully lifted in on either side. As they are placed in position in the wagon they should be tied firmly. Everything requires to be done expeditiously, and yet carefully. On arrival at the field, take the coops off carefully, and place them in rows. If the field is very bare of cover, range them by the hedges.

"The operation of liberating the birds on their new ground must be conducted with equal care. When the coops are unloaded and in position, first untie the strings so as to release the bottom board, and turn one of the wooden buttons on the front. Shortly after, when the wagon has left, one man goes carefully round and turns the other front button, quietly moving the front board about six inches from the bottom.

corn, tail wheat, &c. In certain spots in the wood, low frames of woodwork are erected by the keeper, and these are thatched with unthreshed barley straw. These not only form shelter for the birds, but keep them amused. Barley straw may also with advantage be scattered along the principal paths and rides.

Many keepers summon the birds to feed by whistling, but this is a practice which we cannot approve. Not only may poachers avail themselves of it to collect birds, but we are also of opinion that it tends to render the birds tame. The best pheasant-rearers that we know are in the habit of broadcasting the grain and feeding the birds in silence.

Dangers from vermin and from poachers attend pheasants in all stages of growth (*see* PRESERVATION OF GAME).

SHOOTING.—Coverts vary very much in their adaptation, natural as well as artificial, for the purposes of pheasant-shooting.



CORRECT POSITION FOR TAKING A BIRD STRAIGHT OVERHEAD.

Amongst the natural advantages we place, first, a good supply of water, which tends to keep the birds at home, and, second, position on the side of a hill, which ensures good sporting shots. Amongst other important advantages are small coverts placed in the centre of the estate, and a sound undergrowth of copse wood. The craft of the forester is often a valuable auxiliary to that of the keeper, and if underwood is allowed to get hollow through the ravages of rabbits or through general neglect, the difficulties of a keeper are greatly increased. If, however, a covert has fallen into bad condition, and the head of game is large, much may be done to show pheasants by bushing corners and flushing places with cut evergreens, such as spruce or laurel. One practice which keepers adopt is much to be deprecated, that of splashing saplings at the rising places. In every covert there should be good roosting trees; if spruce does not exist, tell the forester to allow the ivy to grow on a certain number of trees. When a wood is cut it will often not hold game for three or four years; in such a case, rake over the soil and plant rape, mustard, or buckwheat.

Beats.—Keepers make a mistake in not having more corners or stands; long waits are fatal to beating and annoying to the guns. The maxim to be impressed on the keeper should be "little and often." There should never be a sound in covert except from the person who is directing the beaters. Beaters should always be numbered, and

should keep the same relative positions, so that they can be called by their number. The position of the head keeper is in the centre of the line of beaters, and he is supported at each extremity by the best men he has got. A good line is imperative. Beaters should wear emigrants' smocks. In small coverts, and where there is a large head of game, it is best to have two or three sets of beaters, and so drive the birds backwards and forwards, and avoid delay. To beat birds from covert over a given point, the best possible way, if the covert admit, is to form the beaters into a horse-shoe, keeping the flank men well forward. The end men should then halt and let the centre bring the birds forward. It is a mistake to hold back the beaters when birds start to go back. If the birds are going forward in too great numbers, let the beaters halt, but do not stop them because birds are going back. Drive birds away from home, if possible. There is no fear of their not returning to the coverts in which they roost, and the chances are you get better shots. If birds are likely to fly low, strain a piece of wire netting about forty yards from the end of the beat—a line of feathers or "sewin" [see SHOOTING] will do as well. If a number of pheasants are driven to another covert, shoot that covert as quickly as possible. In other



SWINGING AT A HIGH BIRD.

work, follow your birds. Always, where birds are numerous, and the ground admits of it with safety, have two lines of guns

and place them at the angles of a line,

thus  with the

sporting shots at the back. Many extra birds will then be accounted for. Good high birds go far to make shooting a success.

It is a good plan, where turnips or very rough grass, heath, or gorse adjoin a flat cover, to drive the birds into it. Get the guns in line, and, if the piece be a large one, say forty acres, halt them half way through it. Let the beaters then go round and bring the birds back. They will always go home, and generally fly high.

The best way to avoid all suspicion of partiality towards the guns is to let them draw for places and move down two each time.

To the guns we would say, "Do not depend upon your host to provide you with a loader at the last moment." Either bring your own loader, or intimate beforehand

See that your loader has two cartridges ready between his fingers—if he is a smart loader, he will.



AN EXAMPLE OF RAPIDITY IN SHOOTING. THE SHOOTER HAS CHANGED GUNS BEFORE THE BIRD HAS FALLEN TO THE GROUND.

that you will want one. Kill all birds in front of you, if you can, and do not take birds for choice which have passed you. Always kill cocks in preference to hens.



THE BEATERS: SHOWING THE ADVANTAGE OF WHITE SMOCKS.

Stops.—The passing of the Education Act has rendered it almost impossible to obtain boys as stops, but their place is ably filled in some parts of the country by elderly females. The number of stops may be materially reduced by the use of the sewin.

Dogs.—In a big day's covert-shooting retrievers are not much used, but there should be some out with under-keepers in order that every wounded bird, if possible, may be collected.

The tendency of modern shooting is undoubtedly towards excess. A great number of birds is neither conducive to good shooting nor to sport. There must be a lot of low flyers, and a large proportion are good

for nothing after they are shot. On the other hand there remains the argument that the public profit by the low prices at which pheasants are placed on the market.

CHAS. C. TUDWAY.
JOHN F. HALL.

SPECIES SUITABLE FOR ACCLIMATISATION.—The pheasants form a section of the family *Phasianida*, which is the second of the four families of the great group *Gallina*. Though convenient to treat the pheasants as a distinct section of the *Phasianida*, it is structurally almost impossible to separate them from the partridges, as the spurfowls (*Galloperdix*) and the bamboo partridges (*Bambusicola*) form connecting links. However, for all practical purposes, they are easily distinguished. The pheasants are a large group, as they number some fifty to sixty species, all of which are sporting birds, and good for table purposes.

These fifty or sixty species have been divided by ornithologists into twelve genera, but since the first edition of this book appeared, the views as to the species and nomenclature have vastly changed, and many new forms have been described. In 1898 I treated the sixteen forms allied to the common pheasant (*Phasianus colchicus*) as distinct species; but I am now convinced, as are most modern unprejudiced ornithologists, that they are only local races of one species, so that with fourteen new forms of *P. colchicus* described since 1898 and three other forms described, we find that the true pheasants (*Phasianus*) number six species as follows:—

1. *Phasianus colchicus*, with thirty local races.
2. *Phasianus reevesi*.
3. *Phasianus ellioti*.
4. *Phasianus humiae*, with two local races.
5. *Phasianus mikado*.
6. *Phasianus socmerringi*, with three local races.

In addition to these real pheasants, there are other birds which, although really peafowl, are called pheasants. These are the nine peacock pheasants (*Polyplectron* and *Chalcurus*) and four argus pheasants (*Argusianus* and *Rheinhardtius*). These thirteen so-called pheasants may at once be dismissed from a sportsman's point of view, and from any scheme of acclimatisation, for they do not fly well, and come from tropical marshy climates.

We have therefore only to consider the species mentioned first, and will commence with the true pheasants of the genus *Phasianus*.

This genus is at once distinguished from the other pheasants by the very long wedge-shaped tail and the absence of a crest.

Of the thirty-six species and sub-species of true pheasants, thirty are more or less like the familiar common pheasant (*Phasianus colchicus*), and will cross freely with it and with each other and produce fertile offspring.

We will now take these thirty sub-species in detail:—

1. **Common Pheasant** (*Phasianus colchicus*).—This bird was certainly introduced into Western Europe by the Romans, though it is doubtful if they, as alleged, introduced it into England. Its true home is South Russia, Transcaucasia, and Asia Minor, but it is now, both wild and semi-domesticated, found all over Europe. However, in Great Britain, France, Holland, parts of Silesia, and North Italy it is now practically, if not quite, impossible to find a pure-bred true "Common Pheasant," as, through the introduction of other pheasants, the true race has been swamped, and we find only hybrids showing traces of three or four different species, which might almost be called mongrel.

The pheasant in Europe is a polygamous bird, a cock in a wild state mating with from four to ten hens, each of which lays fifteen or twenty eggs; but in its own native country it is said more often to pair than not. This is, however, thought to be an erroneous statement.

2. **Persian Pheasant** (*Phasianus c. persicus*).—This pheasant is nearest allied to our "Common Pheasant," but differs from it in having nearly white wing-coverts, very narrow bars on the tail, and very dark red on the sides of the belly. It inhabits Western Persia and Transcausia. This pheasant would be a first-rate species to introduce, as it is a very wild and shy bird, is extremely hardy, and flies high and fast.

3. **Prince of Wales' Pheasant** (*Phasianus c. principalis*).—This very fine pheasant inhabits North-East Persia and Afghanistan, and is much like *Ph. c. persicus*, but differs from it in the whiter wings, the maroon patch under throat and the wide purple bars on the flanks, as also in the orange-red upper tail coverts. It is one of the best pheasants to introduce into our coverts, and has twice been imported, but not in sufficient numbers, so that it was never turned out.

4. **Zerasthan Pheasant** (*Phasianus c. zerasthanicus*).—This only differs from *Ph. c. principalis* in its plain brown scapulars and the much narrower borders to the breast feathers. It would be equally desirable to

introduce, but, living in a more inaccessible locality, is most likely impossible to procure.

5. **Yarkand Pheasant** (*Phasianus c. shawi*).—This, again, is nearer to our common pheasant, but differs in the yellowish-brown rump and whitish wing-coverts. It would prove a fine addition to our coverts, and might easily be imported—*via* India.

6. **Siberian Pheasant** (*Phasianus c. tarimensis*).—This is very closely allied to *Ph. c. shawi*, only differing in the greenish rump and buff wing-coverts, and is not worth considering for introduction.

7. **Oxus Pheasant** (*Phasianus c. chrysomelas*).—This pheasant from Amu-Darya is one that would, if introduced, be a great addition to English sport, for it is hardy, strong of flight, and ought not to be difficult to procure. It is easily recognisable by the sandy-brown colour of its feathers and the very broad green bars on almost all feathers of the underside.

8. **Mongolian Pheasant** (*Phasianus c. mongolicus*).—This is the pheasant which of all others sportsmen ought to strive to introduce into this country, for it is the hardiest, largest, and most sporting of the true pheasants, besides being by far the best for the table. It is readily distinguished from all others by the rich red of the flanks, the green gloss on the plumage, the very broad white ring round the neck, and the white wings, in addition to which it is very large and full feathered.

9. **Stone's Pheasant** (*Phasianus elegans*).—This magnificent pheasant is distinguished from all others but *Ph. c. versicolor* by its almost green colour, except upon the flanks and shoulders, and there are only three specimens in existence. It cannot, therefore, be regarded as adequately known.

10. *Phasianus c. vlangalii*.—This Tibetan pheasant is distinguished by its pale sandy-red upper surface and golden buff flanks. It would be worth introducing, but, considering its inaccessible habitat, this is hardly likely to be accomplished.

11. **Prejvalsky's Pheasant** (*Phasianus c. strauchii*).—This pheasant differs from *Ph. c. elegans* by having fiery orange-red flanks instead of dark green, and dark red scapulars with whitish buff centres. It is a fine, distinct species, and would do well in Scotland and Wales, but its far-off home in Gansu will prevent its introduction for a good many years.

12. **West Chinese Pheasant** (*Phasianus c. decollatus*).—This differs only from *Ph. c. gmelini* by the absence of the white collar or neck-ring, the dark green crown of the head, and the green, not purple, borders to

the breast feathers. It would do very well in any part of Great Britain, and should not be very difficult to import. It would not, however, be of any special value for sporting purposes, and is therefore better excluded.

13. **The Ring-Necked Pheasant** (*Phasianus c. gmelini*).—This pheasant was introduced into the western half of the Old World as early as the year 1513, when it was brought to St. Helena. There it thrived wonderfully, and affords good sport even now. It has also been introduced into New Zealand and other places. The date of its introduction into England is doubtful, but the result has been that now there are no pure-bred pheasants left in England, though the resulting cross-bred birds are much larger and finer both for eating and sport than either the ring-necked or the common pheasant.

14 and 15. *Phasianus c. formosanus* and *Ph. c. satchemmensis*.—These two pheasants are closely allied to the ring-neck (*Ph. c. gmelini*), and only differ in slight colour details. They would be no benefit to the sportsman or fancier if introduced, as they differ so slightly that by cross breeding they would rapidly disappear.

16. **Japanese Pheasant** (*Phasianus c. versicolor*).—This very distinct pheasant, which is at once recognisable by its dark green breast, was introduced into Great Britain by the Earl of Derby in 1840. It is a most hardy bird, and, when crossed with either *Ph. c. gmelini* or *Ph. colchicus*, produces enormous birds of great beauty, and excellent for the table. They fly, moreover, splendidly, and give great sport.

The remaining fourteen forms are not worth discussing, as they would be no benefit to our present breeds, and come from too out-of-the-way localities to be easily obtained. Since the last edition of 1898, two of the forms I most recommended—namely, the Mongolian and Prince of Wales pheasant—have been introduced on a large scale. The Mongolian, when crossed with the other pheasants, has proved an excellent bird for late coverts, but the pure-bred birds get too fat and heavy to fly well. The Prince of Wales pheasant, on the other hand, has proved both pure, and, crossed, an excellent all-round sporting bird.

We now come to the five remaining species of true pheasants of the genus *Phasianus*. These are very different from the type of the other sixteen, and, if crossed with any of them, the hybrid offspring are unfertile. Although very fine sporting birds, therefore, unless introduced in great numbers into a cover where there are few

or no other pheasants, they will not repay the trouble.

17 and 18. *Phasianus ellioti* and *Ph. humic*.—These two very fine white- and copper-coloured pheasants are more suited for the aviary or as garden pets, as they do not, when turned into a cover, increase in sufficient numbers for sporting purposes, and fly badly.

19. **Copper Pheasant** (*Phasianus sammeringi*).—This magnificent copper-coloured pheasant, with the long-barred tail, is a native of Japan, and is eminently suited for introduction into our coverts, but it has not as yet been found possible to import it, or breed it in sufficient quantities for turning down.

20. **Reeves' Pheasant** (*Phasianus reevesii*).—This is undoubtedly the finest of all the true pheasants, being over six feet in length. It has been an inhabitant of our aviaries and parks for many years, but, owing to lack of appreciation as a sporting bird, has only succeeded in establishing itself in a few places on an equal footing with the common pheasants. Being a very hardy bird, and capable of enduring any amount of cold, it is much better suited than ordinary pheasants to the climates of Scotland and Wales, and ought, therefore, to be generally introduced into those countries. As it will fly higher and much faster than common pheasants, it affords much finer shooting and is also most excellent eating. It is at once recognisable by its yellow and brown spangled plumage, and by the gigantic tail which, in very old birds, reaches six feet in length. It is an inhabitant of China.

Since 1898 the finest true pheasant has been discovered high in the mountains of Central Formosa—namely, *Phasianus mikado*. This magnificent bird is in the male entirely of an intense ultramarine-blue, with a white barred tail and a few white markings elsewhere. If this species could be introduced into the Lake district, Ireland, or the West of Scotland, it would prove a fine addition to our game list.

We now come to the remaining pheasants, which differ structurally from the true pheasants, and are divided into eleven genera.

The first of these genera is *Chrysolophus*, which only contains two species, both inhabitants of China.

1. **The Golden Pheasant** (*Chrysolophus pictus*).—This gorgeous bird, with the scarlet breast and large gold and black tippet, has been a well-known inhabitant of our aviaries for about 200 years, but has not succeeded well as a game bird. It

might, however, if turned down in a large cover far from any other pheasants, be gradually established as a sporting bird, for in some parts of the United States it is as common a bird as is the common pheasant in England.

2. **Lady Amherst's Pheasant** (*Chrysolophus amherstiae*).—This is, if anything, a finer bird than the last, and would, in Scotland, make a good game bird. It differs chiefly from *C. pictus* in having a white instead of a scarlet breast, and a black and white instead of black and orange tippet. It was introduced in 1869, and has bred freely in aviaries and small ornamental covers, but has never been tried on a large scale for shooting.

The next pheasants are the **Pucras Pheasants** (*Pucrasia*), of which there are eight more or less closely allied species.

They are bulky birds, more like fowls than pheasants, and with broad, wedge-shaped tails and long tufts of feathers like horns on each side of the head. The prevailing colours are grey-chestnut, and black. The only one that could be introduced is the common **Pucras** (*Pucrasia macrolopha*) from the Himalayas, which would do well in Wales and the North of England.

After these come the **Kalege Pheasants** (*Gemnaus*), all of which are well-known inhabitants of our aviaries. The only two that can be considered other than as ornamental birds are the **Silver Pheasant** (*Gemnaus nycthemerus*), which can be easily reared as a game bird, but is not desirable on account of its pugnacity and heavy, slow flight; and the fine **Swinhoe's Pheasant** (*Gemnaus swinhoei*), which resembles the Silver Pheasant in shape, but is blue, brown, and white in colour. This is a much more active bird, and would make a fine game bird if it were not for its fierce nature. The remaining six species are quite unfit to turn down in any English cover.

The **Eared Pheasants** (*Crossoptilon*) are big, bulky pheasants with soft feathers either slate-blue or white, and with two tufts of narrow feathers behind the ears.

There are two species:—

1. *Crossoptilon manchuricum*.—This has been long kept in aviaries, and if turned out, as has been done in Wales by Mr. Stone, breeds freely and does well. It does not, however, fly well, and is therefore no sportsman's bird.

2. **The Eared Pheasant** (*Crossoptilon auritum*).—This bird has been assigned to four distinct species, *C. auritum*, *C. harmoni*, *C. leucurum*, and *C. tibetanum*, but the large series in the Paris Museum show every intergradation.

C. auritum is uniform slate-blue, and *C. leucurum* is nearly white. This bird flies better than *C. manchuricum*, and so might be a good introduction.

Bulwer's Pheasant (*Lobiophasis bulweri*) is a magnificent bird with its blue, black, and dark crimson body and snow-white tail, but would only do in an aviary, as it comes from the tropical island of Borneo.

The three large cock-like **Firebacked Pheasants** (*Lophura*) are also only aviary birds, as they are tropical, and, moreover, bad flyers. There are also three other Firebacked Pheasants of the genus *Acomus*, which are fit only for the aviary.

We now come to the magnificent **Impeyan Pheasants** (*Lophophorus*), of which there are four species, but only two of these concern us.

The Resplendent Pheasant or **Monaul** (*Lophophorus refulgens*).—This magnificent bird is somewhat like a turkey. Its rufous tail is square, and above twice the size of an ordinary pheasant, with most gorgeous gold, blue, and green plumage. It is quite hardy, flies well when driven, is good eating, and is altogether a most desirable bird to introduce into Scotland and the islands round.

Secondly, we have the **Chinese Impeyan** (*Lophophorus lhuysii*), which is still finer, and has a blue tail. This would be even better than the commoner **Resplendent Pheasant**, or **Monaul**, as it comes from a colder place.

The **Trafovan Pheasants** (*Tragopan*) are much the same in shape as the Impeyan pheasants, but are greyish or brown, speckled over with scarlet and black circular spots. There are five: *Tragopan salyra*, *T. melanocephala*, *T. temminchii*, *T. blythi*, and *T. caboti*, all of which would be good for introduction into the north of Britain; but *T. temminchii*, being from China, is perhaps the best.

There now only remain four pheasants: First, the **Cheer** (*Catreus wallichii*), which has been introduced, but, being an ugly brown bird, never found favour; and lastly, the three **Blood Pheasants** (*Ithagene cruentus*, *I. sinensis*, and *I. geoffroyi*)—which resemble large partridges, and have pale apple-green or greyish-green feathers streaked with red.

This concludes the list of the pheasants; and it can further only be said that, out of this list, the best of all are the **Mongolian Pheasant** (*Phasianus c. mongolicus*), the **Yarkand Pheasant** (*Phasianus c. shawi*), and *Phasianus c. principalis*. Of those

which have been introduced, sportsmen ought, undoubtedly, to strive to establish in our coverts in large numbers the **Monaul** (*Lophophorus refulgens*) and the **Reeves' Pheasant** (*Phasianus reevesii*).

WALTER ROTHSCHILD.

PHEASANT, DISEASES OF.

—(i) Amongst the chief pheasant diseases may be mentioned a form of catarrh which is prevalent amongst the young birds in wet seasons, and which sometimes passes into the "roup," accompanied by purulent discharge from the nostrils of a very infectious nature.

(ii) When overcrowded, or too closely interbred, they are subject to attacks of tubercle or consumption. The tubercles are usually situated in the liver, rarely in the lungs. In all these cases it is wise to kill the affected birds, and carefully to destroy—preferably by burning—their bodies, to remove those that remain healthy to fresh ground, and to pay renewed attention to their diet and sanitary condition generally. In the case of tuberculous disease, which at times amounts to a scourge, overcrowding must be avoided, and new, healthy stock introduced for purposes of breeding.

(iii) G. B. Morse describes,¹ under the name of "Pasting," a disease which attacks young pheasants during the first week of their lives. A mass of white, chalky, pasty substance appears at the posterior end of the alimentary canal and produces a complete stoppage, and, unless this obstruction be removed, death follows in the course of a day or two. The mass should be gently scraped away and a few drops of sweet oil applied.

(iv) Pneumonia is a general term which probably covers inflammation of the trachea, the bronchial tubes, and of the lungs. The breathing becomes difficult, and the birds have a high temperature and show symptoms of weakness, and refuse their food. Epsom salts or a few teaspoonfuls of castor oil should be administered, and from time to time the birds should breathe the fumes of burning sulphur or of tar, or the steam from a mixture of carbolic acid and boiling water.

(v) "Cholera." At times a very virulent disease, which is known as "cholera," carries off the birds within a few hours of the first attack. Treatment is usually of little use. Probably the best plan is to kill and burn the infected birds without delay.

¹ *Farmers' Bulletin*, No. 390, U.S. Depart. of Agriculture, 1910.

(vi) The "cramp," which causes the death of young pheasants in considerable numbers, has been investigated by Dr. E. Klein. It commences with lameness, followed by inability to move the legs, and soon ends in death. Post-mortem examination shows that the bones of the leg are soft and often broken, and that the bony tissue has been destroyed. The cause is "a bacillary infection" which ends in "corrosion and fracture of the bones."

(vii) Another disease investigated by Dr. Klein is a cutaneous disorder ending in necrosis of the skin, and finally in the death of the bird. This disease is contagious, and is usually caught from diseased farmyard poultry employed in rearing the young pheasants. It can be eradicated by destroying and burning the affected birds, and may be checked by removing all birds showing traces of the disease from amongst the healthy ones, and placing the latter on clean new ground.

(viii) Fowl enteritis, or "white" diarrhoea, also attacks pheasants, and usually ends in death in a day or two; this inflammation of the intestine is due to the presence of the coccidian, *Eimeria avium*, which has been fully described in the article on grouse disease. It is very easily communicable from one bird to another.

The following methods of treatment for fowl enteritis have been suggested by Dr. G. B. Morse:—

(a) The administration of Epsom salts, mixing them in a mash, and estimating one teaspoonful of the salts to eight to fifteen chicks, according to age, size, and condition.

(b) The drinking water should contain sulphate of iron (copperas) in the proportion of ten grains of the copperas to one gallon of water, or enough permanganate of potash may be added to the drinking water to give it a claret-red colour.

(c) The coops, feeding utensils, drinking vessels, and runs should be disinfected. As a preventive measure, incubators and brooders should be cleansed and disinfected, and, prior to incubation, whether natural or artificial, the eggs should be dipped in 95 per cent. alcohol or in a 4 per cent. solution of some good coal-tar disinfectant.

Certain prophylactic measures should be adopted. The disease is spread by means of the droppings. These are crowded with the parasites, which get spread over the earth and picked up with the food or with the gravel or grit. Millions of the parasites are lying on the ground only waiting to be swallowed to set up the disease in the

new host. Hence the following precautions should be taken:—

(a) All healthy chicks should be moved to new ground.

(β) As far as possible the coops should be placed upon boards so that the droppings may be collected and burnt or destroyed in quicklime; burning is the better.

(γ) All coops, drinking vessels, and other utensils, and runs should be disinfected by thoroughly washing and scrubbing with hot water and soap, and the application, by spraying or brushing, of a 5 per cent. carbolic acid mixture containing enough lime to show where it has been applied.

(δ) The ground where the chicks have lived should be disinfected. "Disinfection of the grounds or runs is of supreme importance, and should be practised not merely for the suppression of an outbreak of disease, but regularly as a routine method of preventing such outbreaks. Fire is the best disinfectant, and where disease agents are known to assume very resistant conditions, as, for instance, the eggs of worms or the spore cysts of the lowest animal forms like the Protozoa, fire is the only absolutely reliable disinfectant. Where there is no danger to buildings, the ground may be sprinkled with kerosene and flamed. Even here we must recognise one possibility of failure. Earthworms may act sometimes as carriers of disease agents, and convey into the ground, on their bodies or in their alimentary tracts, such agencies of disease as the eggs of the gape-worm, or even the gape-worm itself. After the ground has been flamed and the surface thus perfectly disinfected, rain may bring the worms to the surface, and with them the parasites they are carrying. Hence the necessity from time to time of another very good disinfecting procedure—namely, top-dressing with lime and ploughing under. The ova of the forked-worm may pass out with the worm casting, and so get again on the soil. As a rule, I do not think pheasants eat the worms. Where fire cannot be used, this method is invaluable. In disinfecting by means of fire, great caution must be used; in competent hands it is the best method, but it cannot be used without some chance of damage. Since some diseases appear to arise from contamination of the soil from prolonged occupancy, top-dressing with lime, ploughing, and sowing some quick-growing green manure, such as cowpeas and oats, should be regarded as necessary routine. A third method of disinfection of the soil consists in sprinkling or deluging the ground with a solution of sulphuric acid (one part

acid to nine parts water), or a 5 per cent. solution of carbolic acid (one part acid to nineteen parts of water)."

The third method mentioned under (δ) may prove dangerous, and should only be carried on under really expert advice.

(ε) All dead birds and all droppings should be burnt or buried in lime; burning is the better.

Coccidiosis was very prevalent in 1910 in England, and thousands of birds succumbed to it. Other inflammations of the alimentary tract are due to bacteria or to flagellates.

(ix) The red or forked-worm disease.—This is a most dangerous and fatal disease of pheasants; it is caused by the presence in the windpipe of the Nematode worm (*Syngamus trachealis*, v. Sieb.). This parasite and its life history have been described in the article on diseases of partridges (*q.v.*). It is equally or even more destructive to pheasants. Megnin estimates the loss in one pheasantry at Rambouillet at about 1,200 victims daily. When an outbreak occurs, it is of the utmost importance to isolate the birds attacked, and to remove those which remain healthy on to new and untainted ground. The bodies of those that succumb must be burned at once, and the pheasantry must be disinfected by sprinkling with a one per cent. solution of salicylic or sulphuric acid. The food must be looked to and kept from contamination, and Megnin recommends adding two or three drachms of salicylic acid to every quart of water used for drinking.

In individual cases the worms may be removed by dipping a feather stripped of its barbules, except at the tip, into a mixture of one part of oil of turpentine and two of olive oil, or into oil of cloves, and then inserting it into the trachea; on its withdrawal it will probably bring with it the worms. The operation requires a little care, or asphyxiation may result. Garlic mixed with the food and rue mixed with the water have also proved successful. Theobald recommends injecting a few drops of eight per cent. solution of salicylic acid or eucalyptus oil, by means of a fine pipette, into the trachea. This, he states, is invariably successful. Another of his methods, which requires less skill, is to place the diseased birds in a box in which powdered chalk and camphor, in the proportions of two to one by weight, is so sprayed that the bird must inhale the mixture. Inhalations of tobacco smoke and the vapour of carbolic acid are also well spoken of.

(x) Other diseases due to Nematodes.—

A second Nematode worm which attacks pheasants is *Heterakis papillosa*, Bloch. It is found in the cæca, sometimes in prodigious quantities, and causes typhlitis, which may prove fatal. Its eggs develop in water. *Trichosoma longicolle*, Rud., also occurs in the intestines and cæca. Reibisch¹ has further described, under the name of *Trichosomum strumosum*, a round worm which lives in the epithelium of the œsophagus, and whose eggs are found in great numbers in the mouth and in lumen of the œsophagus. The harm done to the epithelium is said to be very great, and in places this tissue is completely destroyed. Since, when heavily infected with *T. strumosum*, the alimentary canal of the pheasants are completely empty, Reibisch puts forward the suggestion that the injury caused by the parasite hinders it swallowing, and in course of time the birds starve. The worm buries itself in the deeper layers of the epithelium, and at times reaches the sub-epithelial tissues. The eggs press apart the epithelial cells until they reach the lumen of the œsophagus, whence they are coughed or sneezed out.

(xi) Diseases due to tape-worms.—Several species of tape-worm infest the pheasant. *Drepanidotania infundibuliformis*, Gæze, whose larval form is said to inhabit the common fly; *Tenia cantaniana*, Pol. and *Davainea friedbergeri*, which in young forms often produces a fatal enteritis. In addition to the tape-worms mentioned above, grave epizootics are caused by *Davainea friedbergeri*, v. Linstow (= *D. quevillensis*, Megnin) and by *Choanotania lagenocollis*, Megnin (= *C. infundibuliformis*, Gæze). The first epidemic occurred at Guéville, near Rambouillet, and was, according to Megnin, due to intestinal obstruction caused by the presence of great numbers of *D. friedbergeri*. The second, which occurred near Loiret, Lormé, was attributed to the same cause, brought about by a mixed infection of *C. lagenocollis* and *D. urogalli*. The latter epizootic is said to have entirely wiped out the young broods of the district. I have found specimens of *D. urogalli* three inches long in a young pheasant from the North of England, which could not have been more than a week old.

I am a little sceptical about the cause of death which Megnin attributes to intestinal obstruction. I have frequently seen the alimentary canal of apparently healthy grouse distended to an appalling extent by *D. urogalli*, and yet the birds suffered little damage. The danger of tape-worms is that

¹ *Arch. Naturg.* 59 Jg. I, 1893, p. 331.

their heads at times penetrate the mucous lining of the intestine, and facilitate the passage of the intestinal bacteria into tissues and organs where they set up inflammation. These facts were not appreciated when Megnin wrote, neither was the full bearing of Coccidiosis realised, and it is to one of these two causes, rather than to obstruction of the alimentary canal, that I should attribute the epizootics described by Megnin.

(xii) "Scurfy legs" are common when pheasants are reared by farmyard hens, and are caused by the presence of a microscopic mite known as *Sarcoptes mutans*, Rob., which burrows under the scales and sets up gall-like swellings. In the centre of the swelling the female mite, swollen out with eggs, is to be found. The infested pheasant suffers considerable irritation from the presence of these galls, which are usually confined to the legs, but occasionally occur on the naked parts of the head. In fowls, the trouble can be removed by soaking the legs in warm water, breaking away the galls and washing with carbolic soft soap. Common paraffin is also recommended, applied to the legs. The coops should be limewashed and cleansed.

(xiii) A second mite which attacks the pheasant is *Sarcoptes laevis*. It causes a Mange or Scab. The feathers break off, and if the stump be removed it will be found covered with a powdery paste consisting of the bodies of the mites and of dead cells. Application of sulphur to the skin, either in a powder or ointment, is indicated. Sweet oil with a small mixture of carbolic acid or kerosene is also successfully used. The diseased birds should be isolated and every care taken to disinfect the coops.

(xiv) A third species of Mite, *Cytodites nudus*, lives in the air-sacs of birds, particularly chickens and pheasants. If they exist in great numbers they set up inflammation and congestion of the lining membranes of the air-sacs and of the lungs, and at times the bronchii become blocked with them. Treatment is, as a rule, unsuccessful. Sulphur mixed with food has been recommended.

(xv) "White Comb" is a fungoid or mould disease, due to the fungus *Achorion schonleinii*, which attacks the comb, head, and neck. The general effect is like that of mange; a number of white powdery scales break away from the integument. Some oil or a fatty substance should be applied to the affected parts. These should be scrubbed with water and soap, and some such ointment as ichthyol (one part ichthyol to nine parts of petroleum) should be ap-

plied; and in severe cases tincture of iodine has been successful.

For further details of disease in pheasants the reader is referred to the works of Klein, Tegetmeier, and Morse.

ARTHUR E. SHIPLEY.

PHYSICAL CULTURE AND GYM-NASTICS.—One of the most important international gymnastic meetings ever held was that concluded in the Stadium at the Olympic Games of 1908 in London. The results of this meeting were excellent, for it produced the silver medallist and six places out of the first seventeen in the Heptathlon from among British athletes who represented a country which had hitherto been scarcely recognised as a gymnastic nation by our friendly critics on the Continent. There is no doubt that this will give a stimulus to British gymnastics in the interest and attention of the public which is well-deserved by an institution of the highest importance to national health, especially in the case of a country like the United Kingdom, which is deprived of the physical benefits of military conscription. Those benefits, it may well be thought, should at least be aimed at by Englishmen who would conscientiously deplore the various drawbacks alleged to be inseparable from compulsory and universal service in the Army. At present British gymnasts retain the light-hearted spirit of recreation in a competition which is sometimes taken with a rather automatic and coldblooded severity in the case of more military nations. We might, in fact, improve in discipline; but there is no reason why we should not excel in execution.

In all military nations the Governments support and encourage public gymnasia as a silent but most efficacious aid to that public health which is the foundation of military efficiency. We may not be "military," but it is not, therefore, excusable that we should leave the invaluable results of gymnastic training so entirely to voluntary and private effort. Much, even so, has already been accomplished: rules, regulations, and gymnasia exist; but the youth of this country has not yet been aroused to the importance of using them aright, an importance which will become far more evident in the future of the race, and may at any moment become acute in any sudden peril of the nation. Games that merely develop large crowds of spectators are not, in fact, a national asset. Young men who do not care to serve their country in one form or another of the recognised opportunities for military duties might at least improve them-

selves, as citizens and as the fathers of citizens to be, by regular gymnastic exercise. It has been suggested that a part of the work which lies before the British Olympic Association in the future, and not the least valuable part, might be the encouragement and maintenance in this country of a national physical superiority among the nations of the world, which is rapidly ceasing to be a fact and will soon become a legend. The State has never wanted men more keenly than at the present time; yet it would be impossible for it to display more apathy towards the methods that other nations have so successfully employed in making them. There are those who think that the Olympic Games should consist almost entirely of gymnastics. I am not of that opinion. But it is clear that in the schemes for general physical improvement which the Olympic Games have been revived to foster, the value of gymnastics to this country should hold a higher place both in the hearts of the people and in the councils of their ministers.

T. A. COOK.

SYSTEMS OF GYMNASTICS.—

Greek Gymnastics have at the present time no place or influence in the gymnastic world, and though an attempt has recently been made to revive them, they were modernised in details, and would more properly come under the designation of athletics. Although the decadence of Greek gymnastics is in itself a matter of regret, it may be said that it is not entirely lost to the present generation, for the principal teachers of gymnastics generally choose as their physical conception the graceful model of the antique Greek school.

Educational Gymnastics is a term given to physical exercises which are usually taught in schools, and which are specially adapted to the requirements of pupils of both sexes, and the facilities afforded by the schools in the matter of space and equipment. This branch of gymnastics is subdivided into various systems, which are named after the respective countries from which they originate. The partisans of these systems claim for their respective methods special advantages.

Swedish Gymnastics comprise exercises without apparatus, and are sometimes known as "free movements." These motions are divided into groups for developing the various parts of the body, such as the ankle, feet, legs, trunk, arms, neck, &c.

German Gymnastics may be considered as involving the opposite principle to Swedish gymnastics, for although they in-

clude "free movements," or exercises without apparatus, these are only practised as a rudimentary preparation to more serious work. Various and complicated apparatus is in constant use in every town, village, and school in Germany. Indeed, its great feature is the universality of its indulgence, and it undoubtedly takes the place occupied in England by athletics. The State not only recognises its usefulness, but has official control of its practice, making it compulsory for every child and adult to undergo a prescribed amount of such physical training. That this has had a beneficial result upon the health, character, and practical ability of the German race is recognised by all. German gymnasts are very expert upon apparatus, and at their festivals some very clever feats, which have a useful aim, may be seen. This is particularly the case with their Escalading Tableaux.

Danish Gymnastics are symbolical of what we should expect from such a race, full of agility, nimbleness, and daring, with a liking for anything of a warlike character, such as the lance, dagger, sabre, or foil. Indeed, they combine the variety of the German school with the vivacity of the French. Their particular forte is perhaps tumbling and rope-climbing.

Russian Gymnastics appear to aim at the art of the development of the body rather than the acquisition of skill in performing difficult feats. Nevertheless, even from this scientific standpoint, they are necessarily thrown upon the expedient, as in other countries, of largely introducing the principle of variety into their movements. The cold climate which they are compelled to endure, for a lengthened period of the year, forces them into movements of activity, rather than the slower feats of strength. One of their favourite methods is to jump through a double line, a feat which requires a considerable amount of judgment, combined with looseness of limb and abdominal contraction.

French Gymnastics have recently had the advantage of being taken in hand by the State, and English ideals seem to be their favourite model. The movements are conducted to musical accompaniment, and must be performed unanimously to ensure success.

Swiss Gymnastics are very similar to those practised in Germany. They have the same liking for *fêtes*, and the feats which are witnessed there are of an extraordinary character. The gymnastics in the schools are also very picturesque, and are often accompanied by Tyrolean choruses.

Italian Gymnastics are not of the active

character of the more northern countries. They have, however, one or two features essentially their own, such as the floor movements with a pair of dumb-bells resembling the English flat-iron. In these exercises they go through many attitudes, resting on the irons and feet only. Another is the practice of marching with baskets poised upon their heads, in order to exercise the muscles of the spine and neck, thus ensuring a straight and graceful carriage.

Spanish Gymnastics, on account of the climatic conditions of the country, are necessarily of a slow and deliberate type. Their principal feature is their power of equilibrium.

American Gymnastics present no special feature of originality, if we except the wonderful progress they have made in the manufacture of appliances suitable for physical exercises. By means of their pulley-apparatus, physical training at home is made easy. Americans are also very thorough in their methods of partaking of exercise. They have evidently searched the old world, and culled the best points, which they have endeavoured to improve for their special requirements.

English Gymnastics are very similar to the American system. They have made use of the best features of exercise, as taught in other countries, and adapted them to their special requirements. They have wisely introduced music and recreation into their work, and made light and cheerful that which is sometimes in danger of becoming dull and monotonous. Variety has not been lost sight of, and for this reason English gymnastics compare very favourably with the systems of other countries.

Finn Gymnastics.—Although Finland is now a province of Russia, the Finns have a system of gymnastics which is essentially their own, and which possesses so many elements of originality, dash, vigour, and grace, that no notice of educational gymnastics would be complete without some particulars of it. As in Russia, the climatic conditions of Finland render it imperative that the influences of a cold and rigorous season should be resisted by recourse to such active physical exercises as will tend to keep the blood at a proper temperature and the muscles and organs of the body in a proper and healthy condition.

Games are not always possible in Finland, the winter being long and severe. In accepting the alternative of gymnastic exercises under a covered roof, the Finns very naturally evade the monotony of cut and dried systems by introducing as much variety as possible into their exercises, as

well as in the shape of their apparatus. The beneficial effect of this is at once seen in their sturdy, muscular figures. Their gymnastic movements possess all, if they do not excel, the precision of the Swedish drill, while it has none of the latter's jerky and ungraceful style. One of the best features of Finland gymnastics is a set of movements which they perform with a bar of steel, measuring about 4 feet 6 inches long, and $\frac{3}{4}$ inch in diameter, and weighing about 5 lb. Some of the attitudes of a squad of men with this implement are most graceful, while the effect upon the physique cannot fail to be of the most beneficial character. Nor are the women of Finland less expert at gymnastics than the men, for both single and married women join systematically in these exercises. Indeed, we have seen an exhibition upon the parallel bars by married women in Finland which would be considered very creditable to any ordinary class of men in other countries. Taken altogether, Finland gymnastics are of high merit, and they are entitled to much praise for their enthusiasm and skill.

Recreative Gymnastics embrace all physical exercises which are undertaken from a recreative point of view. These do not necessarily debar those movements described under the heading of Educational Gymnastics, but would include them in an intricate form, or when exhibited by large numbers of gymnasts. Indeed, we know of no more novel, exhilarating, and pleasing sight than to see a musical drill performed by a large number of school children, with an occasional vocal chorus. Such a sight can now be happily seen at any of our large Board schools, or a similar sight may be witnessed at any of our large gymnasia, or with some of our regiments at Aldershot and other camps. Recreative gymnastics of this kind are more common in England than in other countries, and the beneficial results cannot be over-estimated, for they not only possess the fascination of dancing, but from their more varied character they secure a greater amount of physical benefit, and the musical accompaniment enables the pupil to partake of a greater amount of exercise, as in marching. Swedish gymnasts and other opponents of recreative gymnastics argue that, by the introduction of music, precision and correctness of detail are sacrificed, but this need not necessarily be the case, for naturally the pupils are first taught without music. Although the English gymnasts base their recreative gymnastics largely upon musical drill, they frequently pursue the more complicated forms of practising intricate gymnastic feats upon horizontal and

parallel bars, rings, trapeze, vaulting-horse, and other kinds of apparatus, but physical results in these cases are not so satisfactory as in the musical drill. At the same time a greater amount of muscular strength, activity, and resource are secured, which prove of great utility in many walks of life, and for this reason, the practice, if not pursued to extremes, is to be commended.

Recreative gymnastics on the Continent are conducted in quite a different fashion. They have drills performed by large bodies of gymnasts, but they are unaccompanied by music. The orders are given by leaders, who are placed over sections, and who in turn take their orders from a chief leader. It is, in fact, conducted on the military system of issuing orders. It is a very fine sight to see, at one of their great gymnastic fêtes, several thousands of gymnasts performing in this way simultaneous movements. In another form, however, Continental gymnasts have quite a speciality in recreative gymnastics. In this "simultaneous squad" practice, several thousand gymnasts are divided into groups. To each group are allotted various pieces of apparatus, and at a given signal each member of a group performs a stipulated exercise.

Acrobatic Gymnastics may be described as an advanced stage of Recreative Gymnastics. They are useful as showing the marvellous degree of perfection to which the body can be trained, and the wonderful powers which such a physique possesses. It must, however, be pointed out that such a training is not advisable, as often, after the great strain to which the valvular and arterial system is exposed, collapse of the side walls of the blood vessels takes place, and an aneurism results.

Medical Gymnastics is the name given to movements which, scientifically based upon physiological conditions, are calculated to improve weak and delicate physiques. For this work an accurate knowledge of the muscles and their functions is required of the teacher. By relaxing one, and contracting another, group of muscles, the bones can often be corrected out of crooked into straight lines. The thorax and abdominal walls can be enlarged, and thus, by giving more room to the organs, greater comfort can be experienced, and very often ailments of the chest and liver, and other physical and organic defects, absolutely remedied.

A. ALEXANDER.

GLOSSARY.

Bar-bell.—Two large metal balls connected by an iron rod about 5 ft. long and 1 in. in diameter. The weight varies largely, the heaviest being

about 200 lbs. For exercise a light bell of wood is frequently substituted.

Dumb-bell.—Two masses of metal joined by a handle, which is usually covered with leather. The weight varies from 1 lb. to about 16 lbs. a pair, according to the age and strength of the user.

English Board.—A spring board about 5 ft. by 3 ft. 6 in., resting at either end upon bars, which are inserted into rings upon four stands, each about a foot high. The rings must clutch the bars loosely so as to give the springs free play.

Flying Rings.—Rings suspended from ropes usually from 9 to 12 ft. long, the rings themselves being about 9 in. in diameter. They should hang about 3 ft. from one another, and ought to be covered with leather.

Horizontal Bar.—A bar of wood about 6 or 8 ft. long, with a core of steel inserted down its whole length. The diameter is usually about 1½ in., and the ends are inserted into posts by pegs whose height can be graduated.

Indian Clubs.—Wooden clubs, in shape like a champagne bottle, but tapering rapidly at the end furthest from the thin neck which the hand grasps. They usually weigh about 4 to 7 lbs. each, and vary in length from 18 to 24 in.

Parallel Bars.—Two bars of wood of equal height from the ground supported at their extremities by stout posts. Usually about 8 ft. long and from 4 to 5 ft. high.

Trapeze.—Consists of a bar of wood from 2 to 3 ft. long, joining the ends of two ropes which swing freely from the roof.

Vaulting Horse or Wooden Horse.—Consists of a solid block of wood, shaped somewhat after the manner of a horse's body, standing on four legs or props some 4½ ft. above the ground.

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PICKEREL OR DORÉ (*Stizostedion vitreum*).—

Nomenclature.—The pickerel, or doré, is common in the fresh-water rivers and lakes of Upper Canada and in some parts of the United States, and is known by a variety of names. In addition to the above, it is also called the wall-eyed pike and the pike-perch, and in some parts of the North American continent it is dignified by the singularly appropriate nomenclature of salmon.

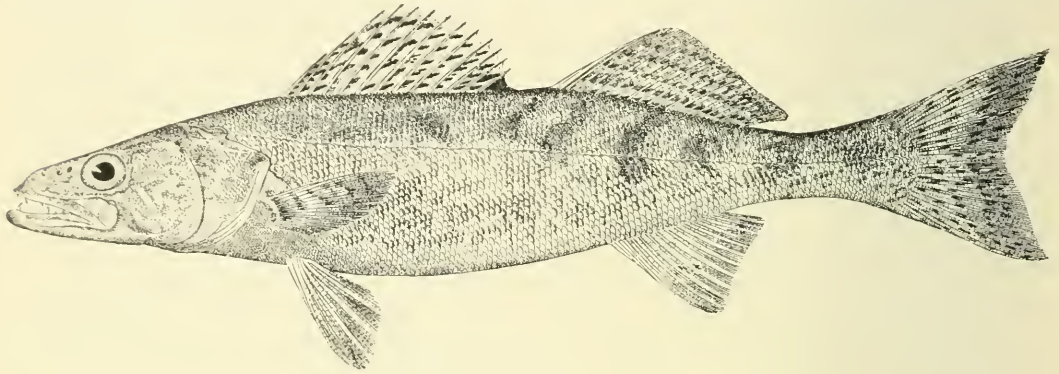
Appearance.—In appearance it is by no means ungraceful, but its enormous mouth and peculiar eyes give it a very vicious appearance, which its character does not belie. The body is rounded, the eyes are luminous, and, even when the fish is dead, shine with a green lurid light similar to

those of a panther or a cat in the dark. The mouth is filled with big teeth. The sides of the doré, as the fish is usually called in Canada, are, as the French name betokens, of a golden hue, the belly white, the back dull brown. It tapers very much towards the tail, all its fighting power, which is considerable, being in front. The dorsal fin is much like that of the perch, having projecting from it bony spines which are not pleasant when in contact with the fingers. The scales are rough and coarse on the larger specimens. It is a very common fish in Canada, where it inhabits with great impartiality the rapid waters of rivers and quite calm inland lakes and ponds. I have

As Food.—A small doré of from 1 lb. to 2 lb. weight is a most excellent table fish. When freshly caught, and nicely cooked by some Montagnais Indian on the banks of a distant Canadian stream or lake, he forms a very agreeable variety to the eternal trout which is frequently the sole food upon which the hunter or angler in those places has to subsist. Indeed, his flesh, which is white and firm, is often far more delicate in flavour than that of the lake trout.

ANDREW C. P. HAGGARD.

[As suggested in the foregoing article, considerable confusion exists among anglers from different parts of Canada and the



PICKEREL.

no data to go upon as to what size this fish may grow to—probably about 10 lb. in weight; but I have taken them up to 6 and 7 lb. in weight. This was in a far-away lake in the backwoods, known as the Lac des Aigles.

Methods of Capture.—The doré will rise to a salmon fly readily; he is equally, indeed still more, ready to take a minnow or spoon. In the evening, just before dark, he is particularly voracious. Any kind of dead bait, any refuse or offal, is not despised by the pickerel, for he will eat anything. A very good bait for a doré is the eye of another fish, but for that matter both the speckled trout of Canada (*Salvelinus fontinalis*) and also the ouananiche itself will, when everything else fails, seldom decline to accept with alacrity the same dainty morsel. When hooked, he makes a very good struggle for existence, and will frequently spring out of the water like a trout. After being captured, the doré is very difficult to kill; for that reason he is a very disagreeable fish to have with you in a birch bark canoe, as an hour after he is supposed to be dead he will come to life again, and then, with his large teeth and sharp spines, make that canoe an unpleasant place of residence.

United States as to what exactly constitutes a "pickerel," and the tourist angler, making a visit to the lakes and rivers of both countries, will find that he has caught at least two, and possibly even three, fishes bearing that name. It is not always, in fact, a very sporting fish, as, although it throws itself out of the water when hooked, it generally, in still water at any rate, gives in after a very feeble resistance. It is more often than not caught by accident rather than design, when the sportsman is after black bass or trout.—Ed.]

PIG-STICKING.—Pig-sticking, or Hog-hunting, as it is sometimes called, is a sport unique of its kind; it is the first sport of India, and is one which especially commends itself to the Briton, owing to the fact that it includes the use of a horse in bringing to terms a fast, bold, and dangerous quarry.

Towards the end of the eighteenth century our forefathers in India were given to riding down bears with spears, and as the supply of bears gave out, wild boar came to be hunted in their place. It was then found that the "understudy" for the part of quarry—as sometimes is the case—was a far better performer than the principal, and

thenceforward to this day pig-sticking has held the pride of place as the premier sport of India.

The Sport.—The company of sportsmen having assembled overnight in camp at an appointed place and date, an early start is made to beat up the pig. A line of beaters is employed, assisted by elephants. The sportsmen, grouped in parties of three or four each, ride either with the line or are posted outside the cover, according to the nature of the jungle—much as when shooting in England, in turnips or in coverts. Each man carries a spear.

When a boar breaks a way, the party which happen to be nearest to him start after him, and for three-quarters of a mile or so it is generally as much as they can do to keep him in view; he then begins to slow down a little, and it becomes a race among the riders to try to get up to him and be the first to spear him. To the man who wins "First spear" are credited the honours of the run, but it is by no means certain that he who is foremost in the race is the one who ultimately wins, for, as his pursuers draw near him, the boar gives up the idea of escape by fleetness of foot and determines, according to his individual character, to get the better of his foes either by cunning or by pluck. In the one case, waiting till the spear is almost at its ribs, he makes a sudden dart or "jink" to one side or the other with such rapidity as to leave his pursuer several lengths to the bad. This jinking he repeats every time he is overhauled until he either gains some friendly cover or is finally tired down and

spearred. In the other case, where he uses his pluck—and I will say, to the credit of the boar tribe, it is their more usual line of action—he allows the hunter to come fairly close and then, edging off his former line for a few paces, he shortens his stride and, with ears pricked and glittering eyes, he turns and comes straight for the horse with a powerful rush. If not met with a well-aimed, firmly held spear, he will, as likely as not, overturn both horse and rider,

leaving an ugly memento on the former in the shape of a gash from his sharp-edged tusks. A few charges of this kind eventually bring him to his death, but as a rule he carries them on until he is borne to earth, disdaining to the last to turn to fly.

Half-a-dozen beaters come and sling the mighty carcase on a pole and take him back to camp, where the flesh is divided among them, while the tusks go

to the man who was the first to spear him. The elephant that bears upon his pad the priceless "drink-box" is meanwhile called up, and the thirst which exceeds all others—viz., the "pig-sticker's thirst"—is quenched.

And then with fresh horses the party once more join the line to seek for further sport.

This, very briefly, is the nature of the sport which stands *facile princeps* among those of India, if not of the world. But so bare a recital can give no idea of the undercurrent of excitement that runs through every phase of it, from the breathless expectant waiting for the pig to break covert up to the final thrust—sometimes on



[From a sketch by the Author.
A RACE FOR FIRST SPEAR.

foot—at the savage monster fighting for his life.

The Boar.—It is the nature of the animal himself that adds so greatly to the quality of the sport. A powerful, shaggy brute, he stands from 30 to 38 inches at the withers, and is generally a mass of thew and sinew. In spite of his weighty build, he is very quick and active in his moves, and very fast upon his legs. For three-quarters of a mile a horse can scarcely live with him across the roughish ground where he is met with. His weight carries him through bush and jungle, and his activity affords him power to jump anything that a horse can take and sometimes more. He has a wondrous knack of jumping sideways over walls of lanes where the horse can get no run to follow him.

He always has his wits about him. While running before his pursuers he will take advantage of every form of cover or obstacle and put it between himself and them, and will endeavour by dodging to evade them. Water has no terrors for him, and the most break-neck places are favoured by him in his flight.

Then he is further possessed of the nastiest temper of any living animal, and has a very useful instrument wherewith to vent his rage, in his sharp and curving tusks. These he uses with unerring aim and quickness, and often with deadly effect.

Thus, when the boar has been overtaken and the excitement of the race is over, the fun of the fight begins, for now he stops to contest his way to some patch of cover, where he can come to bay and display a pluck and toughness such as no other animal can boast of. He never loses head nor heart, and so long as life remains in him he will force himself on to the hunters' spears in a mad longing to get at them.

There are several local varieties of pig

in India (*Sus indicus*), severally known as:—

I. *Tatainya*, *Tatira*, or *Mooghun*—well bred, fierce, fast, and active.

II. *Meilier*, *Muckna*, or *Gâgas*—large, coarse-bred, and slow.

III. *Kookhunnee*, or *Tâana*—smallish and light-coloured, and very fierce.

IV. *Soocur*, a compact shape, also lightish in colour and very fierce.

A boar is full grown at five years, but fills out in muscle up to eight. After nine his powers begin to wane with age, and his temper becomes worse—and up to twelve or fourteen he is a nasty customer to meet.

After that, old age sets in, and though he lives to sixteen or twenty, he is in his dotage. The following are the measurements of a record sized boar: Height at withers, 38½ inches; length, 62 inches; girth, 55 inches; girth of forearm, 14 inches; tusks, 8½ inches; weight 300 lb.

Haunts.—

Pig are found in most parts

of India, even in the most civilised and cultivated districts. Their local haunts vary according to the season of the year. They inhabit tracts of bush-grown country, or long grass, tamarisk and reeds in the river-beds, marsh land, ravines, clumps of prickly pear, &c.

Beating.—The usual method employed for finding pig for the run is to employ a line of native beaters, from thirty to 150 strong, as circumstances may demand. The line is generally under the direction of a head shikari, mounted on an elephant or pony, and seconded by assistant shikaris, commanding different sections of the line. In open grass or bush country the line advances quietly, beating and tapping with sticks as they go, the horsemen riding in parties immediately in the rear of the beaters.

In the case of thick patches of cover,



THE HUNTER HUNTED. *[From a sketch by the Author.]*

crops, &c., the line advances slowly but noisily, with drums and shouting, in order to induce the pig to sneak quietly away before them. The riders are in this case posted outside the cover at points near which the pig are likely to break cover. Such parties must keep very quiet and motionless, and so remain until the pig has left the cover a good distance behind him; for the boar is very shy of leaving a good sanctuary, and will only do so when he thinks the coast is quite clear. If he finds himself

man's programme, enabling him to put in two months' pig-sticking in the East after his hunting and before his autumn shooting at home.

Spears.—Two kinds of spear are used in India, some clubs preferring one, some the other.

They are, (1) *The Long or Underhand Spear*, which is grasped at about two-thirds of its length from the point, with the knuckles downwards, the shaft lying underneath the fore-arm. The length of this



THE PIG IS ROLLED OVER.

(From a sketch by the Author.)

being followed before he has gone far, he will nip round and slip back to cover at a lightning pace, and will probably decline all further inducements to quit it.

Tracking.—In some parts of India, where jungles and covers are few and far between, boar are found by tracking or "pugging" them from their feeding places to their lairs—and this is a most interesting and sporting way of getting them. Of course, for this purpose, native professional trackers are usually employed, but at the same time the art is one which can be learned by any keen sportsman who has a good eye, unlimited patience, and a knowledge of the ways and habits of his quarry. Continual practice is then necessary to obtain a practical ability.

Season.—The best season for pig-sticking in Northern India is from February to July, the crops being all cut then, and the land dry and fallow. These months should adapt themselves very well to the English sports-

spear is from seven to eight feet. (2) *The Short or Jobbing Spear*. This is grasped close to the butt with its head pointed downwards, the knuckles to the front, thumb uppermost. Its length is about six feet, and it is weighted at the butt with lead.

The respective merits and disadvantages of the two spears are frequent subjects of argument, but while the long spear is the easier to use and theoretically the best, the short spear is the more handy and the more deadly.

The best spear-heads are the "Bodraj" (made in India), narrow, leaf-shaped, with a sharpened rib up each side, and the ordinary "bayonet" with the three faces slightly hollowed. The edges and point should be kept sharp from day to day. The spear shafts are generally of male bamboo, which should have been specially selected.

Horses.—The main desiderata in a pig-sticker are that he should be quick, handy,

clever over bad ground, bold, staunch to pig, and, if possible, fast and not too big. The breed of horse in which these qualifications are most readily found are the Waler (Australian), of small size, and the Arab. Good country-breds may also be found, but their staunchness is not always to be relied upon. Several mediocre horses are better economy than one or two very good ones for pig-sticking. They have less chance of becoming stale. A sportsman coming out from England for pig-sticking in the spring will find that this is the best time for buying horses in India, as the leave season commences in April, and men going home or to Kashmir, &c., are all selling off.

Riding to Pig.—Riding to pig is an art or knack like that of riding to hounds, and in both there are points of minor etiquette between sportsmen which it is most necessary to observe. "Old Shekarry" summarises the qualifications that go to make a good man to pig thus: "Strong nerves, good eye for a country, keen sight, firm seat, a light hand, and more especially a bold heart and a cool head. Add to these judgment of pace, dexterity with the spear, and an intimate acquaintance with the habits and cunning of the boar."

And Bacon—not Francis, but a worthy successor—writes: "A firm seat, a delicate hand upon the bridle, a *quick eye*, a steady and skilful delivery of the spear, and good pluck, are indispensable in this nice sport. *The eye must be kept upon the hog, and the horse must be left to select his own footing through broken ground or other impediments.* for if the attention be for an instant withdrawn from the chase, ten to one are the odds that the hog will run to cover unmarked and the game be lost!"

I commend to special notice the points which I have put in italics.

Bacon, who had plenty of experience of both sports, and who wrote in the days of muzzle-loading smooth-bores, also says: "Hog-hunting is not only more scientific, but it is also a more dangerous sport than tiger-shooting. If the horse be borne to earth in the charge, the rider will have little chance of escape, unless very expertly supported by his companions, who must make a diversion in his favour."

"Keep your eye on the pig and ride straight" is the best principle to go on in riding, and while out in the field subject yourself to the orders of the master or captain, and to the unwritten rules of courtesy and good sportsmanship. Always remain with the party or at the post to which you are assigned, until otherwise ordered by the master. Do not interfere

with the beaters or shikaris in any kind of way—that is the master's work only. Ride fairly and in a sportsmanlike way, *i.e.*, when a man is fairly on the pig do not hustle or try to oust him, but let him have his chance at spearing. The object of the run is to kill the pig, and not entirely for getting the honour of "first spear." Ride your own line, and "back up" in bad ground or in jungle to drive the pig out of it on to better country.

If you find the pig after which you have started is a sow, hold up your spear horizontally above your head as a signal to the rest of your party to pull up.

In **spearing**, the impetus of the horse is sufficient to run the spear well in without much of a lunge, which is very liable to divert the aim. Spearing on the near side of the horse is not allowed and is dangerous. The spear should never, under any circumstances, be let go from the hand. It should be carried, when riding, grasped about the centre of the shaft, and pointing diagonally across the body; in this way it is fairly ready for action, is least dangerous to one's friends when riding, and to one's self when falling.

Aim the spear at the pig's heart, which lies rather far back from the shoulder. When charged by a pig, keep your horse going at the best pace you can command; it lessens the liability to get him ripped. In tackling a wounded boar on foot, at least two men should go together, as, even if your spear goes into him, his rush will roll over a single man easily, and his keen tusks do their work in an instant.

Tent Clubs.—At most large stations in India there exist local pig-sticking hunts called tent clubs. To such a club men are elected as members, paying a monthly subscription for maintenance of native staff of shikaris, expenses of preserving, of club equipment, &c. The tent club usually provides the mess out in camp—each sportsman who attends the meet bringing out his own tent and camp furniture. The expenses of the meet, such as messing, beaters, &c., are divided up among the members attending that meet, and as these expenses do not as a rule amount to anything much, this sport has the merit of not being limited to the wealthy.

Taken as a whole, pig-sticking is one of the best, if not the best, of all the wild sports of the world. In addition to its intrinsic merits as an exciting diversion, it develops in a man, to a greater extent than any other practice, good riding, a quick eye, use of weapon, eye for country, woodcraft, and pluck and determination, and it gives

him healthy occupation and exercise in a trying climate.

R. S. S. BADEN-POWELL.

GLOSSARY.

Boar.—A genus of Pachydermatous Mammals in the family Suidæ. The best known species are *Sus scrofa*, the European variety, and *Sus indicus*, in India. The height of a fine boar taken at the wither averages between 30 and 33 in., but instances have been recorded up to 42. The weight runs between 200 and 250 lb. The Indian boar is polygamous, as is probably the European. The former is said to have one, two, and sometimes three litters in a year; the latter only one. They are frugiferous for the most part, but have no objection to a certain amount of flesh with their diet.

Boar spear.—[See SPEAR.]

First spear.—The first thrust which draws blood from the boar after he be fairly started from the cover. Transferred frequently to the man who makes it. Also called "*Spear of honour.*"

Frank.—Old term for an enclosure in which boars were kept.

Head.—The steel point at the end of a boar spear, generally about 8 to 12 in. long, with neck and socket. Made in various shapes, of which the best are the "Bayonet" and the "Bodraj." The former is a tapering, three-edged spike, the latter a flat oval blade tapering to a point. Blades with shoulders, or diamond-shaped, should be avoided, as they are often difficult to withdraw if the boar twists a little.

Horses.—Those most strongly recommended are true-bred Arabs, which are very quick at the turn, and Walers, Australian-bred horses of considerable speed and bottom. Native and Persian horses are also used, but the hard going knocks the English horses to pieces in a very short time.

Jhow.—Indian for tamarisk, a favourite cover for boars.

Jink.—Of the boar; to turn suddenly at a sharp angle to right or left.

Jobbing spear.—[See SPEAR.]

Long spear.—[See SPEAR.]

Mark down.—To keep in view or memory the spot at which the boar went to cover.

Nullah.—An Indian term for a dry watercourse, usually with precipitous banks.

Overhand thrust.—[See SPEAR.]

Pig.—Used as a verb; to hunt the boar.

Pug.—The footmarks of a boar. As verb; to trace the footmarks.

Rear.—To put the boar out from his cover.

Ride to hog.—To hunt the boar.

Rootings.—The marks of the burrowing of a boar's snout left in his search for food.

Sanglerier.—Old term for a full-grown boar who had separated himself from the rest of the *sounder*. Hence also *singular*.

Soil.—The place where a boar has wallowed in the mire. To "take soil" is to fly to water for refuge when hunted. Also used as verb; to wallow in the mire.

Sounder.—A family of wild swine.

Spear.—The chief weapon in Indian boar hunting. There are two kinds most in use, but all consist of a bamboo shaft with a steel head.

The first, the *long* or *underhand* spear, is generally used in Southern and Western India. It is from 7 to 8 ft. long (formerly it was still longer), but only weighs from 2 to 3 lb.

The second, the *short* or *jobbing* spear, is some 6 ft. long, and loaded with lead. It weighs from

2 to 4 lb. It is the favourite weapon in Bengal and the north.

The thrusts made with them are *under* or *overhand*. In the first the spear is carried nearly horizontally, with knuckles down and thumb along the shaft. In the second, usually confined to the *short* spear, the knuckles are in front and above, and the thumb points upwards.

Spear of honour.—[See FIRST SPEAR.]

Squeaker.—A young pig not yet three years old.

Tent club.—See p. 318.

Tush and Tusk.—The enlarged canines of the boar. They are four in number, but the two upper tushes merely serve for a defence, and for a whetstone to the lower pair. The average length of the latter is 8 to 9 in., but only about 3 in. are without the jaw. They have been recorded up to 12½ in.

Tusker.—Used loosely for a well-grown boar.

Underhand thrust.—[See SPEAR.]

PIGEONS. — PIGEON FLYING. —

Homing pigeons, under various disguises, such as Antwerps, Skinnums, Longfaced Beards, Horsemen, &c., have been known, in this country at any rate, since the publication of Moore's Columbarium early in the eighteenth century. The homing instinct is common to all the varieties of the pigeon, and goes right back to the fountain head, the half domesticated blue rock. In the fancy varieties, the breeding for points purely has tended to decrease the homing instinct, whereas the homing fancier heeds not the colour of the eye or shape of bill or wattle; his one idea has been to intensify "the homing qualities" of the parents, and in this way only the best performers have been used for stock purposes. It has been a game of the "survival of the fittest," and the pigeon of great homing capability has been produced. The flight feathers are long and wide, the webs of the feathers overlapping, while the skull is moderately short, wide at the base and across, and furnished with a strong short bill. The eye may be of any shade, from white to red, though deep red is the most common, and the colour of the plumage may be anything from white to black, though the prevailing colours are undoubtedly blues, or reds with blue or black checkering, the self colours of white or black being the rarest.

The homing pigeon, like all the other varieties, is a product of human patience and skill, and, it has been said, derives its strength of wing from the dragon, and its height of flight from the cumulet, a high-flying Belgian variety. In Belgium, the home undoubtedly of the homing pigeon, it may be stated that there are two great divisions of the breed. These are the Antwerp type, which is the one above described, with the size throughout exaggerated, and the Liège type, which is finer in build

generally, save that the wing power is retained, while the skull is shorter and rounder. Some of the finest long distance performances have been accomplished by these little "messengers of Liège," and the British fancier has for some time been importing the Liège type as a cross with what may be called, for want of a better term, the Antwerp type. The result is apparent, for the homing pigeon of to-day is finer in body form than it was many years ago. It may be said that the Belgian fancier has proceeded on the same lines, and we think the result has been to produce a bird distinct in itself as a variety, more pleasing to the eye than formerly, and without sacrifice of stamina or speed.

The history of long distance flying in this country may be soon told. Before the introduction of the telegraph, the pigeon was used almost exclusively as a messenger for conveying commercial intelligence, and many of the large houses had lofts especially devoted to bringing news of the ebb and flow of the markets. The distances over which these messages were conveyed did not exceed fifty miles, though some of the firms had birds capable of flying from London to Lancashire, which was considered a notable fly fifty years ago. It is a historical fact that the news of the victory of Waterloo was, by means of a pigeon post, in the hands

in the races of to-day. It was, however, through the Siege of Paris, when the city was shut in on every side, that the world at large became really aware of what the



"MEALYCOCK," A NOTED STOCK BIRD.

homing pigeon was capable. Mr. W. B. Tegetmeier was the first to introduce pigeon flying on a popular basis into England by organising two flights of Belgian birds, each numbering many hundreds, from the Crystal Palace, as long ago as June 24th and September 4th, 1871, and was one of the first to import, for stock purposes, the very cream of the Belgium lofts. The United Counties Club was formed about 1880, under which the larger part of England was divided into competing districts, and the era of long distance racing began. It is interesting to record that the south-eastern was the route first adopted, *via* Dover and Arras to Paris.

There are now clubs in every town and village in the United Kingdom flying long races, and the number of birds in training amounts to hundreds of thousands. The Homing Pigeon Fancy, as it exists to-day, is not in any way associated with public house sweeps of, say, one mile to three miles; the shortest race of the majority of clubs is about seventy miles, extending, with intermediate races, up to a final point of 400 to 550 miles. The three clubs in this country with the largest membership are the National Flying Club, the Manchester Flying Club, and the Central Counties Flying Club. In London there are about one hundred strong clubs and a similar number in Liverpool. Some idea of the extent to which pigeon flying is prac-



MR. OWEN'S RED CHEEK COCK, "FOULORN HOPE."

Flown from Thurst, 500 miles, twice; Lerwick, 600 miles, twice.

of a private firm many hours before the Government knew the result of the battle. The telegraph killed the homing pigeon as a messenger for commercial purposes, though it is interesting to record that the progeny of these birds are doing good work

tised may be deduced from the facts that over one million young birds are entered and marked annually, and that the aggregate losses in training and racing amount to



TYPE OF THE SHOW HOMER.

quite 100,000 a year. Many of these are killed by hawks, others are shot, accidentally or maliciously, but the majority are lost, and of these numbers join the flights of other flying men, and their arrival is reported in *The Racing Pigeon*, a London journal devoted to the sport. The best routes to fly are the northerly or southerly, and experience has proved that easterly winds are to be avoided as far as possible. In addition to the club races, several clubs band themselves together under the name of federations and combines, and thus we find from one to eight thousand birds competing in a race.

So unwieldy did the fancy grow that it was found necessary to have a governing body at the head of affairs, and hence at the end of 1896 the National Homing Union was formed, of which Mr. J. W. Logan was president, and Mr. Plackett the secretary. The rules of the Union were drawn on the lines of those of the Jockey Club, and in fact the Union is the Jockey Club of pigeon flying. There are more than 1,000 clubs enrolled under the Union representing an individual membership of over 20,000. The sport has now become very popular in most of our Colonies.

In dealing with the instinct of the homing pigeon, little can be given in explanation. It is an enigma which possibly will never be unriddled. It has been put down to a mysterious sixth sense, to a love of home, to marvellous sight, &c., but the fact stands out that if a number of birds were taken without having been previously trained at

intermediate stages and tossed at, say, 100 miles, not a bird would find its loft again; whereas, if carefully trained up to about 250 miles, the birds may safely be jumped another 250 miles over strange country. If the weather is favourable, a large percentage will be in their lofts again the same day. This would point to the fact that education plays the important part, but, over and above all, the pigeon possesses some unexplained power of orienting itself, and so striking on the line for home. It is capable of explanation also by the gregarious character of the pigeon and the undoubted fact that when a large number of birds are tossed together for a long flight, those to whom the immediate country is strange keep company with those which know the way until they descry familiar objects.

This leads to the speed of the homing pigeon, and a moment's consideration will show that the speed of flight must depend on the direction and the force of the wind. It is quite a common occurrence for pigeons to fly over a mile a minute for long distances with a strong favouring wind, and the season of 1910 stands out prominent in the many velocities recorded of over 1,800 yards a minute. The races, however, that want winning are those flown against a head wind, the winning bird flying 700 to 800 yards a minute. These are the races that bring out



RED CHEQUER COCK, A NOTED SCOTTISH WINNER.

stamina, and in which blood and condition tell a tale.

The ambition of the Fancy is to fly over 500 miles in the day, but it is apparent, if this is to be done, that wind and weather must be favourable for the entire journey. It is therefore much easier to fly 550 miles on a favourable day than 200 against a head wind on a bad day. The 500 miles in the

day has often been accomplished on the Continent and in America, and in 1896 several birds flew from Thurso to London in the day, the winner actually covering 1,454 yards per minute for the entire journey of 501 miles. In 1897 the La Rochelle and one or two other Clubs, flying on the same day, flew from Marennes, in the south-west of France, about 500 miles in the day, many birds accomplishing from 1,000 to 1,300 yards a minute. The long-distance English record was made in 1909 by Dr. Barker's True Blue, which flew from Mirande, in France, to Clitheroe (Lancashire), 726 miles 1,091 yards, at a velocity of 838 yards per minute. The two longest distances flown in the day from the North and South respectively were by Mr. Lulham, from Lerwick (Shetland) to London, 605 miles 920 yards, velocity 1,153 yards a minute, and by Mr. Orchardson, from Bordeaux, to Ford (Lancashire), 613 miles 1,100 yards, velocity 1,203 yards.

The Fancy, we think, should finish its season at about 450 miles. This distance has been, and can be, accomplished in the day against a head wind, and it is doubtful if 600 ever will. The conclusion of the matter is, that no distance should be attempted that cannot be accomplished in the day against a head wind. Pigeons have returned from a 1,000 miles, but this is not sport, but cruelty.

Before wireless telegraphy was discovered and adapted to every-day requirements, there was a recognition of the value of the homing pigeon as an accessory to military and naval operations. On the Continent we find France, Germany, Belgium, Spain, Italy, and other countries with hundreds of military lofts and thousands of trained birds. In the Boer War pigeons rendered great services, and in the military manoeuvres in 1910 Lieut. Bertrand Stewart reported that they were most valuable accessories, notwithstanding wireless telegraphy.

A few words in answer to the question, "How to start a loft?" There is no need whatever to go on importing birds from Belgium. We have as good birds in England as ever flew in Belgium, and, given Continental weather, there is no doubt whatever that our performances in long-distance racing compare favourably with anything done in Belgium. We should advise purchasing half a dozen pairs or so of squeakers of the best blood. If these are taken away early enough, they may be easily used to a new loft. As regards the loft, any room will answer the purpose provided it is dry, sweet, and free from draught.

The homer is of the hardiest nature, and does not want coddling in any way. There must, however, be no overcrowding, and cleanliness of water fountains, food, and loft is an essential. The food varies according to the season. Good sound barley is the best food during the moulting season and to the end of January. The birds may then be put on to a mixture of tares, peas, dari, &c., and this may be continued to the end of April, when they go into the training baskets, after which old peas and tic beans are the strongest and most sustaining food. The life of a homing pigeon as regards racing may be briefly put as follows:—At twelve weeks old it may be taken a mile from home, and this may be increased to three miles the next day, and so by stages of six, twelve, twenty-five, fifty, and seventy-four miles. The last would be about the first race point. The birds should not be sent on every day, but allowed a day or so to rest, especially if they should have met with bad weather. From the seventy-four miles it would be jumped to the next race point, say, in seven days after to ninety-six miles, and so to 124, 154, and 200 miles. It will seem by this that a bird under twenty weeks old would have flown over 600 miles in races alone. This is what many birds do, but it is perhaps forcing matters too far. The racing season is then over for the year, and the following year the bird will go over the same ground again and on to, say, 250 miles; though some few birds go through to 350. In the fast race from Marennes several yearlings flew over 520 miles and were well up in the prizes. For long distance work, the third to fifth season is undoubtedly the best, though birds have been known to work well for nine or ten years, and in some rare cases to much older.

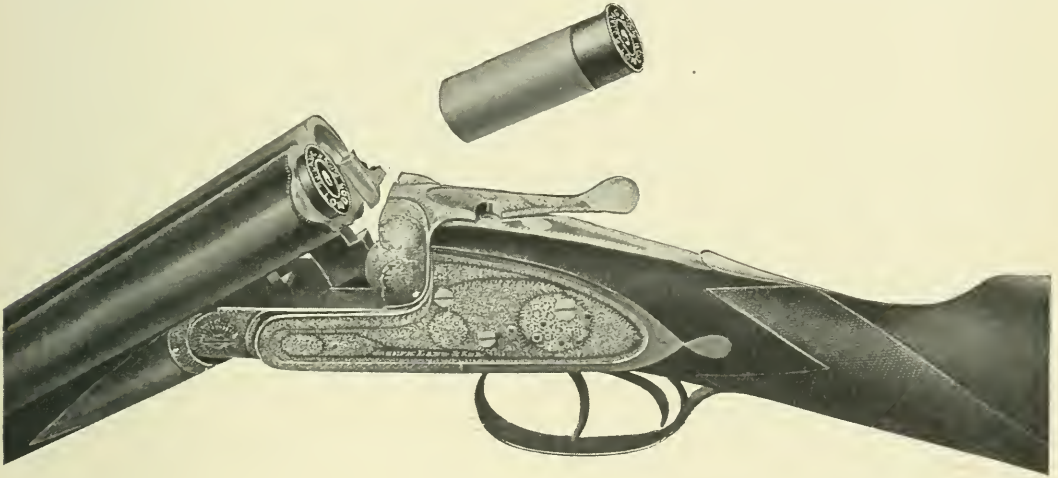
In conclusion, the training of the homing pigeon is a most fascinating pastime, and, granted a real love of animals to begin with, and sufficient time to study the birds and to attend to their training and feeding, there is no reason why success should not follow one's efforts. E. TEGETMEIER.

PIGEON SHOOTING.—**Wood Pigeons.**—Though perhaps the least "organised" of all forms of shooting, there is no better or more difficult sport than is afforded by the wild pigeon. The natural shyness of the bird combined with its rapid flight and quickness of eyesight make the sport a severe test of the shooter's field craft and accuracy.

Most shooters who have lived for any length of time in the country are familiar with the method of waiting for pigeons in

the dusk of the short days, but for the benefit of the young sportsman a few words on the subject may not be amiss. About an hour before dark the shooter should betake himself to one of the coverts which he will have observed that pigeons most frequent at roosting time. This will generally be found to be a wood with a fringe or a clump of spruce or Scotch fir. He should then place himself in a position where he has ample room to see the incoming birds and to swing his gun. It is essential that his clothing should be as far as possible correspondent with the trees and shrubs near which he is standing. Occasionally position may be taken up outside

especially if pigeons are in large numbers about the district. The pigeons get into flocks from the beginning of the winter months, but where pheasants are preserved it is as well not to disturb the coverts at roosting time until after the shooting is over. A peculiar fascination for the outdoor man about this kind of shooting is the life of the woods, which he has an especially good opportunity of observing. As will be gathered from the foregoing remarks, it is essential to keep quiet while waiting, and the quieter the sportsman keeps, the more natural will be the appearance and sound of the wood to the approaching flock. Thus, though a long wait may sometimes be neces-



TYPE OF PIGEON SHOOTING GUN.

[By courtesy of Messrs. Lang.

the coverts where a convenient hedge gives the necessary concealment. But in all cases it should be remembered that a pigeon is extraordinarily quick to see any figure, and that white cuffs, collars, or light-coloured clothing should be particularly avoided. As the evening draws in, the pigeons will arrive in flocks, and if the shooter has placed himself judiciously and is quick with hand and eye, splendid sport may be obtained as the pigeons swing over the wood. A high wind is a great advantage, for it deadens the report of the gun, and also carries the pigeons overhead more rapidly, and consequently lessens their powers of observation. At the same time, of course, it materially increases the difficulty of the shooting. It is a good plan to arrange with neighbouring sportsmen and farmers an evening for pigeon shooting. With a gun in each covert, the flocks will be driven from wood to wood, and a large number of pigeons may be shot. Farmers are never sorry to take a hand,

sary, and even end in disappointment, the shooter may train his observation and increase his knowledge of wild life with great advantage to his skill as a sportsman and shot.

Besides this method of shooting pigeons, a somewhat more elaborate course may be pursued. The shooter in this case must sally forth in the early morning to where he knows that beech mast or acorns are lying in profusion, taking with him two or three decoy pigeons, which are described hereafter. These should be placed in a convenient tree near the ground most frequented by the birds, among the top branches if possible, and always facing head to wind. He should then conceal himself, relying probably to some extent upon the colour of his clothing, at a little distance, say, fifty yards or so, from his decoys. An artificial screen of boughs, &c., will not deceive any but the most unsophisticated pigeon, and it is better to rely on the shelter of a tree. The pigeons that come to feed

will be attracted by the decoys, and will swoop in their flight preparatory to settling head to wind. A high wind will assist the sportsman in the same way as when he is waiting for the birds at dusk—in fact, in this case is almost essential.

Pigeon shooting from cliffs is also another form of the sport which, though little practised, affords excellent variety and difficulty of shot. The blue rock pigeon, which frequents caves and cliffs, is frightened out by the sportsmen rowing to the mouths of the caves and making a noise. The pigeons then rush out in large numbers with rapid, twisting flight over the head of the gun, who will generally find that it takes all his skill to account for them, placed as he is in a rocking boat. Occasionally also guns are stationed on the top of the cliffs, and the downward shot combined with the twisting birds will be found none too easy, especially if the cliffs be high.

A few words are necessary upon the matter of decoy pigeons. Stuffed pigeons may be used, and if so should be fitted down each leg with copper wire projecting a foot or more beyond the claws, so that they can be fixed to branches and twigs of a tree. As soon, however, as one or two birds have been shot, they can readily be used as decoys by propping their heads up with a small forked stick stuck in the ground, and letting their bodies rest on the breast-bone, with the wings closed. Freshly killed birds are better, as a rule, than stuffed, as the latter tend to become untidy, and get spoilt by the wet. Another excellent method of mounting birds as a decoy is to cut out a diamond-shaped piece of wire-netting long enough for the point to be beneath the chin of the bird to support the head, and the opposite point beneath its tail, and wide enough for the two points to meet over the bird's back to hold the wings in place. It will be found that birds thus mounted tend far less to become untidy.

Finally, as to the way in which to kill pigeons. The shooter should always bear in mind that the vulnerable spot of a pigeon is the chin. One pellet in the chin will kill a bird at a distance when half the charge elsewhere in the body, especially on the breast, will only serve to turn him over in the air and leave him unhurt. In this sport the first-class shot naturally has an immense advantage, but it is essential, too, that he should be a thorough sportsman; the discomfort is sometimes great, the disappointment frequent, but we venture to say that there is no better training for hand, eye, and ear than the pursuit of the pigeon.

N. D. G.

Trap Shooting.—The difficulty of defending pigeon shooting from the imputation of cruelty is scarcely lessened by the reflection that its claim to be considered as a sport rests rather on the element of skill required in its exposition than upon the higher qualities of daring, or hardihood. There exists, indeed, a very wide feeling of prejudice against it among a large class of people, and not perhaps without reason; yet, in spite of the sentiment that underlies this prejudice, the sport of pigeon shooting still retains a hold upon a certain section of sportsmen in this country, and as a test of skilful shooting it



BLUE ROCK.

affords the most ample and undeniable opportunities for the display of first-class marksmanship.

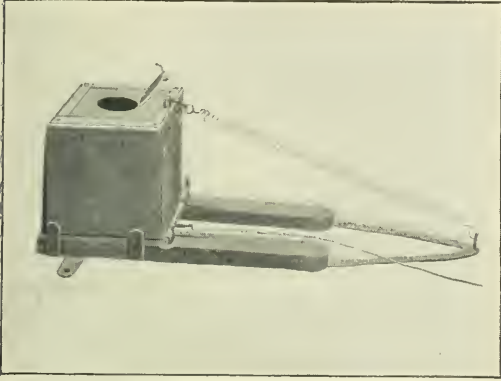
It is conceded by authorities that pigeon shooting is perhaps the fairest method by which the relative skill of two guns in shooting on the wing may be decided. The conditions of the test equalise the chances of everybody, and there is room for neither foul play nor favour.

The method of procedure is this: There are five traps arranged at a certain equidistance from the peg at which the gun (or shooter) is stationed, and each trap is placed five yards from its neighbour, the whole five thus forming the arc of a circle of which the gun is the centre. A bird is placed in each trap, and to each trap is attached a wire communicating with an iron case, which stands about thirty-five yards from the trap, behind the gun. Inside this case there is concealed a mechanical arrangement of springs, working on a cog-wheel, set in motion by a disc inserted by the shooter, to which in turn are attached the necessary wires. Behind the gun a man stands, whose duty it is to pull a lever at a given word.

Directly this lever is pulled, the cog-wheel operates upon the springs in such a way as to release immediately one of the five traps,

but which one of the five neither the man who pulls, nor the gun, nor indeed anybody else, can form the least idea before the actual fall of the trap itself.

It can be seen at a glance how favourably this modern method of freeing the bird



TRAP SHUT.

contrasts with the old one, which consisted in the casting of dice behind the gun, each die bearing the number of one of the traps to be pulled. It was not impossible for the number of the trap to be thus communicated to the gun in a stage whisper at the moment of pulling the string. That contingency is by the present system absolutely nullified. The centre trap is usually considered the easiest one from which to kill your bird, since the eye is always kept directed in the first instance to the centre trap, in order that the field of vision embraced by the arc of the traps may be best commanded. Consequently a bird issuing from the centre trap involves no readjustment of the eye, and affords a more immediate target.

The distance from the peg to the traps varies from twenty-two to thirty-one yards, according to the qualifications of the competitors, and handicapping is arranged by diminishing or adding to this distance. Matches are usually made for money, and although the most unscrupulous elements of bookmaking are fortunately absent as a rule from these meetings, there are frequently large sums of money at stake, and thus considerable nerve is often required on the part of the shooters.

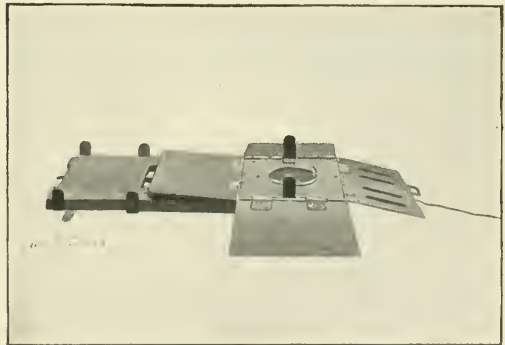
The favourite method of determining the relative merits of shooters is by means of a **sweepstake**, in which perhaps a dozen guns may take part. This leads to more general and sustained interest than a match between two individuals only, and at the same time the claims in dispute are settled with equal conclusiveness and satisfaction. In shooting off a sweepstake of this char-

acter, each competitor first shoots at his five birds. Should any of the competitors after the fifth round be found to tie in respect of the birds killed, it is usual for such competitors to shoot singly (that is to say, at one bird only) till one of them misses his bird, whereupon he is ruled out of the match. This continues until two competitors are left. The first who then succeeds in killing the winning bird (*i.e.*, one bird more in the same number of shots than his adversary) wins the sweepstake, unless they agree to divide it without shooting.

A boundary of about sixty yards from the centre trap is allowed for the bird to drop in, after being hit; but the distance of this boundary need not be arbitrarily fixed, various clubs affecting various distances.

Within the boundary the bird must be retrieved, or else it does not count to the gun; should the bird fall within the allotted boundary but succeed in fluttering beyond it, even though it lie dead a yard on the other side, it must be counted a "lost bird." Moreover, a bird that has once been out of the bounds must be scored a "lost bird."

Except the shooter whose turn it is, no other gun is allowed to fire at a trapped bird. It sometimes happens that a bird, on being freed from the trap, will not rise on the wing, but walks away from the trap; it is then the shooter's option to take the bird or not, as he likes; but, if he declines it, he must call out "No bird" immediately, and another pigeon is thereupon substituted in its place. If, however, the bird has once risen, it is too late for the shooter to refuse it. It is not permissible to shoot at a bird until it is on the wing; but the shooter



TRAP OPEN.

having fired his first barrel at the bird while on the wing, is allowed to fire his second barrel at it even though it be on the ground. This is a very important rule, as the bird may rise again and drop out of boundary,

and is too often disregarded by less informed guns. A bird that is shot at on the trap, or on the ground, with the first barrel, is a "no bird" if killed, and a "lost bird" if it escapes. Unless he kill with his first barrel, the shooter must not leave his position until both barrels have been discharged: should he do so after the first barrel and then return to his mark, he is not allowed to fire his second barrel at all.

After taking up his position at the mark (directly opposite the middle trap), the shooter, when he is ready, calls out "Pull." The man in charge of the apparatus thereupon pulls the lever, and one of the five traps is instantly liberated and the pigeon flies out. The pigeons are kept in a kind of hamper, technically termed a "pigeon flat," and from this hamper, or pigeon flat, the man who is in charge of the trap (technically the "trapper") selects a bird, carries it to the "sprung trap" (*i.e.*, the trap from which the bird has just been expelled, and which lies flat), and there imprisons it to wait its turn, which may, of course, be at the next pull of the lever.

Should the trap be pulled before the shooter calls "pull," he may refuse to take the bird, but in this case he must not fire at it; should he fire and miss, he cannot then demand another bird on the plea that he was not ready.

From this short summary of the technicalities of the sport, it may be seen that pigeon shooting is not without its exacting conditions, and that for a man to hope to win fame as a pigeon shot, he must possess at least coolness, quickness, and readiness of resource. In comparison with the less artificial forms of shooting, it cannot be urged that pigeon shooting should be expected to rank high as a sporting pursuit; but none the less it is a form of marksmanship in which only the possessor of an eye trained by long apprenticeship to the many vicissitudes of shooting in general need ever expect to excel, although the sudden demand made upon one's resources by the unexpected whirr of a pheasant or partridge rising without warning from unanticipated quarters is not experienced in the tamer sport, where the *battue* is prescribed by the limits of a line of plainly visible traps. Moreover, there must always exist a lingering prejudice in the breasts of sportsmen against the annihilation in cold blood of either birds or beasts to whom is not given a fair and equal chance of escape; and though it may be contended that the pigeon in the trap is offered its reasonable chance of escape by the opening caused by the trap falling flat, it cannot be denied that that

chance is a very poor one when only thirty yards divide the pigeon from the cartridge of an unerring marksman.

The character of domesticity which, further, clings round this class of bird renders it doubly an object of commiseration, and the reflection that a large percentage of the pigeons consigned to the pigeon flat are not killed at all, but are doomed to drag out a maimed existence, is one that causes a grave feeling of doubt whether after all the sport has sufficient counter-balancing advantages to justify its encouragement.

Types of Pigeon for Use.—The pigeon most in request at these matches is the small Lincolnshire blue rock pigeon, since it is the quickest on the wing and the sharpest flying bird for trap shooting. The ordinary tame, fan-tail pigeon is at once too heavy and too slow for this purpose. The flight of the pigeon and the flight of game are appreciably different, and it is obvious that in pigeon shooting judgment of distance (one of the most important features in successful field shooting) is scarcely called into requisition at all. Equally obviously, the practised snap shot in the field has an immense advantage in shooting at the traps.

Method of Shooting.—In "trap shooting" the object of the crack shot is to bring down his bird as near to the trap as possible—for the further it flies from the trap the stronger its flight becomes, and consequently the more difficult becomes the shot.

When the bird instantly directs its flight in a straight line away from the shooter, it is a maxim with experienced guns to "hold well over your bird"; that is to say, the shooter instead of firing *direct* at the bird will invariably aim a little over it (*i.e.*, above it), so that the shot may catch the pigeon as it rises in its flight. The necessity for this becomes apparent when we add that the tendency of the bird is to rise immediately on leaving the trap, and to continue to rise for some distance afterwards. As a rule, guns are now made to shoot a little high, in order to assist the shooter in this direction.

On the other hand, in the case of a bird flying directly *towards* the shooter on leaving the trap, the gun, especially if a novice, is apt to shoot *under* his bird. An experienced shot, however, will not permit himself to be taken unawares. When the pigeon flies towards him he will take it as a driven shot, and if he gives sufficient lead, will kill. There is no doubt that a pigeon adopting this line of flight becomes a very puzzling bird to deal with. Should the bird present a crossing shot, the shooter will, of course,

treat it in the same way as, say, a partridge flying in like manner.

Choice of Ground.—In selecting the *venue* for a match, the chief point to be considered is open space; it is advisable to choose the flattest ground, and the further from a house or a road, the better. Trees should, if possible, be sedulously avoided in the vicinity of the traps, and a clear, unhampered stretch of distance beyond is of incalculable advantage in providing a good "sight" for the shooter. Wire netting usually forms the boundary.

Guns and Powders.—In pigeon shooting a twelve-bore gun is generally used, with both barrels fully choked, and chambered for $2\frac{3}{4}$ -in. cartridges. Occasionally, guns for 3 in. are made. Its weight, about $7\frac{1}{2}$ to 8 lb., is in excess of a game gun, this being necessary in the first place to enable it to bear the strain to which it is subjected, and, secondly, to afford a minimum of recoil, and thus enable the shooter to retain his equilibrium after the discharge of the first barrel. Most shooters adopt 6's or 7's shot, though some few prefer to use "number eights" in their first barrel.

The regulation charge of shot is limited to one ounce and a quarter, but there is no restriction with regard to powder.

Of powders, nitro powder is the best for the purpose, for it is clean, smokeless, of penetrating force, and allows a quick sight to be taken for the second barrel if the bird be missed with the first.

The Trap.—The trap in which the pigeon is concealed is shaped like a box, three of the sides being made of sheet iron, and the front one having openings like a cage, so that the bird is enabled to enjoy a full view of the country before it, but none of the gun behind. Thus, directly the trap is pulled and falls flat to the ground, the liberated bird is instantly off in any direction that it may have chosen for its flight.

HENRY STANNARD.

[CLAY PIGEON SHOOTING.—See SHOOTING.]

PIGMY HOG.—Here and there in the Doors I sometimes came across a sounder of tiny hogs without encountering any large ones near, and came to the conclusion that they were squeakers who had lost their parents. I never fired at one, until my last trip, and then, there being a scarcity of food, I went into an island in the bed of the Manass to shoot hog deer. I shot several deer and a boar as large as a big hare, but, noticing that it had tusks and was very savage, I examined it, and, to my

delight, discovered that it was a very fine specimen of the pigmy hog (*Sus salvanius*).

The pigmy hog is blackish-brown, irregularly shaded with dirty amber; iris hazel; nude skin, dirty flesh-colour; hoofs glossy brown. Length—snout to vent, 26 inches; tail little more than 1 inch. Height—10 inches. Weight—7 to 10 lb., rarely 12 lb. The young are striped like the ordinary little ones of the wild pigs. There is no mane, but the general pelage is ample, and there is a moustache-tuft. The false molars are compressed, and the face is proportionally less long than in the boar. The female has only six mammae, and the tail is not so long as the hair of the rump. The full-grown males live constantly with the herd, which consists of from five to twenty individuals, and are its habitual and resolute defenders against harm. These pigs eat roots, bulbs, &c., and also birds' eggs, insects, and reptiles. The female has a litter of from three to four young ones.

F. T. POLLOK.

PIKE.—The pike is the largest and most voracious of the purely fresh-water fish found in these islands. His shape, as will be seen from the illustration, is admirably suited for piercing a way through the weed-beds and rushes, among which, as a rule, he makes his home. The colour of his back and sides—green with yellow markings—harmonises with his surroundings, and, no doubt, in a large measure serves to hide him from the smaller fish on which he preys. The roof of his mouth literally bristles with small teeth, which are hinged to work one way only, yielding to food in its passage down the capacious throat, but readily opposing exit therefrom. Along the edges of the lower jaw are long sharp teeth which can inflict a very nasty wound.

Local Names.—The name "pike" is, no doubt, derived from the old English word meaning pointed, or peaked, in allusion to its shape. *Jack Pike*, *John Pike*, *Luce*, and *Pickerel* are names rarely heard nowadays, except the last mentioned, which is only used in America, where it is the popular name for *Esox reticulatus*. In America, I may mention, there are considered to be four species of the genus *Esox*—namely, *Esox nobilior*, or Muskalonge (also known as *Lucius maskinonge*); *Esox lucoides*, the Great Northern Pickerel, or Pike; *Esox reticulatus*, the Common Pickerel, and *Esox fasciatus*, the Pickerel of the West, which does not often reach a pound in weight, while the pickerel proper, though sometimes reaching 6 or 7 lb., does not, so it is said, average over 2 lb. It is

quite possible that some of these are local varieties of the same fish. *Gedd*, and *Gade*, are terms used in the lowlands of Scotland, while in Northumberland the pike is sometimes called the *Gullet*, the reason for which will be obvious to anyone who has had occasion to open its mouth to its fullest extent. *Haked*, another name for the same fish, is occasionally heard in Cambridgeshire. In the southern and midland counties of England this fish mostly goes

pike weighed only 2 lb., the trout exactly 1 lb., so that the former was able to swallow a fish half its own weight, and then, still unsatisfied, seize the very large spoon I was using.

Monster Pike.—The capture of the big pike crops up regularly. As a rule, the exact weight of the fish is given, but, on inquiry being made, it is equally the rule to find that the fish has not been weighed. In those cases where it has been weighed



PIKE FEEDING.

Photograph by J. Turner-Turner.

by the name of *jack*; in fact, on the Thames, the word *pike* is not often heard. In Scotland and Ireland, on the other hand, *pike* is the most common word. Not a few fishermen regard the pike as simply a very large jack, but the words are used loosely.

No creature has been the hero of a larger number of remarkable stories than the pike. There is probably a *souçon* of truth in many of them, but most may only be accepted with caution. When very hungry and very large, this fish will no doubt, at times exhibit extraordinary daring. For one remarkable instance of ferocity I can personally vouch. While fishing with a very large spoon-bait in Lough Derg, I caught a pike which had the tail of a trout sticking out of its mouth. I pulled up the trout, which had only just been swallowed, and had the two fish put in the scales. The

with great care, my experience is that the body of the fish has almost invariably been disposed of, in Ireland usually being given to the pigs. In Kenmuir Castle, County Galway, is the head of a pike measuring 9 inches across. The body of the fish when complete is said to have weighed 72 lb.

The following weights and measurements, furnished by Mr. Alfred Jardine, a very successful pike fisher, may be found useful for the purpose of comparison:—

A thirty-seven pound pike caught in Buckinghamshire; extreme length 47 ins., length eye to tail 39 ins., length of head 13 ins., girth 25 ins. A thirty-six pound pike; extreme length 46 ins., length eye to tail 38 ins., length of head 12½ ins., girth 25 ins. A thirty-one pound pike, a female in good condition and well-proportioned; extreme length 44 ins., length eye to tail

36½ ins., length of head 11 ins., girth 24 ins.

The pike-fisher should certainly carry a spring balance guaranteed to weigh accurately up to 50 lb., especially when fishing remote waters such as one finds in Ireland, Scotland, and Sweden. I shall never cease to regret that a pike I caught in Lough Derg, which measured exactly the same as Mr. Jardine's 31-lb. fish last referred to, was not properly weighed at the time it was caught, for the naturalist who set it up when it arrived in Dublin, some days after its capture, informed me that it weighed only 25 lb.

twenty years ago, I could under favourable conditions almost make sure of 5 or 6 brace of good fish in the course of a short winter's day, now yield only three or four jack to the most skilful and patient angler. In some waters the fish are so harried by anglers that they have no time to grow to any size. They are caught before attaining any considerable weight. But the most important point connected with the preservation of pike is sadly neglected. These fish run up ditches to spawn in the early spring, and an enormous percentage of the spawners are caught by rustics armed with a long pole, at the end of which is a wire



SPINNING FOR PIKE FROM A BOAT.

One of the largest fish caught recently was the Cheltenham pike, picked up dead in the reservoir at Cheltenham. The weight was stated to be 60 lb., but on inquiry I found that the fish had not been put in the scales. Its measurements were, however, taken, I hope with accuracy, and the fish has been preserved by a Cheltenham naturalist and is placed in the public library. The following alleged measurements and weights, if carefully compared, afford food for reflection:—

Cheltenham pike: Length, 53 or 54 ins.; girth, 23¾ ins.; weight, 60 lbs., admittedly not weighed, see *Field*, May 30, 1896.

Lough Romer pike: Length 54½ ins.; girth, 25 ins.; weight, 37¾ lb.

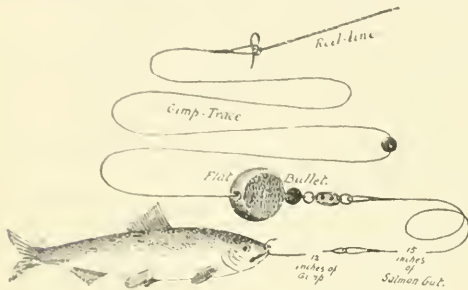
Pike caught by Mr. Jardine: Length, 47 ins.; girth, 25 ins.; weight, 37 lb.

Breeding and Preservation.—This is a subject to which anglers who love to catch these fish should pay considerable attention, for good pike-fishing is rapidly getting more difficult to obtain. Rivers in which,

noose. The bigger the fish, the more easily it is caught in this fashion. After the spawn is deposited among the weeds, there come the farmer's ducks, and the King's swans, to say nothing of wild fowl, to eat it up; and the marvel to me is that there are any jack left at all. During the fence-months the ditches require as careful watching as any game preserve.

Habits.—To come now to the more practical portion of this article, it may be as well first to describe the haunts of the pike at various seasons of the year. The open season commences on June 16th, and the fish will be found from that date and throughout July close to and among weeds and rushes; if in rivers, they prefer a nice stream to dead water. A good many pike, too, are found in weir pools at this time of the year. In fact, wherever roach and other small coarse fish are to be found, there are the jack. In August and September, though they still haunt the reeds and weed-beds, many shift into rather

deeper water, but still show a preference for a slight stream. As soon as the weeds have died down, they spread over the river, and spinning is then the most successful way of catching them. With the first flood they cease to be found in mid-stream, and lie close along the banks, at the tails of



PIKE LEGER, WITH SINGLE HOOK.

islands, in eddies, and especially just below the hills on which the reeds have grown during the summer. A very heavy flood will drive them into still backwaters, and in any case they will be found in these soon after Christmas.

Live Baiting.—Live bait may be presented to the fish in two ways: It may be (1) carried down to them by the stream, or cast out to them on float tackle, in which case the lead is above the fish, and between it and the float; or (2) it may be placed on a line without a float, in which case the lead is either at the end of the line, and the tackle is called a Paternoster, or the fish is at the end of the line and the lead is a yard above it, and rests on the bottom, in which case it is called a Leger. I should explain that the various tackles I am about to describe are probably the very best that can be obtained, so far as our present knowledge goes; but I need hardly say that, with cheaper and rougher tackle, good sport is often obtained by competent hands.

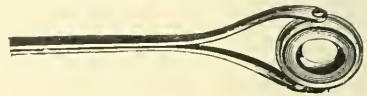
Float Tackle.—The best float is that named after the *Fishing Gazette*. It has a slit in its side through which the line can be passed, and many a time, when the bottom has been too weedy to work the paternoster, I have simply slipped one of these floats over the paternoster tackle and used it as ordinary float tackle with much success. The next illustration shows the two best Snap tackles (the old-fashioned Gorge tackle is altogether out of date). No. 1 is used for large baits, or those of average size, while No. 2 is better suited for small baits. For what I may term very small baits—that is to say, three inches in length, or less—a single hook is best. The

hook is mounted on gimp of not less than 12 inches in length. This is connected by means of a hook swivel to 1½ yards of the stoutest salmon gut. In weedy lakes, where immense fish are likely to be caught, twisted gut may be used, and rather stout gimp, but in most rivers nowadays ordinary salmon gut is quite strong enough, and the hooks may be mounted on 000 gimp. Gimp of the next size larger is termed 00, and the size larger still, 0.

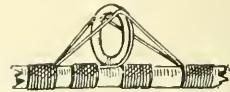
Line.—The line, or running-tackle, should be solid 8-plait silk, thoroughly well dressed with an oil dressing, and as smooth as possible on the surface. The pike fisher should have nothing to do with lines which contain an inner core, or are hollow, or have so hard a dressing as to crack when bent, or so rough a dressing as to impede the running of the line through the rings.

Reels.—For a reel, nothing is better than one 3½ inches in diameter, of the Nottingham type, and fitted with either Bickerdyke or Slater guard, to prevent the line from untwisting and getting out of place. It should have an optional check. If made of wood, it should be taken to pieces and well vaselined or painted inside with enamel, to prevent the wood from getting wet and swelling. Not a single steel screw should be used in its construction. I am now using an ebonite reel made somewhat on the Nottingham principle, called the "Simplex," and am inclined to believe it is about the best reel yet made. It has a "Bickerdyke" guard, which a slight pressure with the finger turns into a brake on the rim of the reel, by means of which the check can be increased. Other excellent reels deserving of mention are the Silex, Duplex, and Ariel—the last mentioned so light that a puff of air moves it.

Rods.—The rods should be about eleven feet in length, and should be furnished with



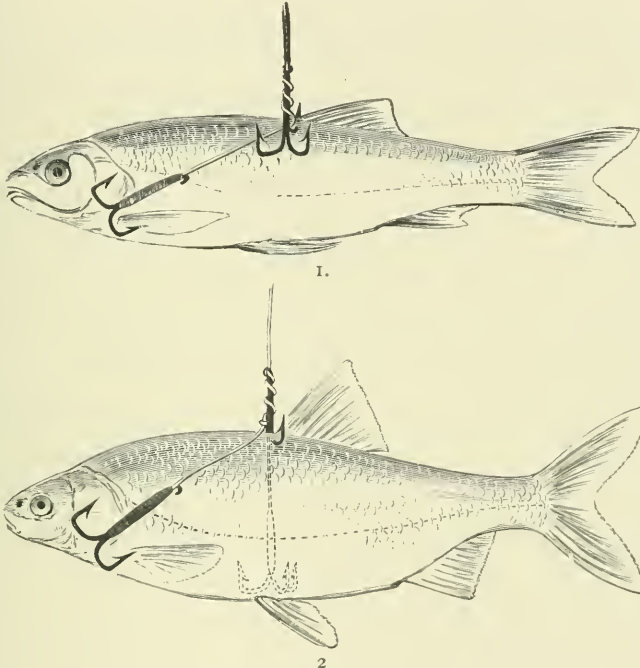
BICKERDYKE TOP RING.



BRIDGE RING.

three tops of different lengths and degrees of stiffness. The best makers are now turning out such excellent pike-rods that very little advice is necessary on this point. For material, some anglers prefer greenheart, while others, because of its lightness

and toughness, prefer bamboo, but use greenheart for the top joint. Very important are the rings with which the rod is fitted. These should all be equally large, with an internal diameter of at least $\frac{5}{8}$ inch, and should be fitted with an internal revolving ring of phosphor-bronze. Steel is sometimes used for the purpose, but it is not so good, for it invariably rusts. The ring on the butt next the reel should be of the shape shown in the illustration, and, indeed, this is one of the best shapes for all except the end ring, for which I find nothing better than one of my own inventing, which works on pivots, adapts itself to whatever angle the line makes with the rod, thereby increasing the life of the line considerably. If a fixed ring be used, it should be placed at right angles to the rod, and should, like the others, contain an interior ring of phosphor-bronze. As these rings add considerably to the cost of a rod, I should mention



SNAP TACKLE.

[Copyright, T. Upcott Gill.]

that the well-known snake ring may be used for all rings except the one at the point of the rod and the one next the butt. For strong tackle the rod should be stiff; for light tackle it may be lissom, to avoid a break when striking a heavy pike, or when the fish makes a sudden rush. But it is not really necessary to have two rods, sufficient alteration in stiffness being effected by simply using the long, medium, or short top. The rod, reel, and line described will do for practically any kind of jack-fishing, but a long rod has its uses, as, for instance, when fishing from the bank over a belt of weeds or reeds.

Baits.—The baits which can be used with float tackle are numerous. They include small dace, chub, gudgeon, roach, gold-fish, small carp, and lastly, minnows, which, in very clear, low water, will kill when larger baits are of little use. After having baited

the set of hooks and rubbed vaseline over twenty yards of the line to make it float, it remains only to adjust the float to its proper distance from the bait, and to cast the tackle out, or let it float down to the fish.

In very clear water the float should be placed so that the bait swims a little below mid-water, unless the depth is considerable, when the baits may swim somewhat nearer the bottom. In thick water the bait should be within a foot of the bottom, or less, or the pike (unless travelling about in search of food) will not see it.

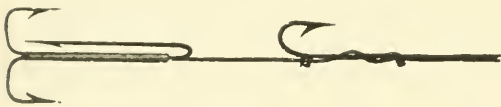
Casting.—In lakes, stream-lets, and backwaters it is necessary to cast out this tackle some distance; and this is done by unwinding a quantity of line on the ground, or floor, of the punt, and then swinging out the float in the direction required, releasing the line, which shoots through the rings and enables the bait to travel in the right direction. Another plan

which, for this method of fishing, is certainly preferable, as soon as the angler has acquired sufficient skill, is to cast off the reel. To do this, the check is removed from the reel, which is kept from revolving by the first finger of the left hand, which holds the rod below the reel. The float, bait, and lead are swung backwards, then forward with some force, and, if the reel is released at the right moment, they fly out over the water, the reel automatically paying out the line. The speed of the reel, however, is apt to increase while the speed of the bait decreases, and, in order that the reel may not overrun, it is necessary, when the float, &c., are halfway to their destination, to check the reel slightly by touching it on the rim with the finger. A good deal of practice is necessary before casting from the reel can be done satisfactorily.

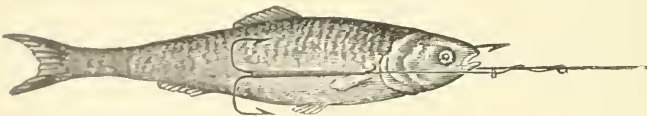
Striking.—With the tackle I have men-

tioned, the angler should strike as soon as the float goes under, and the more distant the bait, &c., the harder should be the strike to overcome the elasticity of the line. After the fish is struck, a reasonable and constant strain should be kept on him until he is in the landing-net, the line being on no account allowed to go slack. The rod should be held as much as possible at an angle of 45° . If the fish makes a sudden rush, the rod should not be yielded to him, *i.e.*, lowered, but the fish should take the line off the reel on which, immediately after the cast, the check has been applied. In rivers, unless fishing from the bank, it is not necessary to make a cast of any considerable length, the better plan being to drop the tackle in the water and allow it to be carried down by the stream over the various pike strongholds. In summer time as much water should be fished as possible, letting the bait work along the sides of reed-beds, over submerged weeds, and other likely places. But in winter, when the fish get collected in backwaters and lay-bys, it is often best to wait a considerable time in one place, only shifting the float a yard or two every ten minutes or so.

Paternostering.—Paternostering is a very deadly method of catching pike. As a rule, a single hook is used, but the arrangement shown in the illustration is best where the baits run over three inches in length. To use the paternoster with much success requires considerable skill and experience. This tackle is particularly suited for fishing in rather small rivers or in small pools, and generally in rather weedy waters where the line can only be got in here and there through openings among the weeds.



IMPROVED PATERNOSTER HOOK.



BAITED PATERNOSTER.

It is a good tackle for use in old-fashioned weir-pools, where there are many corners, eddies, and lay-bys. Its use is simple enough, though it requires considerable practice. The lead is swung out pendulum fashion; a few loose yards of line, held in the hand, are released, and the lead and bait dart into the water and sink rapidly to the bottom. Then the rod is held steadily with

the line taut for two or three minutes. If there is a fish on the feed a pull may be felt, or, what is more often the case, a gentle shake of the line or a series of little tugs which only suggest the struggles of the bait to be free from the hook. It is very remarkable how quietly a pike will often take a bait on a paternoster, and yet with what vigour they always seize and go off with a bait presented to them on float tackle. If tackle and bait of the size recommended are used, the angler may strike at once; but if he has the *large* bait on a *single* hook, it is almost absolutely necessary to allow the pike a couple of minutes to turn the bait and commence swallowing it.

In winter time, when the weeds are down, a paternoster may be used in a somewhat different fashion. Wide reaches of the river may be searched with it by casting out a long distance in the manner I have described for float-tackle, leaving it lying on the bottom for a few minutes, then drawing in half-a-dozen yards, waiting as before, and continuing these movements until all the water has been covered.

Legering for Jack.—The object of legering for jack is to fish not only near the bottom, but in such a way that the greater portion of the tackle is hidden from the sight of the fish by being below the line of vision. This tackle is, as a rule, cast out and left for a considerable time in one place. In thick, shallow water, when the fish congregate in an eddy, it is at times very killing; and, paradoxical as it may seem, it will sometimes take jack when every other method fails, owing to the water being exceedingly low and bright. Either the single hook, or the triangle and single hook recommended for the paternoster should be used, according to the size of the baits.

Fishing with Dead Bait (Trolling).—The very ancient method of fishing with dead gorge, termed *trolling*, is, every true sportsman will be glad to know, rapidly dying out. Not that it involved any absence of skill on the part of the angler, but because the method involves the fish swallowing or gorging the bait before it is landed. Thus in almost every case it has to be killed, whether undersized or not, before the hook can be extracted. Even when not killed, it is so injured that it rarely survives the operation of hook removal. The illustrations show a trolling hook unbaited. The baiting is performed by placing the loop at the end of the gimp attached to the hook in the eye of a baiting-

needle, and passing the needle in at the mouth and out at the tail of the fish. The tail and sometimes the gills of the bait are then bound round with thread. The gimp is next attached to the main line, or, if the line is coarse, to a yard of fine gimp connected with the main line, and the arrangement is complete. The bait is dropped smartly into the water and allowed to sink as rapidly as possible by its own weight nearly to the bottom, and then drawn up sharply twice or thrice and allowed to sink again. Immediately a run is felt, the fish

larly when the water is coloured and the fish lie close under the bank.

Spinning.—This is certainly the most interesting and sportsmanlike of all the methods enumerated. The hanging of the lead below the level of the line is of the greatest importance to prevent the running tackle from getting twisted by the revolutions of the bait, and kinking. All the swivels should be placed below the lead. There is nothing better than a *double* brass swivel immediately below it; and if this works properly, no others are required.



GAFFING A PIKE.

is allowed to take the bait and go off with it to its lair, the line being paid out. When five minutes have elapsed from the time the fish has ceased running, it may be considered to have gorged, if it is going to gorge at all, and the double hook being in its entrails, it is easily hauled up to the side of the bank or punt. The method is only permissible in densely weeded places where any other kind of fishing is impossible, or in rivers where pike are not preserved, and it is desirable to kill as many as possible in the interests of other fish. Some years ago, however, I devised a *snap* trolling tackle. This is cast out and worked in the ordinary way, but, the bait being adorned with two triangles, the angler strikes directly he has a run from the pike. I have killed a good many fish with this tackle, particu-

The trace may be of fine gimp or twisted gut; as a rule, I use the latter. Strong salmon gut is excellent for the purpose. Of artificial baits there are many hundreds, but few better than the Devon minnow, phantom minnow, and spoon. Of spoons, the best are the rather long, shallow variety, half-gilt and half-silvered on both sides. Small sizes of artificial baits should be used when the water is low and bright. When it is coloured, or on very rough, dark, windy days, large baits may be used. The best natural spinning bait is a bleak which has been toughened for some weeks in spirits of wine, formalin solution, or other preservative. Small dace are almost equally good, and so are sprats, and, for clear water, gudgeon. The use of natural bait required what is termed a flight—that is to say, an

arrangement of hooks which, when adjusted to the bait, will so twist the tail of the bait as to cause it to spin. Or the hooks may be connected with a couple of fans or propellers, which are placed at the head of the bait, which then remains straight. The Chapman and the Bromley-Pennell flight



GORGE TROLLING HOOKS.

are, of the two varieties mentioned, the best, though there are many others. I hardly ever miss a pike when using a Chapman spinner, provided the hooks are the right size and shape, and I am able to strike sufficiently hard. The old-fashioned Thames flight, in which a number of triangles are placed in the bend of the fish, involves the loss of a very large percentage of the pike which are run.

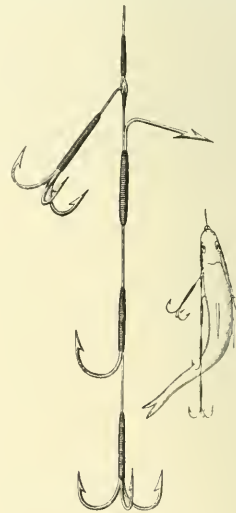
Skill in spinning is only to be acquired by practice. The bait may be either cast Thames fashion, or off the reel, Nottingham fashion, as described under the head of "live-bait." On reaching its destination it should be allowed to sink, unless the water is very shallow or weedy, until it reaches about mid-water, and then drawn in with alternate pulls of the line, and draws off the rod, to keep the bait constantly spinning. It is not desirable to draw in the bait faster than is necessary to make it spin and to keep it off the bottom, and the fish should be struck as hard as the tackle will bear. A lissom rod is certainly a mistake for pike-spinning, pleasant as it may be to cast with. In immense lakes, in which the fish are much scattered, the spinning bait is usually trailed behind the boat, success depending on keeping as close as possible to the weeds.

The pike-fly is no fly at all, but a fancy bait made with bright feathers, which the pike possibly takes for a young bird. It

can be cast, or trailed, in exactly the same manner as a spinning bait, but need not spin. In very shallow, weedy meres it is sometimes worked near the surface, but it is a very clumsy bait for casting, even with a powerful salmon-rod. One of the most successful flies in Ireland is made of the end of a brown calf's tail, and is not a bad imitation of a water rat, for which, no doubt, the pike take it.

So much for the methods of catching pike. When they are caught, no attempt should be made to take out the hook until they have been knocked on the head. Not long ago I invented an improved form of "Priest," which contains in the tube forming the handle a capital pike gag to keep the fish's mouth open, and a powerful disgorger to remove the hooks. The gag also acts as a measure to take not only the length, but the thickness of the fish. Out of some waters pike are excellent eating when in their best season, which is from October to the middle of January. If stuffed and baked with a rich gravy flavoured with port wine, many people esteem them for the sake of the gravy and stuffing. They require a liberal basting. Personally, I prefer cutlets of pike, egged, sprinkled with bread-crumbs, and fried in *butter*. The fish should be cut into cutlets before being cleaned, and cleaning done after the fish is in pieces.

Pike-fishing in public waters, and the sale of pike, is prohibited between March 15th



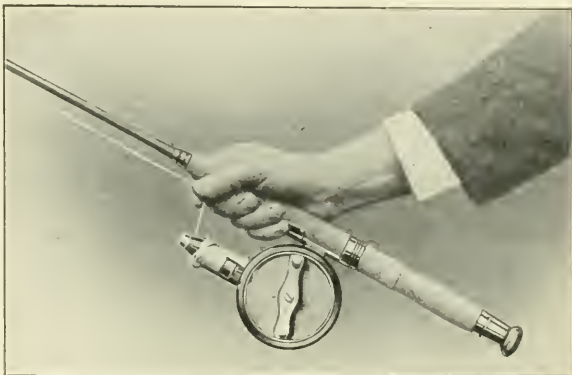
BROMLEY-PENNELL FLIGHT.

and June 15th following, both dates inclusive. The Act does not apply to the Norfolk Broads. JOHN BICKERDYKE.

Double- and Single-hand Casting from the Reel.—Within the limits of the space at my disposal it is impossible to do more

than give a general survey of this most interesting and indeed fascinating branch of angling. In England up to within the last ten years or so nearly all casting from a revolving reel was done with the side-swing action and with a double-handed rod. The "multiplier" reel was invented in England, but although it has always been used here, it has never been in any sense popular like the ordinary "Nottingham" reel or the ordinary trout reel with handle on the revolving side-plate. I think it was the late delightful and most practical writer on angling, Mr. Francis Francis, who almost killed the multiplier when he published his "Book of Angling" in 1867, and advised possessors of multipliers to "give them away." Fortunately for me, a school-fellow followed his advice, and gave me an excellent brass multiplier, which I used in all kinds of fishing for many years. Although the multiplier is an English invention, it was our American friends who brought it into general use and to its present state of perfection. It is curious that the practical Americans have adapted the principle of the multiplier (by means of which one turn of the handle gives about three turns to the

tarpon and tuna. It would require pages merely to describe the many ways in which multiplier reels are now made in



THE "ILLINGWORTH" HIGH BAIT CASTING REEL.

In fishing competitions where a strong line is not required the "Illingworth" reel has had a wonderful record the last two or three years. Its inventor, Mr. Illingworth, President of the Yorkshire Anglers' Association, has killed salmon with it, and I am informed that very shortly an improved form is to be put on the market, smaller in size, and yet able to take a stouter line; the price is also to be reduced. Anglers who have skill and nerve are enthusiastic over this reel.—R. B. M.

America and recently in England and France, but they have all two features in common—*small diameter* of spool or barrel, even when filled with line, and *width of barrel*, when capacity for holding a long, strong line is required. In the States the demand for "the best possible" in multiplying reels has existed for the best part of a century, and a really good American reel costs up to £5 or more, the cogwheels being made with the same care and skill as those of a watch or clock. I have an American "Shakespeare" multiplier reel which has been used thousands of times, and yet no wear is noticeable. These American reels, whether used with one hand or both, are controlled by delicate pressure of the ball of the thumb on the revolving spool as the line runs out. The reel is placed on the rod in *front* of the hand-grip when the short 4- to 6-foot casting-rod is used, and in front of or between the two hands when a longer double-hand rod is used. For 15s. or so one can now get a very decent American multiplier, with which many big pike and salmon have been killed, on single-hand 6-foot split-cane rods. I think the time is coming here, as it long ago did in America, when, except for heavy bait casting for sea fishing, only these light single-hand rods will be considered the best form for bait casting. Like all innovations, the new light single-hand style is looked on as toy-work by the old school accustomed to rods and reels weighing pounds as against ounces, but all who have once mastered the new style, with its sweetness and lightness.



THE "ROYD" CASTING REEL.

This reel is the invention of Mr. Holroyd Smith, the well-known engineer, and is an improvement upon the one he first made.

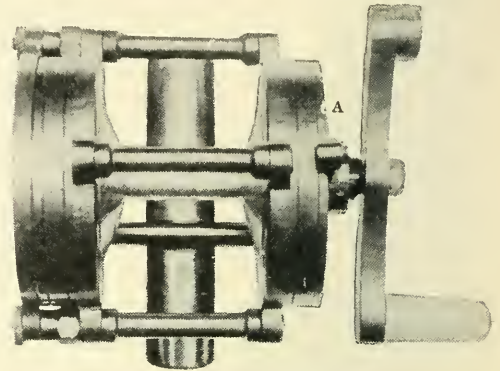
The illustration shows the line being wound in: the drum rises and falls as it revolves, securing a criss-cross winding of the line. When casting, the line is released from the hook. Strong lines can be used. An ounce weight can easily be cast over 50 yards.

barrel of the reel, or spool, with the line on it) to every description of fresh- and salt-water angling, including that for the greatest game fish in the world, the

are not likely to return to the old. The disadvantage of the short rod is only felt, I think, when a longer rod would enable you to lift the line over bushes and other obstructions on the bank of a river which is too deep to wade. The first book describing the American style of single-hand bait-casting was, I think, Dr. Henshall's "Book of the Black Bass," published in 1881. Using the American style of casting with a Hardy Silex reel (since much improved for this work), I described its fascination in pike-fishing, casting a light wagtail bait, some ten years ago. The first salmon-angler to kill salmon with the short single-hand rod from the American reel in this country was Mr. L. J. Graham Clarke some four or five years ago; since then he has every season killed salmon up to 30 lb. on this delicate tackle; more recently Mr. Schroeder has had great sport with the Lune salmon in the same way, as well as sea-trout and brown trout.

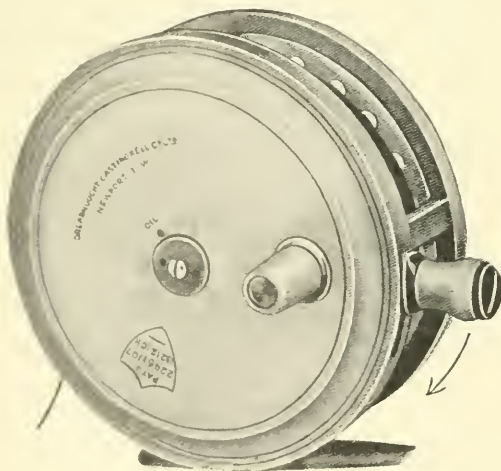
Grasping the little 6-foot or so split cane weighing only perhaps 4 oz. by the cork handle below the reel, which is fixed on the upper side of the butt, you press the thumb on to the line on the reel with the bait hanging a foot or so from the top ring; if the side swing is used, you bring the rod point round until the bait is hanging almost touch-

it was to the left behind you at starting. You keep raising the rod all the time you are making this half-circle, which lifts the bait at the same time that it is gaining im-



THE NEW FARLOW LIGHT-WEIGHT CASTING REEL.

This very ingenious reel is a multiplier, so it winds in rapidly; it is intended chiefly for baits of an ounce and under. The over-run difficulty is provided against by placing a light metal revolving fan, so that it is turned by the spool in the cast; the fan blades strike the air and make a curious little humming sound, and so brings the spool to a standstill, automatically almost; but personally I must say I like to have my thumb on the spool to control it, as the Americans do. After winding in, to set spool free, the lever A must be pressed down.—R. B. M.



THE "METEOR" CASTING REEL.

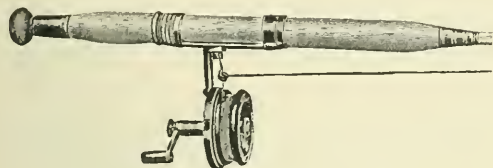
(Made by the Dreadnought Co., Newport, I. of W.)

This very fine piece of mechanism has been used with great success by anglers, and also has carried off a great many first prizes at tournaments. The spool only revolves when you cast out, and being of aluminium the lightest weight will move it; the reel is controlled by the spring handle, which is also used in adjusting the tension in preventing over-runs. I have never yet seen a reel with which over-runs are impossible.

ing the ground on your left side and well behind; you then swing the bait round with gradually increasing speed until the rod top is as much to the right in front of you as

petus. Just before the rod stops in its sweep you raise the thumb for an instant from pressing the line coiled on the spool, and the impetus of the bait then pulls the line off the reel; instantly you must press the thumb again on the revolving spool very lightly, and then with a stronger pressure towards the end of the cast, to prevent an overrun. In the overhead cast with the single-hand rod the action is the same, except that you hold the rod with the point straight back over your right shoulder horizontally, the palm side of the hand towards your right ear. Start the cast by dropping the point of the rod towards the ground (merely to get more swing on it), then bring the rod point straight overhead, but stop the action when the half-circle is about complete. Perhaps a clock face will help to explain. Suppose you are standing at VI o'clock, facing III, the rod held horizontally over your shoulder will point to IX (the clock face is supposed to be, say, 10 or 12 feet in diameter); to start the cast, you drop the rod point from IX towards VII, and then instantly bring it right overhead, and stop when the point is between I and II, releasing the reel and then skidding or braking with your thumb as before. With the double-handed rod the actions are much the same; you have the reel on the cork handle between the two hands gripping the rod, and use the thumb of the left hand to control the reel. Personally, I find with the double-hand cast that I get a better and

more certain *release* by holding the line pressed between the cork handle and the right thumb above the reel; it seems to act



THE "CHIPPENDALE" CASTING REEL.

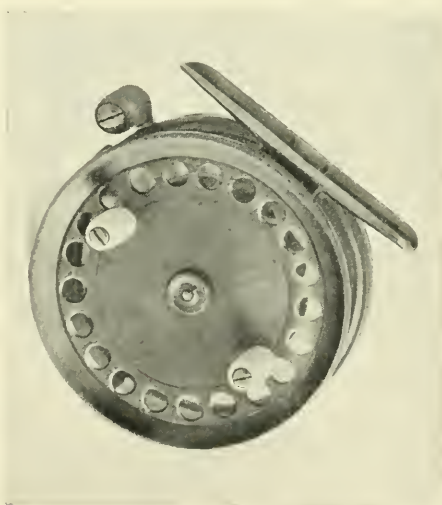
(Made by Mr. Miller, 19, New Station Street, Leeds.)

This well-made, and of its kind excellent, reel is being considerably improved. The chief drawback (next to the tendency to kink the line already referred to, in all reels in which the line is pulled off a stationary drum) is that, after making a cast, you must get control of the line by hooking it into the guide, or by turning the reel, as in the "Malloch." This is a drawback in spinning, and I understand a great improvement in this respect is to be added shortly to the "Chippendale."—R. B. M.

automatically almost; an old kid thumb-stall should be used. Of late years several reels have been made for light and other bait-casting; one of the best and cheapest is Mr. Washburn's "Facile," an improved Nottingham, so light in the drum that a very slight check (obtained by adjusting a screw) is sufficient to prevent overruns at end of cast. Wonderful casting has been done with the Dreadnought Co.'s "Meteor" reel, and with the "Chavagnac," a beautiful French metal multiplier. These are free-spool reels, as are also many American multipliers—*i.e.*, the handles do not revolve in the act of casting, only the spools. Messrs. Farlow and Co. have recently brought out an English multiplier, specially designed for very light bait-casting— $\frac{1}{4}$ oz., $\frac{1}{2}$ oz., &c.; it is a free spool, but the latter turns a fan, the idea being that the fan striking the air as it revolves will reduce the momentum when the bait has reached the end of the cast. It is very ingenious, and I am much taken with it; Mr. Hugh T. Sheringham has used it with success for casting a small prawn in salmon-fishing. Mr. Malloch's popular casting reel, in which the line flies off a fixed drum, pivoted for turning to wind in, is too well known to need description. Thousands of salmon, trout, and pike have been killed by its means since 1883, when Mr. Malloch first brought it out. Of late years the very ingenious "Illingworth" reel, recently improved, has been popular with some of our most expert anglers. In it the line also flies off a fixed drum in the cast out; the drum revolves as you wind in, the line being distributed automatically and evenly on it. Mr. Holroyd-Smith has recently improved his reel on the same principle, and there are others, including the excellent "Chippendale" casting reel. But it is impossible to avoid putting a kink into

lines pulled end-ways off a fixed drum, though by reversing the spin of the bait, by using swivels and leads, the nuisance can be much mitigated.

One of the most successful anglers of the day, Mr. Philip Geen, dispenses with a reel to cast from; he has the line on a reel on his rod, but he carries a tin tray strapped to his side; into this he coils the line, and out of it he casts the bait, using a single-handed short rod, and he has killed hundreds of salmon in this way. After striking a fish he lets him run until the loose line has run through his hand, and then plays him on the reel. I ought to have mentioned that in the "Meteor" and the improved "Sillex" the angler controls the reel by pressing a spring, not by means of the thumb or fingers on the line or spool, as with the Nottingham, and with the American multipliers. The Fly and Bait Casting Tournaments of the last thirty years have had very greatly to do with the modern improvements in rods, reels, lines, &c. Only a day or two before these notes were written Mr. A. Piercy, hon. sec. of the British Amateur



HARDY'S NO. 2 IMPROVED "SILEX" REEL.

This casting reel is made in various sizes, and is a great favourite with all who spin for salmon, pike, and other fish. The reel runs with a slight check on it or perfectly freely, according as you adjust a screw; it is then controlled by the spring lever at the side.

Fly and Bait Casting Club, using a small "Sillex" reel, cast the *quarter-ounce bait* over 42 yards, using the side swing and a single-hand 6-foot rod. Small salmon flies have been cast yards farther, but only by using a heavy line and a 16- or 18-foot rod. One of the best and most practical fishing as well as casting reels is Messrs. Hardy's improved "Sillex No. 2." In conclusion, as I said before, I have only been able to glance at this most fascinating subject;

an ounce of practice is worth a pound of theory, and I can strongly advise all anglers who wish to learn the most modern methods of fly and bait casting to join the club just referred to; it has a ground with water for practice and tournaments, and expert members ready to impart information for the love of the thing.

R. B. MARSTON.

Measurements, &c.—Length of head $3\frac{1}{2}$ to 4, of caudal fin 6, height of body $6\frac{1}{2}$ to 7 in the total length. Nostrils large, and nearer the orbit than the end of the snout. Numerous glandular orifices on the head. *Teeth*—none on the maxillary; large ones and of unequal sizes on the mandibles; present on the vomer and palatines, the inner row of which are the larger, more or less strong and depressible; also fine ones on the tongue. *Fins*—the dorsal is situated in the last fourth of the total length (excluding the caudal fin), and slightly in advance of the origin of the anal. Pectoral placed low down and below the subopercle. The ventral slightly behind the middle of the total length (excluding the caudal fin). Caudal emarginate or slightly forked. *Scales*—small, present on the cheeks, upper portion of the opercle, and over the body. *Lateral-line*—nearly straight. *Colours*—when in the greatest perfection, of a green colour, becoming lighter on the sides and beneath; numerous yellow blotches, spots, or lines along the head and body; dorsal, anal, and caudal fins of a light ground colour with irregular blotches, spots, and bands of dark. When out of season, the green becomes of a grey hue, and the yellow markings pale or white.

Day, *Fishes of Great Britain and Ireland*, vol. ii., p. 140.

Bibliography.—*The Book of the Pike* (1865), by C. Pennell; *Angling for Pike* (2nd ed., 1897), by John Bickerdyke; *Pike and Perch* (1897), by Alfred Jardine.

PISCICULTURE.—This art was well known to the Ancients, but their knowledge of the subject seems to have been entirely lost. It is now a little more than a century since the artificial propagation of fishes was rediscovered. During the last two or three decades of that period the discovery has been turned to good practical account, and the work and knowledge of fish culture has made rapid strides.

Though very valuable marine pisciculture is being carried on at various stations on the coast, this must for some years to come be regarded as experimental. In Britain the modern pisciculturist is concerned

chiefly with the Salmonidæ, and the greatest success has been achieved with the indigenous fresh-water trout (*Salmo fario*). Very rapid strides have been made in the re-stocking of depleted waters, and the knowledge gained by experience has been of such practical value that somewhere about thirty trout farms are now established throughout the country.

Salmon and trout both seek the head waters of our rivers and streams at spawning time. Here they find pure water and clean gravel in which to deposit their eggs. Freedom from pollution is one of the first essentials which is of importance to the

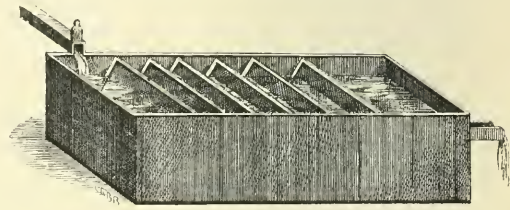


FIG. 1.

pisciculturist, and so he carefully filters the water used during the process of incubation.

A useful filter which was employed for many years is shown in Fig. 1. Half-a-dozen frames covered with flannel or other suitable fabric are fitted into a box through which the water passes. These may be readily removed and cleaned when required. As hatching operations were extended and a greater volume of water was required, it

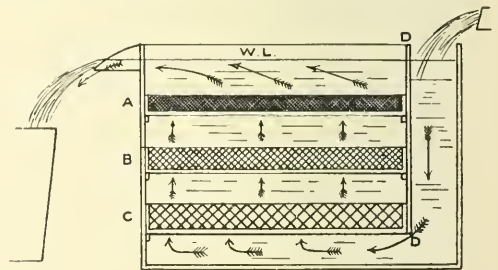


FIG. 1A.

Filter-box, showing A B C, three trays of gravel, the uppermost (A) being the finest, and the lower (C) being the coarsest. D D, partition which forces the water under the lower tray, so that it rises through the gravel. W L, water line. Arrows indicate the direction of the current.

was found more convenient to pass it through gravel as shown in Fig. 1 A.

From the filter the water passes to the distributing tank, which usually consists of a long box fitted with spouts in suitable positions for its distribution into rows of hatching-boxes. Figs. 2 and 7 show the relative positions of boxes and tank, Fig. 2

being a series of artificial ova beds constructed in the open, and Fig. 7 the interior of a hatchery.

For the incubation of ova a building of some sort is necessary as a protection from frost, especially in the North, where in-



FIG. 2.—AN ACCESSORY OUTDOOR HATCHING APPARATUS, AS USED AT THE SOLWAY FISHERY.

incubation takes about three months. The temperature of small streams exposed to the air is oftener below 40° F. than above it during the time the eggs are in the gravel, though in favoured districts, especially in the South of England, where many streams are fed by springs of a temperature constantly about 50° F. or over, incubation may be completed in 40 to 60 days.

The ova laid down in artificial ova beds have usually been protected in a hatchery during the earlier stages of incubation, so that the risk of loss through frost is not great, and can at this stage of the embryos' development be guarded against by covering the boxes in which they are, as it is not absolutely necessary to have easy access to them as in the case of freshly impregnated eggs.

In the hatchery the eggs are placed on shallow trays made of a wooden frame with a bottom formed by glass tubes so placed that they allow the eggs to rest between them in rows. Besides the absolute cleanliness of the glass, the chief advantage of this system is that the round tubes allow the eggs to rest with the least possible surface of the shell in contact with them. When it is remembered that the embryo is dependent on a supply of oxygen absorbed through the shell, it is evident that the method described, which allows free access of running water all round the egg, is better than the old plan of laying them in gravel which soon became clogged with sediment.

In some hatcheries specially constructed metal trays are used, and where there are

no acids in the water which will act as a solvent this method answers perfectly; but the safest and best plan is to use glass "grilles" as described.

The water in a hatching or incubating box is about 4 inches deep. This is convenient and sufficient. The egg trays are arranged so that there is a space between them and the bottom of the box, and about two inches of water over the eggs. A subdued light is most favourable for the development of the embryo, and direct sunlight should never be allowed to fall on the eggs. Lids are usually fitted to the boxes, which do not quite reach to each end, so allowing sufficient light and air. Freshly spawned eggs may be handled or packed for a journey, but after forty-eight hours it is not advisable to move them, and they are exceedingly sensitive to vibration. From this time until the faint outline of the embryo may be seen in the egg they will not bear handling or any movement which is harsher than a gentle oscillation caused by the passing of a current of water. Even this is attended with risk. It is probable that the loss during spates in the streams while the ova are in this exceedingly delicate condition is enormous.

So soon as the slightest movement of the embryo is observed within the shell, the eggs may be carefully handled. At this stage they may be packed for long voyages, and they have been successfully sent to every quarter of the globe. The eye spots are first visible when a little more than a third of the period of incubation is passed.

The pisciculturist does not allow the parent fish to shed and impregnate the ova. This is too haphazard a process, and is invariably attended with great waste of eggs. The males and females, if wild fish, are netted at spawning time and kept in ponds till ripe, or, if domesticated, are taken from the large stock ponds to stews of convenient dimensions for quick and easy manipulation. Very much of the success attending the operations is dependent on care at this stage, and it is important that the parent fish should not be disturbed or handled more than is necessary, and, above all, that they should not be kept crowded together for a week or two waiting till they are ripe. On the absolutely fit condition of the fish depends the vitality of the embryo. Slipshod methods may appear to yield good results, for trout at this season are extraordinarily hardy, but if this is taken too much advantage of the vitality of the eggs will suffer, and this may not be apparent till months afterwards. The importance of care in minute details and the far-reaching

effect of carelessness has become increasingly evident as experience has been accumulated. The result of this knowledge is that from the time of impregnation through all the stages of development till maturity is reached the percentage of loss is very much less than it used to be.

The taking of the eggs is done as follows: Ripe males and females are placed in separate tanks through which there is a good run of water. A clean, dry basin is placed on a table. The operator takes his stand by this, and an attendant hands him two, three, or four female fish (according to size) in a landing-net. These are allowed to kick the water off themselves and quieten down a little; then one is taken in both hands in such a way that the head and tail are firmly but gently secured, and with a light and rapid movement of the right thumb the ova are expressed into the basin. As quickly as possible the other fish in the net are treated in the same way, and returned to the water as soon as they are stripped. While the last fish is being spawned the attendant lifts a few males in the landing-net, and by the time the operator is ready for them they will have kicked the water off themselves and become quieter. A male is taken, and by means of an adroit pressure of the forefinger and thumb of the right hand the milt is expressed into the basin amongst the eggs. One good male is sufficient. The milt is then stirred amongst the eggs by hand and a little water added. The basin is then placed in a shallow tank prepared for the purpose, just overhead in water, so that the milt and any urine which may be amongst the eggs is allowed to float away.

The eggs must now be left alone for from fifteen minutes to half an hour while they absorb water and swell. During this process they adhere to each other and to the basin, and any abrupt separation would probably result in injury.

By gently tilting the basin, one may ascertain whether the eggs are ready to be taken away and laid down in the hatching-boxes. Here they are evenly spread so that, while making the most of the room, they are not crowded or allowed to rest thickly on the top of each other. A feather may be used for this purpose, but an adroit attendant manipulates the eggs by means of a gentle shaking of the tray which receives them. As they are so nearly of the same specific gravity as the water, the very gentlest motion is sufficient to accomplish all that is required. It may here be pointed out that the fact that the eggs are, as stated, so nearly of the same weight as the water,

safeguards them, in a stream where currents are strong, from damage. It is as impossible for a trout egg in water to strike anything hard as for a feather to do so in the air. To this natural provision they also owe the fact that so many escape being crushed by moving stones. The displacement of the water removes the egg before the stone reaches it.

Eggs which are destroyed by pressure of the gravel (as a great many are) are nipped after being drawn and wedged between two stones by the current. Even where the egg is not killed this pressure produces an irregular development of the embryo which results in deformity. It is needless to add that deformed trout die. Nature does not allow them to exist.

On first emerging from the eggs the little creatures are called "alevins," and do not bear much resemblance to fish. The word is derived from the French.

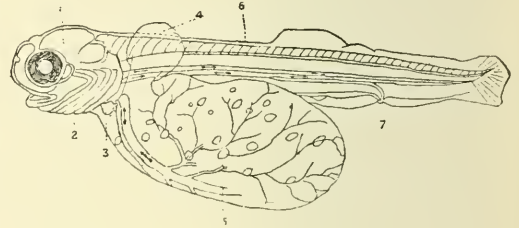


FIG. 3.—ALEVIN TROUT.

The accompanying figure (3) represents an alevin trout magnified.

(1) The cranial cavity containing the brain; (2) the gills or breathing apparatus; (3) the heart; (4) one of the pectoral fins, used at this stage for assisting respiration by causing currents, and acting like a fan to the gills; (5) an oil globule; (6) the vertebral column; (7) the anus. The rudiments of the dorsal fin are quite apparent, and the rays of the caudal fin or tail may also be traced. The sketch is taken very soon after hatching, and the daily development of the fish from this point is a most fascinating study, and well worth the attention of any one interested in such matters.

Any one may keep a few alevins for a week or two in an ordinary basin by changing the water daily, and very interesting little creatures they are. There is attached to each individual at this stage a large transparent bag, known as the umbilical sac, and this contains the nourishment necessary for the next thirty or forty days, during which period of their lives they are very easily managed. When the sac is nearly absorbed, the alevins begin to look like fish, and are soon in the fry stage.

One of the greatest difficulties pisciculturists have had to contend with is the rearing of the fry. In the case of salmon and trout these difficulties have been largely bridged over. Study, research, and experiment have done a great deal, and now, when much practical skill is combined with the knowledge which has been gained, a large percentage of fry may be reared to the yearling stage. It will be apparent to any one that delicate little creatures like trout

gregated together in hatching- or rearing-boxes, it is most improbable that we should find sufficient natural food in the water to maintain them, so we are compelled to resort to foods which are convenient and easily procurable. Of these the most generally used is liver very finely grated, but as this is deficient in phosphates every endeavour should be made to procure some form of food to mix with the liver which will provide these. The feeding of fry in



FIG. 4.—SCENE AT SPAWNING TIME.

fry require delicate treatment. A very little disorganisation, be it external or internal, is sufficient to kill them, and the constant and unflagging care of an attendant is absolutely necessary. When they begin to take food by means of their mouths, which is usually a little while before the complete absorption of the umbilical sac, they must be carefully and regularly fed.

The natural food at this period of their existence has been found to consist of minute crustacea, and on these we are largely dependent for the successful rearing of the fry, especially at this early stage. It is important that the water entering the hatchery should be no longer filtered or at any rate only so as to exclude matter which may be injurious.

Where a large number of fry are con-

the earliest stages (and, indeed, later) must be regarded as supplementary to the natural food supply, so that it is important on the one hand to choose a site for piscicultural operations where the water is rich in the minute crustacea which are so valuable, and, on the other hand, to avoid crowding the fry. It is obvious that the more room and water the young fish have, the greater will be their share of natural food.

It is very unusual to find good water for incubating purposes rich in food, and for this reason a site is usually chosen where both the pure water necessary for incubation and water charged with "insect" life may be had. We find in nature that the fry leave the spawning beds when they come on the feed and drop down to localities where natural food is more abundant. This drop-

ping down stream is very gradual, but is influenced largely by the increasing need for more abundant food on the part of the growing fish.

When the fry in a hatchery are nicely on the feed they are removed to suitable ponds

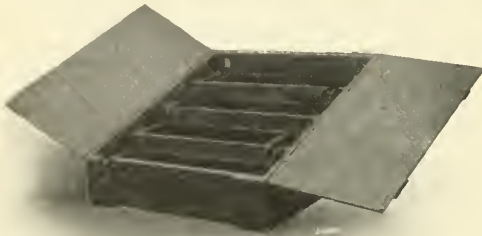


FIG. 5.—PORTABLE HATCHERY (i).

specially provided for them, where they remain for some months. By this time they are nice little fish approaching two inches in length, and those which have grown rapidly are sorted out from the smaller ones and placed in separate ponds. This sorting is important, not altogether, though partly, for fear of cannibal tendencies, but chiefly because the stronger fish interfere with the feeding of the smaller ones, and these are apt to become weakly and die in consequence. The percentage of fry reared to yearling stage varies greatly in different localities. Three important factors determine the measure of success: (1) The amount of careful and intelligent attention given; (2) the quality (vitality) of the eggs which have been hatched; (3) the amount of natural food in the water. Thirty per cent. of yearlings used to be considered good work. Nowadays we look for fifty to eighty per cent. After the yearling stage the loss amongst good fish is trifling.

One of the most economical methods of maintaining or replenishing the stock of trout or salmon in any water is by planting the eggs, when almost ready for hatching, in artificial ova beds. The heavy losses which occur in nature at spawning time and during the period of incubation are by this means saved, as the ova can be purchased for comparatively little, all ready for laying down, every egg containing a living fish. The loss on such eggs should be very trifling; indeed, it has been found in practice to be usually something under three per cent. A great advantage possessed by these artificial beds is that they can be fixed in any convenient situa-

tion. They may be away from the stream or near it, as desired, so long as they are in such a position that a supply of water can be led to them, and this may be done either by means of a pipe or by an open spout. An ordinary two-inch drain tile answers very well, and, being carried under ground, has the double advantage of keeping out the frost. Of course, the beds should be out of the reach of the highest floods.

In addition to a suitable supply of water, it is necessary to provide for its proper exit, and the arrangement must be one that will suit the little fish when they incline to drop down stream, for herein lies one of the great secrets of the ultimate success of the system. The bed itself may be simply dug out, or an ordinary ditch may sometimes be made use of, the bottom and sides being lined with brickwork or concrete. The width may be from one to two feet, and the bottom should be covered with a good coating of fine gravel about the size of a pea. The eggs are laid upon this, and a nice ripple run over them. When they hatch, the "alevins" remain in the bed till they come on the feed. They can be kept in it for a while by keeping it dark, and this should be done, but if any attempt be made to confine them by means of screens or gratings, the whole object of the apparatus is nullified.

The best and most practical ova beds are constructed of wood, and as they can be made perfectly tight and a false bottom of perforated metal easily fitted, the gravel can be laid upon this and the water conducted underneath, so that it rises up through the gravel, upon or amongst which the eggs should be placed. Below the

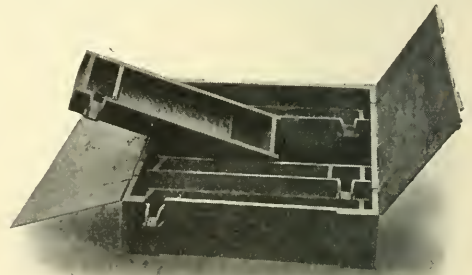


FIG. 6.—PORTABLE HATCHERY (ii).

hatching-bed suitable provision should be made for the welfare of the nurslings. A tiny streamlet, widened out into narrow ponds, nicely gravelled and planted with aquatic vegetation, forms an excellent nursery in which they are absolutely in a

state of nature. The growth of natural food can here be encouraged, and all surroundings kept in favourable condition for the welfare of the little creatures. They can be protected by wire netting from the onslaughts of birds or other animals, and they finally drop down at will into the stream or the lake which is to be their future home. Such a sanctuary will be the means of saving a large number of them, and herein lies the great advantage of the whole system. Sometimes it is most con-

extent much study is needed, or the result will be failure, as is so often the case in agriculture where the worker does not understand his business.

The cultivation of water for the purpose of increasing or improving stocks of fish is a matter which has hitherto largely escaped notice. Fish cannot live in unsuitable water any more than wheat or any other crop will succeed on unfavourable land. Close attention must be given to the *flora* and *fauna* of any piece of water, be it natural or arti-



FIG. 7.--VIEW INSIDE ONE OF THE HATCHERIES.

venient to place the ova bed alongside a stream into which the fish can escape as soon as they like, and even without the provision of any nursery ponds good will result, but a system such as I have described will, if properly carried out, do much more towards replenishing the stock in any water.

In the past we have treated our waters as waste—when on land something to be got rid of—when in river something into which to turn every sort of pollution that man could produce, and this is still going on. We have, however, at last found the water to be an exceedingly valuable commodity from which a considerable revenue may be derived. Its cultivation is now no mere theory, but is a realised fact; but in order to carry out the work to any appreciable

extent, First of all, the plants must be considered, and desirable species should be carefully cultivated, whilst noxious forms should be kept down or, if possible, eradicated at once. In addition to a good supply of water, trout are dependent upon liberal contributions of food, and this food nature produces in limited quantities, but by means of cultivation the quantity can be increased enormously. In a lake the natural stock may thus be largely augmented; in a pond the fish may be given daily rations of artificial food to supplement the limited supply provided by nature. In such a case a much larger number of fish may be kept, and a supply be always at hand—a consideration of no mean kind.

In dealing with these and kindred matters it is well worth while to have skilled advice,

as otherwise much benefit may be lost by inattention to some apparently trifling point, or the work may be completely spoiled.

So far as the increase of salmon is concerned, it cannot be shown that in this country pisciculture has been rewarded by marked success. At the same time, it may be said that, having regard to the nature of the work, no experiment of sufficient importance has been undertaken. When we realise that a twelve-pound female salmon produces about 10,000 eggs, we can form an idea of how paltry the hatching of 200,000 or so of eggs is. It simply means that the eggs of twenty fish are saved to the river on which operations are being carried on. This may not be and probably is not as much as one per cent. of the fish in the river, and yet great results are expected. The output of salmon ova from a hatchery should bear some definite relation to the mileage of the river and tributaries in question, and a reasonable calculation made as to the number of fry per mile, which ought to make a difference to the annual return from the sea. Any such calculation would show that we have not in any case come near a reasonable expectation of success. From 20,000 to 50,000 fry per mile of river would not be an over-estimate of the quantity one should aim at, having regard to the natural conditions and the enormous loss which takes place in fresh water and salt. A small salmon hatchery is of very doubtful use to any river, and to turn down less than a million fry into fifty miles of water is hardly worth the trouble. Two millions would be nearer the mark judging by what we know of the productiveness of the fish on the one hand, and the poor return realised on the other.

Pisciculture undoubtedly has its work to do for the salmon, and it is a most important one. Carried out in the right way and on a sufficiently large scale, there can be no doubt as to the benefit that will result, but the work must not be played with. Professional pisciculturists have had a great deal to learn, and experience has often been very dearly bought, but a mass of knowledge has been gained upon which we can now build with safety, and we are too sure of our ground to hesitate even for a moment in going forward.

In conclusion, I would briefly refer to the accompanying illustrations of a portion of the work of cultivation carried on at the Solway Fishery, near Dumfries. Fig. 4 represents a scene at spawning time, and in Fig. 7 we have a view inside one of the hatcheries. There are two distributing

tanks overhead at the far end of the building, with fall pipes for conveying the water to the hatching boxes, through which it is running. Fig. 8 shows a few of the nursery ponds for rearing fry, with the preparation house on the left and the keeper's house on the right.

Coarse Fish Culture has not been followed up so enthusiastically as the cultivation of the *Salmonidæ*, probably because the fish are not so valuable, and therefore do not pay for cultivation in the same ratio. There are, however, so many waters that are peculiarly adapted to the requirements of coarse fish that their cultivation is well worth attention, and many of them are quite easily managed. In contradistinction to the members of the *Salmonidæ*, they are known as "summer spawning" fish, although this is not strictly correct, as many of them spawn in spring.

Instead of keeping the ova in cold water, as in the case of salmon, that which has been warmed by the rays of the sun to a temperature exceeding 60° F. is necessary; instead of being incubated in a hatching house, they do better out of doors; instead of being kept in the dark, light is good for many of them, and instead of being fecundated by artificial means, it is often best to allow the fish to spawn naturally, in a nest which the pisciculturist has built, and which he can afterwards remove along with its contents. It is true that they can be taken and stripped by hand like trout, but as the natural impregnation of the ova is usually almost perfect and the fish are much more delicate and do not bear handling so well, it is often much better to allow them to do for themselves than to attempt to strip them by hand. Many coarse fish eggs are adhesive, and therefore, if we take them artificially, we must use some sort of apparatus and strip the eggs into it direct. This can be done, and the eggs milted successfully, but there is no need for it.

If, however, we wish to do it, we must provide a hatching box containing some frames and resembling Fig. 1, but instead of covering them with flannel they should be made with a cross-bar in the middle, to facilitate the intertwining of some twigs, or they should be covered with galvanised wire netting, into the meshes of which suitable water plants may be twined for the purpose of receiving the ova. The fish may then be spawned by hand in the usual way. Care should be taken to run a current through the tank in order to get rid of the milt, and a slight trickle should be kept going all through the period of incubation.

The eggs of most coarse fish hatch in as many weeks as trout take months, and this at once makes a great difference in the mode of procedure.

Many of the *Cyprinidæ* deposit their ova on the stems and leaves of water plants, to which they adhere, not in batches, but singly. These eggs can be dealt with in such an apparatus as I have described. Other fish again spawn among the gravel in streams. Pike deposit their spawn

stocked with water plants, and in this pond breeding perch should be placed, say in February or March. The sides of the pond should be perpendicular, or nearly so. These fish will deposit their eggs on the water plants when the time comes, usually in April, when they may be collected and removed to another pond called the hatching pond. It should be constructed like the one used for spawning.

Obtain a number of dead spruce



FIG. 2.—A FEW TROUT NURSERIES, KEEPER'S HOUSE, AND YEARLING PREPARATION HOUSE.

chiefly in bays and ditches amongst the aquatic vegetation found there, and the spawn may be hatched in the apparatus to which I have alluded. The eggs of the *Percidæ* (Perch) are only adhesive for a while, when first they come from the parent fish, but they are shed in batches and not singly. These batches, if examined, are found to be in the shape of hollow ribbons, and in nature they are to be found deposited on water plants, masses of sticks or twigs, heaps of stones, and submerged branches of trees.

I have cultivated perch successfully for many years, and have long since given up the plan of artificially spawning them, or of using anything in the shape of hatching apparatus. A pond twenty feet square and three feet deep should be prepared and

branches, cut the stump or butt-end of each to a point, and insert them into the bank of the pond in a horizontal position, about six inches or a foot below the surface of the water. Owing to their fan-like shape, it will be apparent at once that these are very handy contrivances for receiving the ova. What is more, the ova do very well upon them. A batch of perch spawn being adroitly spread over them by a gentle but dexterous movement of the hand, it settles down on the twigs, which present a very irregular surface, whilst offering the least obstruction to the motion of the water. Some of the spawn is borne up by the projecting twigs, whilst another portion settles down between them; so it hangs suspended from twig to twig and every egg has an equal chance. When huddled together in a

heap many of them will die from suffocation.

Perch ova can be hatched most successfully in the manner described. The period of incubation varies from fourteen to about twenty-one days, according to temperature. Some warm day, on inspecting the hatching twigs, the eggs will be found to be empty, the embryos having emerged and left nothing but the empty shells and the tougher portions of the gelatinous substance with which the eggs were enveloped, and which held them together. On closer inspection the water in the immediate neighbourhood of the twigs is found to be crowded with young perch, which may be seen swimming in all directions. They are helpless little creatures, and an enemy coming among them would have a fine time of it. Here, however, they can be protected from many depreducers, and it is evident that a great advantage is to be gained by caring for and hatching them in this way. From the hatching pond the fish may be allowed to drop down to a larger one in which they can grow, all other fish being carefully excluded. Most of the coarse fish will eat their own progeny, so that one essential is to separate the spawning fish from their eggs. Either the fish must be removed from the pond as soon as they have spawned, or the ova must be transferred to another pond. In the case of those which spawn amongst gravel, the fish will enter a raceway at the head of the spawning pond, and here their operations should be carefully watched, and, as soon as the eggs are safely deposited, a sluice should be inserted at the mouth of the raceway, so as to prevent it running dry, and the pond should be let off and every fish taken out. If done properly, a good stock of fish may be raised in this way, as I have proved by experiment. In dealing with carp, a small pond should be constructed from which the fish can easily be withdrawn after spawning, or the alternative plan may be adopted of removing the ova to another pond as in the case of perch. It is done in this way: make a few wooden frames and stretch wire netting over them. Upon the netting place some thinly cut sods, grass downwards. Then dig from the bottom of a pond or stream a quantity of healthy growing water plants; these should be carefully washed and examined to see that no enemies are lurking among them. Lower the apparatus into the pond with the plants attached. The carp will deposit their eggs upon these, and the frames should then be lifted out and transferred to another pond, from which all enemies have been excluded.

The spawning pond should contain no plants but those on the frames. Carp ova usually hatch in about fourteen days, and the spawning season lasts some time, the fish shedding only a portion of their eggs at once. When the plants bearing the ova are removed, therefore, others should be introduced to take their places. By these methods many of our coarse fish may be easily cultivated, larger ponds being required as they grow older.

W. H. ARMISTEAD.

[See also CONSERVANCY OF RIVERS.]

PLOVER,—**Classification**.—The name plover, as accepted by writers on systematic ornithology, is of wide signification, since it includes not only the short-billed, three-toed species, with long narrow and pointed wings, which are comprised in the genera *Charadrius*, *Eudromias*, and *Ægialitis*, and the four-toed, rounded winged birds of the peewit type, belonging to the genera *Vanellus*, *Chetusia*, *Hoplopterus*, and *Lobivanellus*, but also such aberrant, though undoubtedly related, forms as the thick-knees or stone-curlews (*Edicnemus*), Oystercatchers (*Hamatopus*), Turnstones (*Streptilas*), Coursers (*Cursorius*), and Pratincoles (*Glareola*). All these, and some others that might be named, belong to the great family of Plovers (*Charadriidæ*), which are related on the one hand to the Snipes and Sandpipers (*Scolopacidæ*), and on the other to the gulls (*Laridæ*).

Distribution.—Geographically speaking, they are of wide distribution, having representatives in every part of the world, for the most part migratory in their habits, and all of them to some extent the object of pursuit by sportsmen. The reason for this is two-fold. In the first place, with a few exceptions (as, for example, the Oystercatchers), they are not only edible, but some of them, like the Golden Plover and Dotterel, are of renowned excellence for the table; in the second place, the wildness of their haunts, the wariness of their habits, and their strong rapid flight cause them to be at all times and in all countries much sought after by lovers of shooting.

To give an account of all of them, however brief, would necessitate a review of more than one hundred different species, and would occupy an amount of space which cannot here be accorded. It will suffice to notice only some of the more typical genera, and in so doing to confine attention to those species which are most sought after by sportsmen.

Without much risk of provoking dissent we may place at the head of the list the **Golden Plover** (*Charadrius plumialis*), in every respect a typical plover and one well



GOLDEN PLOVER.

known to wildfowlers, not only in the British Islands, but throughout the greater part of Europe and Africa, from Iceland and Scandinavia to the Cape Colony, and from the West of Ireland to the tundras of Siberia, as far east as the river Lena. Eastward of the Yenesei, and throughout Asia generally to Behring Sea, its place is taken by a smaller species, the Asiatic Golden Plover (*Charadrius fulvus* or *orientalis*), with grey instead of white axillary plumes, which in winter migrates southwards to China, Japan, India, the Malay Archipelago, Australia, New Zealand, and Polynesia. This smaller race is found also on the Prybilov Islands and the coast of Alaska, where it approaches the American form *Charadrius virginicus* (or *dominicus*), which also has the axillary feathers grey, but is said to be distinguishable by its somewhat larger size, relatively shorter secondaries, and less brilliant yellow spots. The comparative measurements of the three species, as taken by the present writer from a series, will be found stated in *Proc. Zool. Soc.*, 1871, p. 116.

The American Golden Plover (*Charadrius virginicus*), according to the concise statement of Mr. Howard Saunders (*Manual*, p. 533), nests in the barren grounds from Alaska to Davis Strait, as well as in the northern part of Greenland; while on passage it traverses Canada and the United States, seldom occurring in the west of California, but rather inclining to the east of the Rocky Mountains. In September and October large flocks arrive in the Bermudas, while on Antigua, Martin-

ique, Barbadoes, and other West Indian Islands they are sometimes so tame or exhausted after their long flight that they can be knocked down with sticks and stones. The migrations of this bird extend through tropical America to Buenos Ayres on the east side and Chili on the west.

All three species of Golden Plover, as well as the **Grey Plover** (*Squatarola helvetica*), undergo a singular change of plumage during the nuptial season. The underparts, so white in winter, become more or less black, and the dorsal plumage, which in winter is so closely spotted with yellow as to suggest the name "golden," becomes in summer considerably suffused with black and dark brown. It is remarkable that the young of the Grey Plover is golden for many months after it has left the nest, and birds of the year which are able to fly as well as their parents may be easily mistaken for Golden Plover by those who are not familiar with the distinguishing characters. As above stated, the feathers under the wing known as the axillary plumes are in the Golden Plover *white*, in the Grey Plover *black*, and while the former bird has only three toes anteriorly directed, the latter, like the Peewit, has a small hind toe which serves to identify it at all ages.

It is the habit of the Golden Plovers, as it is also of the Dotterel, in all countries where these birds are known to breed, to resort in the nesting season to the wild, desolate moorlands, often at some elevation above and away from the sea. As soon as the young are able to fly well, they descend to the low grounds and spread over the uncultivated marshes near the sea, and wide, open fields inland where the latter are sufficiently large to induce the flocks to alight; for they seem to fear danger from the proximity of fences that might mask the approach of gunners.

On the mud flats at the mouths of rivers, and in tidal harbours, large flocks of these birds may be seen in autumn, as well as in winter during frost, when the soil further inland is too hardened to admit of their getting their usual food.

Peewit, Lapwing, or Green Plover (*Vanellus vulgaris* or *cristatus*;—*Kiebitz*, German; *Dishuit*, French; *Kierciot*, Dutch; *Pavoncella*, Italian) is the most abundant of the plovers (*Charadriidae*) in temperate Europe, where familiarity diminishes the admiration it deserves for exceeding grace and beauty. The plumage is very similar in both sexes, the female differing only in having a slightly shorter crest than her mate. In winter the throat, which in summer is black, becomes

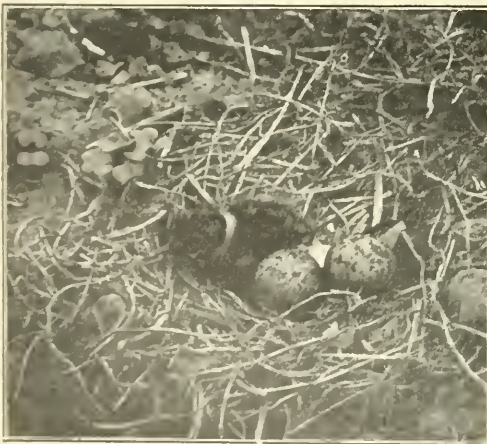
white, the crest shorter, and the black head tinged with brown. Though this bird is usually classed as a resident species, being



PEEWIT.

commonly seen at all seasons in most parts of the British Isles, it is in truth as regularly migratory as the rest of its kin. The birds bred on British ground move southwards in autumn, and are replaced by others reared further north. The northern limit of winter habitat runs not far north of the Moray Firth, for lapwings are wholly absent from Caithness between the middle of October and the middle of February, though exceedingly abundant there in the breeding season.

The lapwing is one of the best and most industrious friends to agriculture, its food consisting exclusively of worms, grubs, insects, and small molluscs. In some recent books on sport, directions are given how



YOUNG PEEWIT, NEST, AND EGGS.

to approach and shoot it; but one of the old school of sportsmen would as soon think of making his target of thrushes or larks.

It is true that, when persecuted, the lapwing becomes shy and watchful; but by nature it is more confiding than any other plover, especially in spring and summer, and its wavering flight and conspicuous colour render it an inglorious quarry. In addition to their habits as an admirable land police, these birds deserve more consideration than they receive by reason of the abundant supply of "plover's eggs" which they afford. Concern is sometimes expressed lest the heavy toll levied each spring on the nests should unduly reduce the stock; but there is no danger of this, provided the parent birds are not shot down. The race is replenished by second layings, which do not suffer so much as the first from egg-gatherers, owing to the growth of young corn and herbage concealing them better. It is much to be regretted that the consignments of lapwings to the London market have greatly increased of late years. The flesh is very inferior to that of



PEEWIT, SHOWING BREAST MARKINGS.

the golden plover, though hundreds of lapwings are eaten annually in restaurants under the name of the greater delicacy. *It is the only wild bird of which civilised man devours habitually both eggs and parents.* It is a cruel, yet not uncommon sight to see strings of lapwings hanging above baskets of their eggs in poulterers' shops; and sportsmen are earnestly entreated to refrain from shooting the pretty peewit.

It is not uncommon to see the peewit paying grievous penalty for its beneficial love of insects and slugs by imprisonment in a garden, of course pinioned. It is a barbarous practice to deprive a bird of its leading characteristic — flight — especially when it is considered how strong is the migratory impulse in all the *Limicola*.

Companions of the Peewit and Golden Plover on the dreary mud-flats and along the edges of the channels, we find the Ringed Plovers, Ringed Dotterel or Sand Plovers, as they are termed abroad, of

which three species only, out of five-and-twenty or thirty different kinds, are to be met with in the British Islands.

These are the common **Ringed Plover** (*Ægialitis hiaticola*), to be met with on all parts of the coast, where, on the great stretches of shingle beach, and amidst the marram grass of the undulating sand-hills, it deposits its four spotted eggs, which curiously resemble the speckled stones by which they are surrounded; the **Kentish Plover** (*Æ. cantiana*), a local and much less numerous species to be found breeding on the coasts of Kent and Sussex, and the **Little Ringed Plover** (*Æ. curonica*), which, as an irregular visitor from Europe, has been occasionally met with in England.

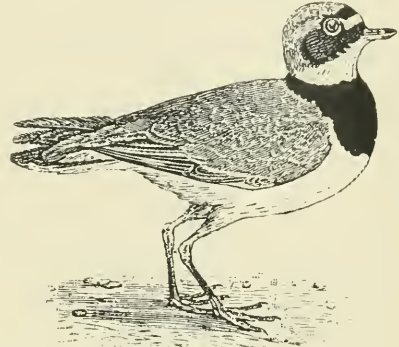
The **Ringed Dotterel** of the sea-shore is not to be confounded with the **Dotterel** of the hills (*Eudromias morinellus*), a very different bird in appearance, as may be seen on comparing the portraits of both in Yarrell's *British Birds*, in which work a full account of their different habits is given.

These may be said to be the typical forms of Plover which have their representatives all over the world, and we have now to consider their particular status in relation to sport. Those which have a market value are the Golden Plover, Peewit (known also as the Lapwing and Green Plover), and the Dotterel, the last named finding such favour as a delicacy in the London season as to command with West-end poulterers as much as nine shillings a couple, the price of Woodcocks being from seven to eight shillings a couple. The smaller Sand Plovers have no commercial value, and are objects of attraction only to the naturalist and shore shooter.

Plover Netting.—Large numbers of Golden Plover and Peewits are received every winter from Holland, and a great many also reach London from Ireland, where they are captured by professionals in "plover-nets" with the aid of decoys. This method of capturing them has been well described with illustrations by Sir R. Payne Gallwey in his *Fowler in Ireland*, in which volume full directions are given for making and working the nets. This author states: "Golden and Green Plover are netted in Ireland in thousands, if the winter be mild, by men who make a living thus. I have known one man, an adept at this work, take twenty pounds' worth of Plovers in a week, which at a low estimate of value would represent at least a thousand birds."

On some parts of the east coast, as in Norfolk and Lincolnshire, a different mode of netting is pursued with what are termed

"flight nets." These are long nets stretched upon poles, and set at right angles to the sea, designed to intercept the birds



RINGED PLOVER.

as they fly low in flocks along the shore. By means of such nets, which are described and figured in Rowley's *Ornithological Miscellany*, different kinds of shore birds have been captured, and forwarded alive to the London Zoological Gardens, amongst them Golden Plover, but these birds are less frequently taken in this way than by the "plover-nets" above mentioned.

The various methods adopted by French fowlers have been described in a chapter on "Plover Catching in France" by the present writer (*Essays on Sport and Natural History*, pp. 201-205), and include the use of nets, bird-calls, "stales" or decoys, and lanterns at night, when the birds, attracted by the bright light, are shot as they fly towards or past it.

The mode adopted in Holland and North Germany has been described by Baron von Droste in the *Journal für Ornithologie*, 1869. A translation of his description is given in Mr. Macpherson's recently published *History of Fowling* (Edinb., Douglas, 1897), in which volume will also be found some additional remarks by Mr. Blaauw on plover catching in Holland, and by Professor Giglioli on the methods of netting employed in Italy. It is obvious that these devices are practised by professional fowlers for profit rather than by amateurs for sport, and that, in this country at least, plovers are generally said to show sport when they afford shooters the opportunity of approaching them with the gun.

Plover shooting may be said to be of two kinds, according as the birds are (1) inland, and have to be outwitted by stalking or driving, or (2) on mud flats or sand banks, where they are only to be approached in a punt. In either case they are usually so wary as to require all the

skill and patience of which a wildfowler is capable in order to get near them. In nine cases out of ten, probably, a good bag of plover is made more by good luck than anything else; for usually the flocks are met with by chance when the shooter is after snipe or grouse; the time of their arrival is more or less uncertain, depending on the weather; and at the period of migration they seldom remain long in the same place.

All plover will be found hard of approach when congregated in an open field, should the shooter try to steal directly towards them. He should boldly skirt the "stand" (as advised by Sir R. Payne Gallwey) without looking anxiously at them, gradually narrowing the circle with each round he takes, and finally with a rush take his chance of a shot. Some excellent remarks by J. A. Harvie Brown on the best mode of shooting plover on the coast of Stirlingshire will be found in the *Zoologist* for 1878, pp. 210-212.

If several guns are available, "driving" may be resorted to, the guns being posted as for a grouse drive, down wind of the flock, and the drivers being sent well round the birds with orders to approach them very slowly and noiselessly.

"Another method," says *The Fowler in Ireland*, "of getting within range of plover congregated in a field, is to tie a dog to a short stick and peg it down into the ground, leaving the animal a tether of five or six yards. Secure him a couple of hundred yards away from the 'stand' to windward, and every bird's eye will be turned in his direction as he moves or struggles. You may then steal up to them on their other flank against the wind, and will always get within fair, often easy shot."

If plover are passing overhead out of shot, and powder is to spare, it is a common custom to fire in their direction, well ahead of them. The sudden alarm will often cause them to drop quickly downwards and sweep within range, thus affording a good chance of a shot. Why they do this, and so run into danger, one cannot say. Perhaps, when alarmed, they are not conscious of more than an effort to change their direction, ignorant from whence the startling noise proceeds; and it is naturally easier for them suddenly to lower their flight than to ascend.

"In shooting plover from a punt," says the author just quoted, "or with a heavy shoulder gun, however close their ranks, it is seldom that a good shot can be made on the ground—that is to say, a shot that does execution in proportion to the number

of birds fired at. Indeed, no shot is a successful one to a fowler that does not attain this end."

Golden Plover sit so low and small that it is well-nigh impossible to send the weight of a charge among them; if it were feasible to raise them by making a noise, all the better, but this with plover is very risky. They are apt to straggle up too far apart to fire at, and yet afford a scantier shot on the ground. If they do happen to rise well together, and you send the charge straight when their wings are just extended, you will bring down three times as many as if you had taken them sitting.

They must not, however, be allowed to rise too high before firing—four or five feet from the ground at most. The circle of shot will then take those on the wing, those in the act of rising, and any standing as well. Large numbers of birds that have been closely huddled on the ground soon open out when sprung, for mutual freedom of flight. They then, perhaps, still offer a good shot for some distance, though not the best, which is what one should strive for—a lesson only learnt by repeated failure.

Golden Plover and Peewits are often met with on the coast in large numbers, sometimes several hundreds in a flock. The Grey Plover, on the contrary, so far as the writer's experience goes, is seldom seen in flocks; ten or a dozen together is about the usual number. They are not often met with inland, keeping more to the coast and to the mud flats or sand banks at the mouths of rivers, and in tidal harbours. The reason for this may be that, unlike the Golden Plover, the Grey Plover does not breed in the British Islands, and is only to be met with at the period of its migrations in spring and autumn. About the first week in May small parties arrive, chiefly on the south and east coasts of England, on their way northward towards their breeding haunts. By the end of that month they have disappeared, not to return until the end of September or beginning of October, when the old birds are accompanied by their young, which by that time are strong on the wing and are so speckled with yellow that, but for the black axillary feathers and the presence of a small hind toe, they might be easily mistaken for Golden Plovers.

In point of size there is not much difference between the two species, the Grey Plover being slightly larger and more robust and having a somewhat stouter bill.

In regard to weight, the Golden Plover, Grey Plover, and Peewit each average from

8 oz. to 10 oz., their condition depending upon the mildness or severity of the weather, and their consequent ability to procure a good supply or otherwise of their natural food.

No more characteristic illustrations of these birds can be obtained than Bewick's woodcuts, and these have therefore been reproduced.

SIR HERBERT MAXWELL.
J. E. HARTING.

[The special description of the Peewit is by Sir Herbert Maxwell, the general treatment of the species by Mr. J. E. Harting.—Ed.]

POCHARD (*Fuligula ferina*).—In classifying the various species belonging to the duck family (*Anatidæ*), from a consideration of their habits correlated with structure, naturalists are wont to distinguish the surface-feeding ducks from the diving ducks, and to place the latter apart in a genus (*Fuligula*) which includes the pochard, white-eyed pochard, canvas-back, red-crested duck, scaup, tufted duck, and others. In the former group are included the common mallard, gadwall, shoveller, pintail, wigeon, and many others which at one time were all placed in the genus *Anas*, but which, from more detailed examination of their anatomy, and recognition of important differences of structure, have come to be



POCHARD.

regarded as generically distinct, and are now placed in such genera as *Spatula*, *Dafla*, *Mareca*, &c.

The pochard (pronounced indifferently *poachard*, *poakard*, and *pockard*) may be taken as a typical diving duck of the sub-family *Fuligininæ*—for we must here omit from consideration such aberrant forms of diving ducks as the Mergansers and Scoters. It is a sufficiently common and well-marked species to be easily identified; its red head, black breast, and silvery grey

back, delicately pencilled with fine, wavy lines, serving to distinguish it at a glance from all the above-named species, except perhaps its larger relative the canvas-back duck of North America (*Fuligula vallisneriana*), which it somewhat resembles. Like other diving ducks, which are generally of stout build with comparatively short wings, it has a much larger lobe, or webbing, on the hind toe than any of the surface feeders—a characteristic mark of distinction.

The females, and young males before they have moulted, are known to fowlers as “Dun birds,” from their general colour, and in some parts of the coast as “Duncures,” “cur” or “curre” being a general term amongst wildfowlers for diving ducks, although by some (*e.g.* Colonel Hawker) restricted to the scaup, *Fuligula marila*.

Formerly the pochard was considered to be only a winter visitor to the British Islands, arriving in October and departing in March; and instances of its remaining to breed were extremely rare. But of late years the protection afforded to this and other freshwater ducks in spring, not only by statute, but also by private enterprise, has resulted in many pairs remaining here for the nesting season, and successfully bringing off their broods. Nevertheless, the majority of the pochards which are to be seen in flocks here during the winter months come to us from abroad, the species being a widely distributed one, and found nesting in Denmark, Germany, Poland, and Russia, though strangely enough not in Scandinavia.

On arrival in autumn, the flocks make straight for inland waters, where they may be found until March or April, sometimes in considerable numbers, in company with tufted ducks, or duck and mallard, and occasionally golden-eyes. In this respect they differ from wigeon, scaups, and scoters, which prefer salt water, and from the mergansers, which love tidal waters, where they can secure a better supply of fish, their staple diet.

The pochard being one of the best of ducks for the table, rivalling in this respect the far-famed “canvas-back” of North America, is much sought after by wildfowlers, and is generally killed by puntshooters, although in favourable localities it falls a prey at flight time to the long-shore gunners. The best accounts of this bird, from the shooter's point of view, will be found in Folkard's *Wild Fowler* (1864), and Sir R. Payne Galloway's *Fowler in Ireland* (1882). Writing from personal experience, both these authors agree in stating that the pochard is by nature one of the

most wary of wild-fowl, and though extremely numerous in some winters, when the flocks cover acres of water, on being approached they break up into smaller companies, and, after swimming away very low in the water, contrive either to keep out of gunshot, or by direct flight to evade all attempts to make a heavy shot at them with the punt-gun.

Seeing the difficulty of shooting them, the "flight pond" with its artfully contrived nets was specially designed for the purpose of capturing these birds, their cunning being such that they elude the vigilance of the most skilful decoymen. It is true they will visit the decoys sometimes in large numbers, and may be even enticed into the pipes (*see* DECOYS), but they have a vexatious habit when pressed of diving back to the mouth of the pipe instead of rising on the wing and flying to the other end of it, and in this way they contrive to make good their escape.

The method of capturing them at the "flight pond" is well described, with an illustration, by Folkard, in the work above mentioned, to which the reader may be referred, since it is too long to be quoted here *in extenso*. Briefly stated, a net is so fixed with poles, cords, and pulleys that when the birds are flushed and fly towards it, it is suddenly hoisted so as to intercept their flight, and numbers fall into its meshes. To give an idea of the immense flights which used to be taken in the nets at Mersea and Goldhanger in Essex, Folkard states that the bulk of birds has there been known to be so great that when their flight has been intercepted their mass has actually been heavier than the ponderous boxes of weights placed at the lower ends of the poles for hoisting the net, and the consequence has been that the birds have borne down the net and partly spoiled the fowler's sport. At these same decoys (Mersea and Goldhanger) the capture of "dun-birds," as they are there termed, has been so great that a wagon and four horses were required to remove them from the pond; and they have fallen in such heaps on striking the net that many of those at the bottom of the pens were taken up dead, apparently crushed or stifled by the pressure of those above. From five to six hundred "dun-birds" at one pull of the net was formerly considered but a moderate capture, and to break the neck of every bird in that number would occupy three experienced men twenty minutes.

Mr. Page, the owner of one of the oldest decoys in Essex, "the Marsh House Decoy," on Bradwell Marsh, has furnished some

interesting statistics concerning the visits of the pochard, which will be found in Sir R. Payne Gallwey's *Book of Decoys* (1886), and for details as to the shooting of these birds by puntmen and coast-gunners, the reader may be referred to Mr. Henry Sharp's *Practical Wildfowling* (1895); Mr. Abel Chapman's *First Lessons in the Art of Wildfowling* (1896), and to the *Diary of Colonel Peter Hawker* (2 vols., 1893), whose *Instructions to Young Sportsmen* has passed through several editions, and has proved an invaluable text-book to all who delight in the sport of wildfowling.

J. E. HARTING.

POLO.—Its Development.—First of all let me endeavour to show, in a brief space, the recent growth of polo in all parts of the world. Beginning with England, it is well to bear in mind that it was only in 1869 that the game was first played here. The officers of an Hussar regiment, who knocked a billiard ball over the turf at Aldershot with hockey sticks, and called it polo, could scarcely have foreseen the remarkable spread of popularity of the game which was to follow their early efforts. Its advance is all the more noteworthy in view of the fact that polo must necessarily be confined to a comparatively small number of men who are sufficiently good horsemen and can afford to play. It can never be a "popular" game in the sense that various other ball games are. But there are few more fascinating pastimes, and the great crowds which foregather at the London clubs, or at Rugby, Dublin, and other country clubs, show conclusively that this branch of sport makes a very powerful appeal from the spectacular standpoint. Nor is the game yet fully developed from the onlooker's point of view, and a time may come when a portion of the grounds of one or two of the now strictly private London clubs will be thrown open to anyone willing to pay for admission.

Clubs of the World.—In 1910 there were three great polo clubs on the south-western outskirts of London—Hurlingham (with two grounds), Ranelagh (with three match grounds and a practice ground), and Roehampton (with three grounds). There was a private ground at Gunnersbury on the estate of Mr. Leopold de Rothschild, and Southfields was the headquarters of the Brigade of Guards Club, with two grounds. In another direction there was the Kingsbury Club with two grounds; and play also took place on the station ground at Wembley Park. The County Polo Association had a membership of thirty-six affiliated clubs,

and there were more than twenty private or service clubs in England. In Ireland the All-Ireland Club played at Phoenix Park, Dublin, and eight clubs were affiliated to the Irish County Polo Club Union. Even more pronounced, however, than its growth in the British Isles has been the rapid progress of polo abroad. Within little more than a decade clubs have sprung up in all parts of the Continent. In 1910 France had at least four clubs devoted to the game, and Germany six, while there were also flourishing clubs in Spain, Belgium, Russia, and Hungary. Egypt had several clubs, and there was one at Malta. A club existed in Casa Blanca, Morocco. In Australia,

mounted. But when and where the first actual game was played are interesting points entirely lost in the mists of Time. What we do know is that polo is at least as old as the laws of the Medes and Persians, for in the records of the epic poet Firdusi (beginning of the eleventh century, who lived a hundred years before Omar Khayyam) there are frequent allusions to this game as played centuries before his own time. Persians possess rich literary treasures in poetry, history, and geography, and it seems that sport was thought by the early poets to be not unworthy of something more than passing reference. In Firdusi's celebrated *Shanameh* (Book of Kings) in



A GAME IN PROGRESS AT HURLINGHAM.

(Photograph by Sport and General.)

South Africa, Canada, and even on the West Coast of Africa there was every indication of the game becoming increasingly popular. There are nearly forty polo clubs in the United States of America, while in India, which may still be called the home of polo, in spite of the spread of the game elsewhere, about sixty clubs were affiliated to the Indian Polo Association. At the same date there were twenty-two clubs in Argentina, about sixty in Australia, sixteen in New Zealand, and two in Chile. These bald facts will enable the reader to realise that polo has become a sport of world-wide interest.

Antiquity of the Game.—It is impossible to place any limit to the antiquity of polo. Naturally there is much difficulty in tracing the precise progress of the game over a period of more than two thousand years, but there is evidence to show that it was played long before the beginning of the Christian era. One may suppose that not long after men began to ride horses they found a means of vigorous enjoyment and healthy rivalry in the hitting of a ball while

6,000 couplets, sometimes called the *Iliad* of Persia, is told the story of the first international polo match as played between the Iranians and the Turanians. Seemingly there were seven players a-side, and it is easy to imagine that the match aroused as much excitement as those international contests did at Hurlingham many centuries later between England and America. There are references to the combination of players, which make us believe that "team play" was thought of no less highly in those remote days than it is at the present time.

Points of Similarity.—From the year 600 B.C., and perhaps before, the game flourished in the East. And it is remarkable to observe certain points of similarity between the ancient and the modern game. Very old drawings in the British Museum and elsewhere indicate unmistakably that there is much in common between the polo of the two periods. Even the hammer-headed sticks used by the Persian players were not very dissimilar from those to be seen at Hurlingham and Ranelagh to-day, as anyone may judge for himself by refer-

ring to the illustration of "Polo in Persia: Siawusch playing before Afrāsīāh," reproduced in Mr. T. F. Dale's "Polo Past and Present." In the reign of Chosroes II. (501-628) the ladies of the Persian Court appear to have engaged in polo. The King looked on, it is recorded, at a game in which the competitors were women. Here again history has repeated itself, for early in the twentieth century a polo match between ladies was contested at the Ranelagh Club, her Majesty Queen Alexandra being a spectator. The game at Ranelagh was farcical, showing very clearly that of all pastimes polo is one of the least suitable for the fair sex, though in these days of



"ARTHUR," A CHAMPION WEIGHT-CARRYING POLO PONY.

riding astride one cannot foretell how quickly another attempt may be made by women to emulate men in this direction. Probably the ladies' match before Chosroes II. was got up merely by way of a novelty, and the Persian poets are silent in regard to the further participation by women in this strenuous game.

In Byzantium and China.—The Mohammedan conquerors of Persia took up polo with some keenness, and at Byzantium, too, the game was regularly played, though under different methods from those followed in Persia. The sticks of the Byzantine players, for example, had a round racquet at the end instead of the wooden head used by the Persians. At Byzantium, again, a leathern ball was used, and it was this style of game which found its way into Japan, being possibly taken there by the Korean Tartars. It flourished among the people as well as among the Samurais of

Japan. There is reason to believe that polo was played in Japan one thousand years ago, and its records in China go back just as far. Professor E. H. Parker has told us that in the year 717 Khoten sent as a "tributary" present to the Chinese Court "a couple of horses for playing at ball," it being probable that the game had been introduced to Khoten by the Turks. In the year 821 the reigning Emperor succumbed to an illness which attacked him suddenly while playing polo, but this did not prevent his successor from being equally enthusiastic for the game. In 827 an official of the province of Shan Tung sent a present of polo donkeys and four renowned polo players to the Court, and the Emperor lost no time in "setting the army and the Histrionic artists to make sides for a game of donkey polo." In the Histrionic School of that period, it should be explained, five hundred youths were trained in acting, music, athletics, and other accomplishments calculated, as Professor Parker puts it, to contribute to the *menus plaisirs* of the luxurious Chinese Court.

Origin of Polo in India.—From Persia polo, or *chaugán* as it was then called, not unnaturally passed to Central Asia. In Thibet the game was played a great deal, and it is from the Thibetan word *pulu*, meaning a ball made from the knot of willow wood, that the name "polo" is derived. In India the hard-riding natives of Manipur became specially expert in the game. "To the Manipuris and their neighbours," wrote Major F. Herbert in his article in the first edition of the ENCYCLOPEDIA OF SPORT, "we owe a deep debt of gratitude for having preserved the game from extinction when it disappeared from Southern India with the decline of the Mogul power. It is a curious problem why a game that was once so popular throughout the whole of India should have so utterly disappeared, and remained extinct until reintroduced by our native frontier forces during the nineteenth century." It is conjectured that the Manipuris are the descendants of a Tartar colony from China, which may possibly account for their excellence in polo. In any case, their skill is great, and was the more pronounced just after the Indian Mutiny, when polo was only beginning to become popular among the Europeans. In February, 1864, a team of Manipuris visited Calcutta to demonstrate their skill, and from that date polo began to go ahead throughout India. Soldiers, civilians, and native nobles took up the game with eagerness, and in 1877 the Indian Regimental Tournament was established.

In India Now.—The governing body is the Indian Polo Association (founded in 1891), whose Championship Cup in recent years has been played for at Calcutta during the Christmas race week. Unfortunately



READY FOR PLAY. MR. R. GRENFELL'S "GOZO."

for the representative character of the tournament, this date falls in the middle of the military training season, so that few of the best soldier teams are able to make the long journeys to Calcutta. Thus it comes about that the Inter-Regimental Tournament is still the greatest event of Indian polo; it is played in March each year at Meerut. There are many brilliant players among the natives, and the Jodpur, Ulwar, Patiala, Golconda, and other native teams compete in some of the open and local tournaments. The military clubs in India take their polo very seriously, and the training of teams is regarded as an important and weighty business. Soldiers in India have less opportunity for shooting and racing than was formerly the case, and they are accordingly paying increasing attention to the game. The consequence is that there is more good polo there to-day than ever there was. A sequel not altogether satisfactory, but perhaps inevitable, is that the price of good polo ponies has gone up by leaps and bounds. The pony you could have bought for Rs. 500 in 1881 would have cost you from Rs. 1,500 to Rs. 1,800 to buy in 1900, and probably Rs. 2,000, Rs. 2,500, or Rs. 3,000 in 1911. Yet there are still plenty of moderate-priced animals to be bought by players willing to go to the trouble of making their own ponies. Arabs, walers (from Australia), country-breds, and ponies from England—all will be seen in good-class Indian polo.

The Game for Soldiers.—General Kavanagh, who was in command of a polo-playing regiment in India, declares that polo

is part of the military education of officers, and particularly mounted officers, and in India is by far the best game they can take up, as it is always at their door, available all the year round, and need not be expensive if they break and train their own ponies. "The mere fact of learning how to do this," adds General Kavanagh, "is a valuable education to mounted officers, and the actual game itself brings out all the best qualities of young officers, needing pluck, determination, quickness, and decision, and, above all, that instinctive sense of playing for their side and not for themselves, which is such a valuable quality in a soldier, whatever arm he may belong to." English players in India miss the green turf of the clubs at home, but the grounds there are hard and true, and, as a rule, faster than English grounds, which are so apt to become badly cut up and lumpy in a wet summer. In recent years the rules of the Hurlingham and the Indian Polo Association have been brought into line in many places where they formerly differed. There are, however, still various points of variance. The grounds are not protected by boards, as at home, so that play is more in the centre of the ground, each player doing what he can to prevent the ball from going over the side-lines. The limit of height for ponies is 14 hds. 1 in.

Introduction in England.—It has already been mentioned that polo was first



"COBNUT," A FAMOUS LIGHT-WEIGHT PONY, PLAYED BY MR. H. P. WHITNEY, OF AMERICA.

played in England in 1869. Three officers of the 10th Hussars were the first to take it up—namely, Messrs. St. Quintin, "Chicken" Hartopp, and Chaine. In a magazine article, Colonel St. Quintin

explains how it came about. "One day in 1860," he writes, "when the 10th were under canvas at Aldershot for the summer drills, 'Chicken' Hartopp, lying back in a chair after luncheon reading the *Field*, exclaimed, 'By Jove, this must be a good

used were in form like those used for hockey, of ash, and crooked at the end, and with these the ball was often struck a considerable distance. The distance between the goal posts was a little under 200 yards, and, the players having taken up positions



AMERICAN PONIES AT RANELAGH. A SHAMPOO BETWEEN THE PERIODS OF PLAY.

game!' and read us a description of 'hockey on horseback' in India." Their chargers, some sticks with crooked ends, and a billiard ball were at once requisitioned, with what result need not be described. It was soon seen that ponies were necessary, and when a number had been obtained from Ireland the game was taken up in earnest. The 10th Hussars found keen rivals in the 9th Lancers, who were then quartered at Hounslow, and they played the first inter-regimental match on Hounslow Heath. The following report of this historic game, as published in a London daily newspaper, will perhaps never lose its interest:—

"Nearly all fashionable London journeyed from town to Hounslow on Tuesday to witness a new game called 'hockey on horseback,' between the officers of the 10th Prince of Wales' Hussars, from Hounslow Barracks, and the officers of the 9th Queen's Royal Lancers, who had come over from Aldershot.

"The game took place on Hounslow Heath, and the various equipages quite surrounded the space allotted to the players. Four upright posts, some twenty feet apart, marked the goals, through which the ball (a small sphere of white bone) had to be driven by the players before either side could claim any advantage. The sticks

in front of their respective goals, the ball was thrown up in the centre of the ground by a sergeant major of the 10th Hussars, who then galloped off, when each side immediately galloped for the ball at best pace of their ponies.

"The 10th appeared in blue and yellow jerseys, and the 9th in particoloured shirts of blue and red, and both sides wore mob caps with different coloured tassels attached. The game, which has been imported from India, and which has been for a long time in vogue among the Munipoories, one of the frontier tribes, was watched with the keenest interest by the numerous and aristocratic company present. The game lasted for an hour and a half, with an interval of ten minutes, when half time had been played. The players, who number eight on each side, and who were mounted on active, wiry little ponies, about 12½ hands high, were as follows:—

10th Royal Hussars.
 Captain Barthorp
 Captain Bulkeley
 Captain St. Quintin
 Captain Okeden.
 Lieut. Viscount Valentia
 Lieut. Smith Dorrien
 Lieut. John J. L. Woods
 Lieut. E. Hartopp

9th Royal Lancers.
 Captain Clayton
 Captain Grissell
 Captain Palaret
 Lieut. P. Green
 Lieut. R. Moore
 Lieut. F. Herbert
 Lieut. Lord W. Beresford
 Lieut. W. F. Fife

"At the end of the prescribed time the Hussars had gained three goals, to two gained by the Lancers, and though the general remarks made it evident that the new game is one most fitted for cavalry soldiers, it was admitted by all who were looking on that it was more remarkable for the strength of the language used by the players than for anything else. Mr. Hartopp on the side of the 10th Hussars, and Mr. Moore on that of the Lancers, were much applauded for their activity throughout the game, and the speed of their ponies."

Early Days.—For some additional details of the first years of polo in England we may go back to Major Herbert's article in the previous edition of this *ENCYCLOPÆDIA*, for there could be no better authority. "The ponies used in those days," he wrote, referring to the time at which the 9th and the 10th fought their memorable contest at Hounslow, "were a mixed lot, from 13 to 14 hands, and as cantering was the fastest pace ever indulged in, small ponies were preferred, as from them it was easier to dribble the ball along. India-rubber and tennis balls were first used, but it was not long before the wooden ball was introduced. For many years after polo was started, the custom was to begin each game by

sticks, while standing over the ball, became the fashion. This eventually gave way to the present system, in which the ball is thrown in between the two sides lined out in centre of ground.

"For some years after this, polo in England made but slow progress. The game was entirely confined to certain cavalry regiments, the Royal Horse Guards being one of its greatest supporters, and it was principally through their exertions that the first real Polo Club was formed at Lillie Bridge. This gave a certain impetus to the game, and some rules and regulations were framed. The club was then under the management of soldier Hawkesley. In those days eight a side was still the rule. For some few years polo flourished at Lillie Bridge, and then the Hurlingham Club formed a ground and catered for polo players. This was the deathblow to Lillie Bridge, which soon after collapsed."

The Governing Body.—The first game of polo played at the Hurlingham Club took place before King Edward and Queen Alexandra on June 6th, 1874, and from that time its growth was uninterrupted. The Hurlingham Polo Committee, made up of members of the Club, was accepted as the governing body of the game, but in



Photograph by Sport and General.

HURLINGHAM, SHOWING THE BOARDS AND THE ROUNDED ENDS OF THE NO. 1 GROUND.

galloping for the ball—that is to say, each side started at a signal from behind their goal line, the ball being placed in the centre of the ground. Very amusing indeed were the incidents that arose through this rule. As the game got faster, this dangerous practice was abolished, and the crossing of

1903 it was thought desirable considerably to strengthen that Committee by the addition of representatives of other clubs and associations. In 1911 the Hurlingham Polo Committee, with Viscount Valentia as chairman, consisted of nine members of Hurlingham, with four representatives of the

County Polo Association, three of the Indian Polo Association, one of the South African Polo Association, four of the Army Polo

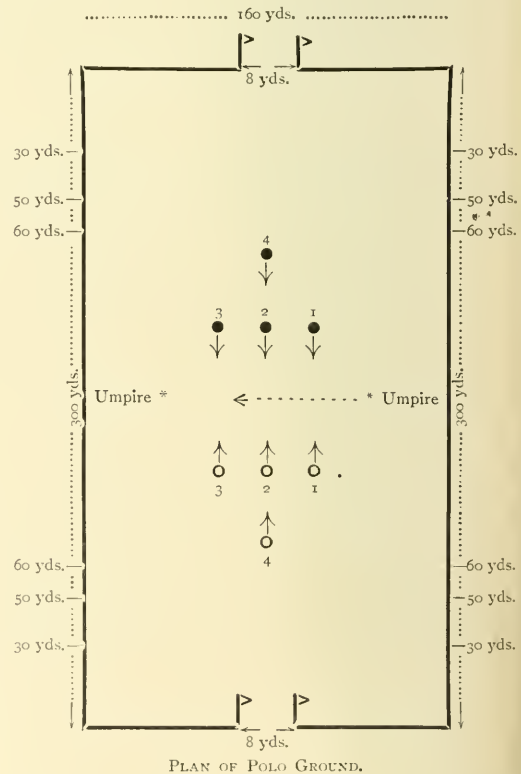


"RIDING HIM OFF THE BALL."

Committee, three of the All-Ireland Polo Club, and one of the Roehampton Club. The Ranelagh Club have declined to accept the invitation to appoint a representative on this Committee made to them in 1903. The Hurlingham Club is situated on the Middlesex side of the River Thames, at Fulham, and within a short distance of Putney Bridge. The Ranelagh Club was formed at Fulham (adjoining Hurlingham) in 1878, was removed to its present picturesque home at Barn Elms, on the Surrey side of the river, in 1883, and was reorganised upon the present lines in 1894. The Roehampton Club was founded in 1902 at Roehampton, near Barnes. The three clubs are within a short distance of each other, an advantage which is greatly appreciated by players. The first provincial club formed in England was the Monmouthshire, in 1872, by Major F. Herbert on his retirement from the 9th Lancers, and this example was gradually followed in other counties and country towns, the County Cup being first played for in 1885. The County Polo Association was established in 1899, with Mr. Tresham Gilbey as its first president.

The Ground.—The rules, which are given *in extenso* at the end of this chapter, stipulate that the goals be not less than 250 yards apart. A full-sized ground should not exceed 300 yards in length by 200 yards in width, if unboarded, and 300 yards in length and 160 yards in width if boarded. Not many grounds in England are full-sized, and good polo can be enjoyed on much smaller grounds. Major Herbert expressed the opinion that a rectangular shape should be adopted where possible, but many of the chief grounds, notably that

at Hurlingham, have their corners rounded off. The majority of grounds in England are boarded on either side, the boards being on the average 10 in. in height. It is advisable to bank up the turf several inches inside the barrier in order that the ball may roll back into play after contact with the boards. Those grounds which were formerly unboarded are, one by one, being provided with the side-barriers, which obviate much waste of time by keeping the ball in play, though it is to be feared that players strike the ball to gain the rebound from the boards far more frequently than is necessary, and Anglo-Indians almost invariably find this to object to in the barriers when they come home after a long spell of playing without boards in India. The diagram shows the proper arrangement of the boards and the slope of turf on the inside. The boards are nailed to wooden pegs, placed at intervals, and firmly fixed in the ground. It is now the custom to mark the 50 yards line for the enforcing of Penalty 1, and also the 60 yards line for Penalty 4. It is advisable to have a white



PLAN OF POLO GROUND.

spot to mark the centre of the ground when the ball is thrown in. The flatter the polo ground, the better, but a slope from the centre to the goals is not out of place.

Hurlingham's very fine ground has this characteristic.

A polo ground needs as much care as a cricket ground, perhaps more, because it comes in for rougher usage. It is, indeed, amazing to observe the recuperative powers

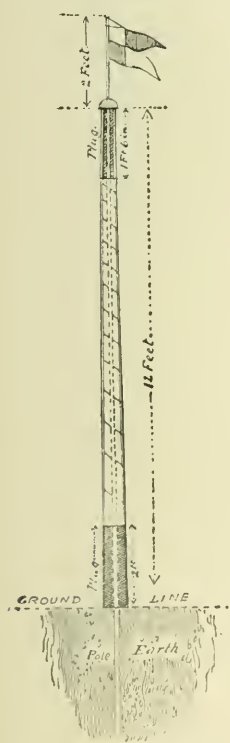


SECTION OF SIDE BOARDS.

of some of the chief grounds. At the end of an afternoon's play following rain they will seem to be scarified beyond redemption. On the morrow you will find few signs of the previous day's strife. "Treaders-in" must be employed to replace and stamp in the torn-up lumps of turf after a match when the going is on the soft side, and then the roller may be used. With skilful management and reasonably fair weather a London polo ground will last through three months' hard play, and look well at the end of it. The travelling of the ball obviously

depends largely upon the grass being kept tolerably short. It has been well said that nothing is more tiring and wearying than to play on a badly kept ground with grass that needs the mower. Watering in dry weather is practised at the London clubs, but in the country the majority of clubs regard this as a luxury beyond their reach.

Goals.—On this subject there is no change in the conditions as outlined by Major Herbert. Placed at each end of the ground in the centre of the back line, the posts are 8 yards apart. Goal posts can be made of any material, and they vary according to locality, but the most



SECTION OF GOAL POSTS.

approved are those made of Willesden paper, which have a substantial look, and yet are not dangerous in the event of a player coming into collision with them.

Very thin posts are objectionable, for they do not catch the eye sufficiently when trying to hit a goal. The sketch and section will show their construction. It is advisable to have a plug at the top in which a flag can be inserted; this protects the posts in bad



THE GOAL POSTS IN POSITION.

weather. The height of posts should be 10 feet.

Sticks.—A famous player has said that a good stick is almost as necessary as a good pony, and the dictum will not be disputed. The life of a stick is uncertain. A player will go through one match without changing, yet in his next game he may lose the heads of half-a-dozen sticks. Certainly the art of polo-stick making is not easily acquired, and only a few firms enjoy a high reputation in this direction. Hundreds of canes have to be rejected in the search for the right material; rubber grips and wrist loops require special attention; expert finish has to be given to that part of the stick where cane and head come together; and a particularly tough wood for the head has to be found. It would be almost impossible to find three first-class players who use precisely the same weight, length, and balance of stick.

Patterns Used by Famous Players.—In 1910 Capt. E. D. Miller was using the Le Gallais bamboo root head, with a cane 51 in. long, the whole being of the exceptionally light weight of 14 oz. Mr. George Miller has a cane of 52 in., with an Excelite No. 6 head, total weight 16 oz. Mr. Walter Jones's stick is much the same as the latter's, with the exception that he entirely dispenses with a loop head. Another member of the famous Rugby team, Mr. Charles Miller, has a fairly stiff cane with an Excelite Lloyd No. 1 head, and weight 17 oz. Major Neil Haig, perhaps the strongest hitter of his day, uses a very heavy, large, square head, and the late Mr. John Watson, at his best without a superior at back, favoured a tolerably light cane with an unusually large head. Mr. W. S. Buckmaster, the best English player in 1910 and for some years before, plays with a stick

of moderate length and a rather heavy head. I give these examples of the sticks which some of the best English players were using in 1910, but it should be added that the year in question saw something like a revolution in stick-heads in this country. The members of the American team which won the International Championship in the preceding season all used sticks with cigar-shaped heads. Whether rightly or wrongly, many players were inclined to attribute the

seasons with much success. Although more expensive than wooden balls, it is claimed for the Excelites that they maintain their shape and outlast about twelve wooden balls. The usual dress in England is brown leather butcher boots, now known as polo boots, white breeches of twill or other material, a tennis shirt or jersey (the latter is mainly worn by Army players), with polo cap or helmet. Every club should be furnished with a supply of waistcoats—green,



TYPES OF STICKS USED BY ENGLISH PLAYERS. FROM LEFT TO RIGHT—CYLINDER, SQUARE, "LE GALLAIS," "LLOYD," "CIGAR."

wonderful accuracy of the American striking to these cigar-shaped heads. The result was a boom in cigar heads in 1910, more of this shape being used here than ever before. Whether their popularity is destined to last cannot definitely be said. Probably they are best adapted for hard grounds, and Indian players largely favour them as well as the round heads. The photographs show the most popular American sticks, and those in chief demand in England. The canes are rattan or malacca, and for the heads sycamore is mostly in use. For the young player the best advice is to try different kinds and sizes until he finds the variety which suits him best. He can leave the rest to the maker of the sticks.

Balls and Other Accessories.—The balls are usually made from the willow-tree root. Though very tough, they are liable to split or chip, and at Roehampton a composition ball (Excelite) has been used in recent

red, yellow, and blue—so that teams may take the field in different colours. Scoring boards are, of course, an essential accessory of the game, and these have been much improved at the Ranelagh Club in recent years, a mechanical contrivance, showing the state of the score and the number of the period, having been a success. Clocks for timing the periods are another modern innovation, one invented by Mr. Aubrey Price giving much satisfaction at Hurlingham and other clubs.

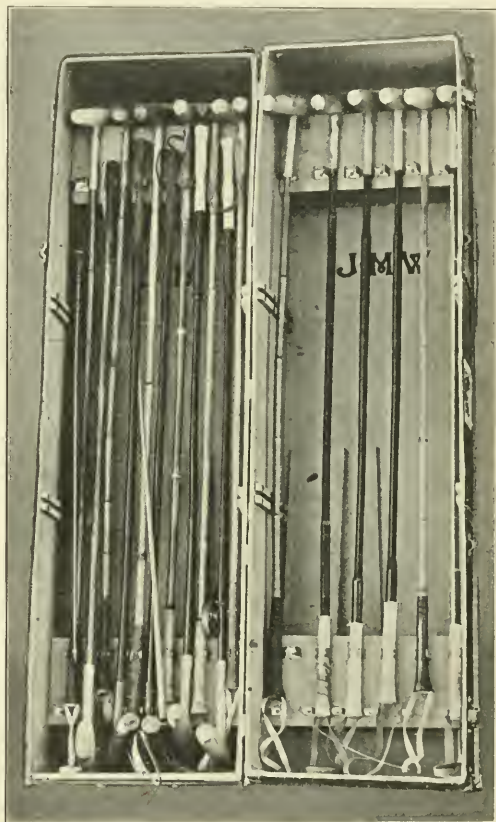
Science of the Game.—The science of polo developed greatly during the last decade of the nineteenth century. Up to that time the three brothers Peat, together with Mr. Frank Mildmay and one or two others, who formed the Sussex team, had the credit of being the first side to devote attention to the real principles of combination. All the Peats were magnificent hitters, and this, coupled with the fact that

they quickly learnt the value of interchanging places in the game, enabled them to beat all comers for many seasons. When the Peats dropped out of the game four a-side had superseded five a-side for good and all. Then the Millers came to the front to show in their turn what a well-drilled team of players could do. Prior to the establishment of their Rugby team it is questionable whether polo players in England had taken full advantage of the object-lesson given to them by the success of the Messrs. Peat. Polo owes a great deal to the Messrs. Miller for what they have done in developing its science.

Mr. John Watson's Influence.—For many years players were content to work on the lines taught by the late Mr. John Watson, who, on his return from India in 1884, exercised a very large influence in polo circles. He was the first to use and teach in England the back-hand stroke, which soon came into universal use in polo. Previously it was the custom of players to dribble the ball round in order to get in a forward drive upfield. Mr. Watson demonstrated that this was so much loss of time. It can almost be asserted that the back-hander mildly revolutionised polo in this country, making it infinitely quicker than before the introduction of the stroke. Under Mr. John Watson's system the No. 1 became something of a passenger in the game so far as hitting the ball was concerned. He was deputed to ride off the opposing back, and hardly ever to touch the ball so long as it was possible for his No. 2 to follow up and get in his hit. Naturally, an improvement upon Mr. John Watson's original style of combination was brought about by the Rugby, the Old Cantabs, the Roehampton, and other first-class teams, but the No. 1 still has by no means as good a time as the other players in the team. For this reason the position has become unpopular among players, and almost invariably the weakest man of the four is placed at No. 1. No doubt the rules of the game are responsible for the drawback which attaches to the position of No. 1. The off-side rule does not permit him to hit the ball unless he has one of the opposing side nearer than himself to the adversary's goal-line. Thus a clever back may continually be placing No. 1 in an off-side position, and by so doing he appreciably affects the latter's efficiency in the game.

American Skill and Combination.—The Americans introduced an entirely new system when they visited this country in 1909. In America there is no off-side rule, and though the visitors were called upon

to play under Hurlingham rules, they had little difficulty in settling down to the altered conditions. They showed that the no off-side game had enabled them to develop their striking into a high art. They showed amazing facility in hitting the ball when it was travelling at top pace. They proved wonderful goal-scorers at all angles. And, above everything else, they demonstrated



STICKS USED BY AMERICAN INTERNATIONAL PLAYERS, 1909.

that the No. 1 could be made an infinitely more useful member of the team than had been thought possible in this country. The greatest feature of their combination was long passing, usually from the side of the ground to the centre. It was interesting to see the perfect understanding which existed between the brothers L. and M. Waterbury. While the No. 2 would bring the ball down by the boards, his No. 1, instead of riding straight towards the goal, as an English No. 1 would probably have done, galloped level with him to the centre of the ground, ready to receive a long pass. This manœuvre frequently upset the English defence, and perhaps contributed as much as anything to our defeats in the International matches of 1909.

Change of English Style.—One result of those defeats was to make many of our leading players wonder whether the American system was not superior to our own. It was noticeable that in the following season (1910) the brothers R. and F. Grenfell modelled their play closely upon that of the two Waterburys. Playing in the Old Etonians' team, their tactics proved extremely successful. The Hurlingham Polo Committee now began to doubt whether the off-side rule was really such



SCHOOLING POLO PONIES. MR. TRESHAM GILBEY TRAINING A YOUNG PONY.

an advantage to the game as it had previously been believed to be. They determined to give the matter an exhaustive trial, and, as England had to play the next series of International matches without off-side, the Hurlingham Committee passed a resolution that all games and tournaments at their club should be played without the much-discussed rule in 1911. Many other clubs followed their lead. It is impossible in this article to foretell the result of this highly important experiment in English polo, but I have no doubt that the off-side rule, even if it is ultimately retained by the Hurlingham Committee, will be considerably modified. It is admitted that polo without off-side is the faster game, and, therefore, more severe upon the ponies. Consequently it was thought well in England to alter the length of the periods of play in 1911. Instead of dividing matches into six periods of ten minutes each, play without off-side consists of eight periods of $7\frac{1}{2}$ minutes each. A system of handicapping players by points was instituted in 1910, another innovation from

America. According to Capt. E. D. Miller, a leading authority, the main thing to cultivate at polo is elasticity. The ideal of a perfect team is that players may interchange as much as they like so long as there is one man in each place. It was on these lines that he captained the Rugby team from 1892, and helped them to gain great successes.

The game begins by each side lining up and facing its opponents in the centre of the ground as marked on the plan (page 358). No. 1 is nearest to the thrower-in of the ball, No. 2 and No. 3 are next, while No. 4 takes up a position slightly in the rear of his side. One umpire throws in the ball between the two rows of players, and as soon as that is done he and the other umpire take up a position on each side of the ground.

The Beginner in Polo.—It may be appropriate now to devote some attention to the novice, the man who is desirous of taking an active part in polo. You will probably not enter upon the game unless you are satisfied that you are a tolerably good horseman, yet it is well to bear in mind that the best riders have not always made the most successful polo players. It must, of course, be unreservedly admitted that good horsemanship is an aid to any player, but many indifferent riders have taken up the game with success, and found that it has helped immensely to improve their riding. One great advantage of the game is that it is not essential to begin in one's youth. The well-known American player, Mr. F. J. Mackey, never hit a polo ball until he was forty, and at sixty he was enjoying the game as keenly as ever. There are many other examples of men having started the game fairly late in life. Long after his sixtieth year the Earl of Harrington was an enthusiastic figure on the polo field, and we have seen father and son playing in the same match in several instances. There are many more first-class players over thirty years old than under that age. A good eye is as needful for success in polo as it is for success in racquets, cricket, or the majority of ball games.

Choosing a Mount.—Having decided to try his hand at polo, the novice will first of all need to think of his mount. He must not be frightened by the high prices which the best ponies fetch, because he will not want a Cobnut, a Gozo, a Maystar, or an Energy to begin with. Rather does he require a quiet, seasoned old pony, which, even if he has no great amount of pace, has at least seen a good deal of play, and has none of the faults of badly schooled young ponies.

such as being "ball shy" or awkward to stop, start, and turn. The end of the season will be the time to buy a steady pony of this type, and the price should be something from £40 to £60. Having obtained your mount and practised a little at bending and turning, you can begin to knock the balls about in any field that may be available. Remember to try to hit always with the object of sending it in a certain direction, fixing on some distant mark on the ground, or some imaginary posts to get through. When he plays the game in earnest the novice will be required to make every stroke tell, either in defence, or in midfield passing, or in aiming at goal. Some hints will be needed from an experienced player as to the manner of holding the stick for forward strokes and back-handers. The novice cannot have too much practice in striking. When on his pony, he should have several balls in use, and a boy to bowl them to him. He will also greatly improve his hitting by using a practice court, a contrivance in which the player, seated on a wooden horse, is continually hitting at balls that come to him at all sorts of angles. Mr. Gordon Withers, of Oxford Street, London, is the inventor of a practice court, which is of very great value to the players in helping them to "get their eye in."

Strokes to Master.—The strokes the young player has to master are (a) the forward drive, which is a good square hit at the ball on the off-side; (b) the slice to the off, by which the ball is centred to the player's right, a rather difficult hit for the novice, but one which the player in good-class polo must be prepared to make many times; (c) the near-side stroke, which is essential for any player who is so hustled as to be unable to use his stick on the right side; (d) the stroke under the pony's neck, which is often needed in front of goal, either for scoring or hitting the ball out of the danger zone; and (e) the back-hander, which is varied according to whether the striker wishes to send the ball immediately behind him, or to the off, to the near side, or under his pony's tail. For all these strokes the wooden horse and the practice court will come in useful, but naturally there is nothing like real action, and the novice before long must join in members' games, which will give him his first taste of strenuous polo. He will find it not easy to get in his hit when an opponent is boring in heavily with the object of riding him clean off the ball. By this time the novice will probably possess a second pony, bought, like the first, with the recommendation of

being "handy and easy to play." After members' games the player will be qualified to take part in his first sixty minutes' match, and if he now shows real aptitude and keenness for the game he may count upon summers of great enjoyment in one of the finest pastimes ever devised for the benefit of active man.

No. 1 and his Duties.—The novice's first place in the game is usually at No. 1, and this position under Hurlingham rules, as already noted, has come rather into disfavour; but it is absurd to suppose that the



[Photograph by Sport and General.
A POLO PONY BROOD MARE, "PATRICIA," AND FOAL.

No. 1's duties are unimportant. Indeed, much more rests on him than is usually imagined, and in many big matches a good No. 1 has made all the difference between success and failure. Many think it unfortunate that the opposing back should have it in his power to so easily place No. 1 off-side, and new legislation on this point may be pending. "Never take your eye off the back," is Mr. Buckmaster's advice to No. 1's; "never let the ball come up to him, and never get more than a few lengths away from him." Put briefly, it is the chief duty of the No. 1 to stop the back from getting the ball. He must always be looking out for chances to crook the back's stick or else to bump into him sharply and take him away from the ball. In hitting the ball, the No. 1 must on no account send it straight towards the opposing back, but direct it so that his No. 3 or No. 2 may be enabled to take the pass and get away with the ball on the gallop. A maxim to note is that the more you worry the back, the more likely he is to be knocked off his best game. A No. 1 must implicitly obey the

instructions of his No. 2. Any failure to do this will quickly spoil the combination of his side and weaken its powers of attack.

The No. 2.—At the same time the No. 2 may be warned not to ask his No. 1 to attempt impossibilities. He himself should play No. 1 occasionally, so as not to lose sight of the possibilities of the latter position. The No. 2 is required above all to be adept at (a) the "cut-in" stroke to the right, and (b) the back-hander under his pony's tail. Both strokes are essential for centring the ball; the first when he is galloping on the left side of the ground, and the other when he is by the boards on the right side. He should be careful not to take the ball too acute an angle before attempting to centre. He will have more opportunities of goal-hitting than any other member of the team, so should assiduously practise shooting. The duty of No. 2 is to watch the opposing No. 3, to attempt to forestall his movements, and to harass him when he has the ball. Unless in very special circumstances, No. 2 should not get far back in the game; he should leave defence to his No. 3 and back, and be ready to swing his pony round and get a quick start if the ball is sent on to him. The No. 2 has to do almost everything at racing pace, and for real efficiency he and his No. 1 must be perfectly interchangeable, and there must be a real understanding between them.

No. 3 and Back.—Modern polo teams are run in couples so far as the ethics of combination are concerned. The No. 1 and the No. 2 form one pair, and the No. 3 and the back the other. If the back is meeting the ball or going up into the game, it is a cardinal principle that the No. 3 shall drop back to cover him. The No. 3 is familiarly known as the pivot of the team. As well as being engaged in defence, it is his part to drive the ball up to his No. 2, and be so master of his strokes as to be able to place the ball either to the right or left of the No. 2, so that the latter can carry it on to the best advantage. Usually the No. 2 will want the ball on the off-side. The No. 3 must always guard against two opponents simultaneously harassing the back. Mr. Buckmaster, the best man of his day in this position, says it is quite necessary that No. 3 should reduce the hitting of back-handers on both sides of his ponies to a certainty, and should also practise diligently at meeting the ball. The back is a defender of his goal, and a "feeder" of his forwards pure and simple. He should never make runs in the real sense, though I have seen a genius like Mr. Devereux Milburn, the American back, take the ball the whole

length of the field and score brilliantly. That, however, is an exceptional achievement, and for the most part the objects of the back are (1) to defend his goal and (2) to place the ball so that his side can get it. Obviously, the position is eminently responsible, and the most experienced player on the side usually fills it. A polo team may be best captained from back or No. 3.

Polo Ponies.—"There are so many different sorts of polo ponies used in the game that it is difficult to lay down any fixed rule as to the best, but the accepted type is a 'miniature thorough-bred carrying hunter.'" That is as true to-day as when Major Herbert wrote it for his article years ago. He divided polo ponies into four classes, viz., the English-bred polo, the Arab pony, the Barb pony, and the Argentine pony. Since that time considerable changes have been made in polo pony breeding. The Arab and the Barb have practically dropped out of English polo, although there are still some good ones being played. As a rule, the Eastern pony is not big enough or fast enough to compete with English thorough-breds or three-part bred ponies of 14 hands 2 in. There are many Argentine ponies in England, and they give satisfaction in ordinary club polo, but when it comes to championship or International polo they scarcely compare favourably with the home-bred article. There are a few Argentines in this country of the highest quality, but as a rule the South American pony does not quite come up to the best standard. Major Herbert described the English pony as a "chance production," which could not be claimed as an absolutely definite type. In 1911, however, that opinion could not be made without bringing contradiction and arousing considerable controversy.

Breeding to Type.—The establishment of the Polo and Riding Pony Society has done a great deal to fix the type required for high-class polo. Breeders like Sir John Barker and Mr. Tresham Gilbey are producing ponies to polo type with considerable success. These gentlemen, as well as others, are using as many suitable mares that have been played in polo as they can get, and are mating them with small thoroughbred stallions. Two ponies bred on the lines advocated by the Polo and Riding Ponies' Society—by a registered or entered sire or out of a registered or entered dam—namely, Tubby and Marquis, were chosen to play for England in the International matches at Hurlingham in 1909. A number of other polo-bred ponies were played in first-class polo in 1909 and 1910, and there seems to be every reason to believe that the problem

of breeding ponies specially adapted for the game has at last been satisfactorily solved.

Price of Ponies.—It was admitted that the stud of ponies brought to England by the Meadowbrook team in 1909 were the finest lot ever got together for the use of a single team. Many of them belonged to the American captain, Mr. Harry Payne Whitney, most of the others being loaned to the team by patriotic American players. Although these ponies did their full share in bringing about England's downfall, it was at least satisfactory to the breeders of this country to know that the majority of the mounts had been bred in England and Ireland. It was difficult in 1910 to buy a really first-class tournament pony at much less than 200 guineas, and sometimes his value would be as much as 500 guineas. As a fact, a number of ponies have changed hands since 1900 at the latter price, and some have fetched even more when sold privately. But the price made by Sailor as far back as 1898—namely, 750 guineas—still remains as a record for a pony sold by auction.

Training the Pony.—The training of a polo pony is a subject which cannot be properly dealt with in the brief space now at my disposal. It must always be remembered that no pony should be taken into a game until it is thoroughly schooled, and then assuming that it is just four years old, it should only be used in slow cantering games, and never on any account taken into a match until it is five years old. This is the advice given by Mr. Tresham Gilbey and Mr. A. M. Tree in Vol. XI. of the *Polo and Riding Pony Stud-Book*, and those breeders and players who are anxious to educate ponies for the game could not do better than study that article, which deals with the essential details of mousing, bridling, and biting, first lessons with the saddle on, lessons at turning, lessons with stick and ball, and exercising. Patience and delicate hands are necessary for successful training, but the work is exceedingly congenial to many sportsmen, and can be made remunerative.

Polo in all its branches has made enormous strides during the last few years. What further changes are yet in store for it?

ARTHUR W. COATEN.

RULES AND REGULATIONS.

*1.—The height of ponies shall not exceed 14 hands 2 inches, and no pony shall be played either in practice games or matches, unless it has been registered in accordance with the Rules of Measurement. (Penalty 9.)

* Subject to local alterations, except in the United Kingdom.

2.—No pony showing vice or not under proper control shall be allowed in the game. (Penalty 10.)

3.—The goals to be not less than 250 yards apart, and each goal to be 8 yards wide.

A full-sized ground should not exceed 300 yards in length by 200 yards in width, if unboarded; and 300 yards in length and 160 yards in width if boarded.

4.—The size of the balls shall not exceed 3½ in. in diameter, and the weight of the ball shall not exceed 5½ oz.

5.—Each side shall nominate an Umpire, unless it be mutually agreed to play with one instead of two; and his or their decisions shall be final. In important matches, in addition to the Umpires a Referee may be appointed, whose decision in the event of the Umpires disagreeing shall be final.

6.—The Umpire shall carry a whistle, which he shall use as required. If the Umpire blow his whistle the ball is dead, but if the other Umpire disagrees, a Referee shall be called in, who, after consulting both Umpires and taking any necessary evidence, shall decide on the course to be pursued.

Any infringement of the Rules constitutes a foul. In case of an infringement of Rules 20, 22, 23, 25, 26, 28, 29, 30, and 31, the Umpire shall stop the game; and in the case of infringement of Rule 27 the Umpire shall stop the game on an appeal by anyone of the side which has been fouled.

7.—An official Timekeeper and Scorer shall be employed in all games and matches.

8.—The number of players contending is limited to four a-side in all games and matches.

9.—The game commences by both sides taking up their position in the middle of the ground, and the Umpire throwing the ball into the centre of the ground between the opposing ranks of players.

*10.—The duration of play in a match shall be one hour, divided into 6 periods of ten minutes each, with an interval of three minutes after each period except the third (half-time), when the interval shall be five minutes.

The first 5 periods of play shall terminate as soon as the ball goes out of play after the expiration of the prescribed time, or on boarded grounds, when the ball strikes the boards; any excess of time in any of these periods, due to the ball remaining in play, being deducted from the succeeding periods.

On play being resumed, the ball shall be thrown in as laid down in Rule 15.

The last period shall terminate, although the ball is still in play, at the first stroke of the final bell, wherever the ball may be.

In case of a tie the last period shall be prolonged till the ball goes out of play, and if still a tie, after an interval of five minutes, the ball shall be started from where it went out of play, and the game continued in periods of ten minutes, with the usual intervals, until one side obtain a goal, which shall determine the match.

11.—The bell shall be rung to signify to the players that the ten minutes has expired, and it shall be rung again when the ball next goes out of play, to indicate the time for changing ponies.

12.—(a) With the exception of the intervals allowed in Rule 10, play shall be continuous; any change of ponies, except according to the above provision, shall be at the risk of the player.

* Subject to local alterations, except in the United Kingdom.

(b) When a foul is allowed by the umpire, the time shall be deducted from the period till the game starts again. The ball is dead till the umpire says "Play."

13.—If the ball be hit behind the back line by one of the opposite side, it shall be hit off without delay from where it crossed the line, but at least 12 ft. from the goal-post, after giving the opposing side reasonable time to get to the 30 yards line. None of the attacking side shall be within 30 yards of the back line when the ball is hit off. (Penalty 5.)

N.B.—There must be no unnecessary delay. (Penalty 6.)

14.—If the ball be hit behind the back line by one of the defending side, penalty 4 shall be exacted, provided the ball does not glance off another player or another pony. (Penalty 4.)

15.—When the ball is hit out, it must be thrown into the ground by the Umpire from the exact spot where it went out, in a direction parallel to the two goal lines, and between the opposing ranks of players, no player to stand within 5 yards of the side line. There must be no delay whatsoever on any consideration for absent players.

16.—The ball must go over and clear of the boundary line to be out.

17.—A goal is gained when a ball passes between the goal-posts and over the goal line. If a ball is hit above the top of the goal-posts, but in the opinion of the Umpire, between those posts produced, it shall be deemed a goal.

18.—The side that makes most goals wins the game.

19.—Ends shall be changed after every goal, or if no goal have been obtained, after the 3rd period. After a goal has been scored the game shall be restarted from the centre of the ground as described in Rule 9.

20.—A player may ride out an antagonist, or interpose his pony before his antagonist, so as to prevent the latter reaching the ball, but he may not cross another player in possession of the ball, except at such a distance that the said player shall not be compelled to check his pony to avoid a collision. (Penalty 1.)

If two players are riding from different directions to hit the ball, and a collision appears probable, then the player in possession of the ball (that is, who last hit the ball, or if neither have hit the ball, the player who is coming from the direction from which the ball was last hit) must be given way to.

(i.) Any player who follows the exact line of the ball from the direction from which it has been last hit, is in possession of the ball rather than any player coming from any other direction.

The last striker is in possession provided that no other player can, without causing the striker to check his pony to avoid a collision, get on the line of the ball in front of him. Under these circumstances the last striker may not ride into the adversary from behind, but must if necessary take the ball on the near side of his own pony.

No player shall be deemed to be in possession of the ball by reason of his being the last striker if he shall have deviated from pursuing the exact course of the ball.

(ii.) Any player who rides to meet the ball on the exact line of its course is in possession rather than any other player riding at an angle from any direction.

(iii.) Any player riding from the direction from which the ball has last been hit, at an angle to its course, has possession rather than any player riding at an angle in the opposite direction.

(iv.) If two players are riding from the same direction, that player is in possession whose

course is at the smallest angle to the line of the ball.

(v.) If two players are riding from opposite directions to hit the ball, one of these being a left-handed player, the latter must give way.

N.B.—The line of the ball is the line of its course, or that line produced at the moment any question arises.

21.—No player shall play with his left hand, except left-handed players registered at Hurlingham during 1907.

22.—No player shall ride dangerously. (Penalty 1.)

As for example:—

(a) Bumping at an angle dangerous to a player or his pony.

(b) Zigzagging in front of another player riding at a gallop.

(c) Pulling across or over a pony's forelegs in such manner as to risk tripping the pony, &c., &c.

23.—No player shall use his stick dangerously. (Penalty 1.)

24.—In the case of a player being disabled by a foul, penalty 8 may be exacted by the side that has been fouled, and penalty 1 shall be exacted in any case.

25.—No player shall seize with the hand, strike, or push with the head, hand, arm, or elbow, but a player may push with his arm, above the elbow, provided the elbow be kept close to his side. (Penalty 1 or 2 or 3.)

N.B.—Penalty 1 shall only be exacted if the Umpire considers the play dangerous.

26.—(a) No player shall crook an adversary's stick, unless he is on the same side of an adversary's pony as the ball, or in a direct line behind, and his stick is neither over nor under the body nor across the legs of an adversary's pony. The stick may not be crooked unless an adversary is in the act of striking at the ball. (Penalty 2 or 3.)

(b) If a player in attempting to strike the ball across the forelegs of an adversary's pony crooks the latter's stick, this constitutes a foul unless he succeeds in striking the ball.

27.—No player who is offside shall hit the ball, or shall in any way prevent the opposite side from reaching or hitting the ball. (Penalty 2 or 3.)

A player is offside when at the time of the ball being hit he has no one of the opposite side nearer the adversaries' goal line, or that line produced, or behind that line, and he is neither in possession of the ball nor behind one of his own side who is in possession of the ball. The goal line means the eight-yard line between the goal-posts. A player, if offside, remains offside, until the ball is hit or hit at again.

28.—A player may not carry the ball. In the event of the ball lodging upon or against a player or pony, it must be immediately dropped on the ground. (Penalty 2 or 3.)

29.—No player shall intentionally strike his pony with the head of his polo stick. (Penalty 2 or 3.)

30.—Should a player's stick be broken, he must borrow one from one of his own side, or ride to the place where sticks are kept and take one. In the event of a stick being dropped he must either pick it up himself, borrow one from one of his own side, or ride to the place where sticks are kept and take one. On no account may a stick be brought on to the ground (Penalty 2 or 3.)

31.—No dismounted player is allowed to hit the ball or interfere in the game. (Penalty 2 or 3.)

32.—If the ball be damaged, the Umpire shall, at his discretion, stop the game, and throw in a

new ball as near as possible to where the ball is when the whistle sounds, towards the nearest side of the ground, in a direction parallel to the two goal lines and between the opposing ranks of players.

N.B.—It is desirable that the game shall be stopped and the ball changed when the damaged ball is in such a position that neither side is favoured thereby.

33.—If a player leaves the game in order to change a pony, or to get a fresh stick, or for any other purpose, the penalty for offside cannot be exacted against the opposing side until the return of the player into the game.

N.B.—The definition of the word "game" is "under the umpire's eye."

34.—No person allowed within the arena—Players, Umpires, Referee, and Manager excepted.

35.—If a pony falls, or if a player or a pony be injured, the Umpire shall stop the game.

If a player falls off his pony, the Umpire shall not stop the game unless he is of opinion that the player is injured.

What constitutes a fall shall be left to the decision of the Umpire.

N.B.—On play being resumed, the ball shall be thrown in, where it was when the game was stopped, and in the manner provided for in Rule 32.

36.—No blinkers, or spurs with rowels, are allowed; no pony blind of an eye is allowed to play.

37.—In the case of a penalty being incurred towards the end of a match, and there not being time to exact the penalty before the final bell rings, "one minute extra shall be allowed" from the time the ball is hit or hit at in carrying out the penalty.

38.—In Tournaments if a player having taken part in the Tournament for any reason be unable to play, he may, with the consent of the Committee of the Club where the Tournament is held, be replaced by any player who by the Rules of the Tournament is qualified, provided the said player has not already competed in another team.

39.—The decision and injunctions of the Umpire must not be disregarded or questioned. (Penalty 7.)

40. In the event of a game being stopped by darkness, weather, or for any cause which prevents a finish the same day, it shall be resumed on the first convenient and agreed opportunity in the usual manner.

41.—Should any incident or question not provided for in these Rules arise, such incident or question shall be decided by the Umpire or Umpires. If the Umpires disagree, a Referee shall be called in, whose decision shall be final.

PENALTIES.

Penalty 1.—A free "hit at" the ball from a spot 50 yards from the goal line of the side fouling, opposite the centre of goal, or, if preferred, from where the foul occurred; all the side fouling to be behind their back line until the ball is hit or hit at, but not between the goal-posts, nor when the ball is brought into play may any of the side ride out from between the goal-posts. None of the side fouled to be nearer the goal line produced than the ball is, at the moment it is hit or hit at.

Penalty 2.—A free "hit at" the ball from where it was when the foul took place, none of the side fouling to be within 20 yards of the ball. The side fouled being free to place themselves where they choose.

Penalty 3.—The side fouling take the ball back and hit it off from behind their own goal line, from the centre of goal, none of the side

fouled to be within 30 yards of the goal line produced, the side fouling being free to place themselves where they choose.

Penalty 4.—A free "hit at" the ball, from a spot opposite where the ball was hit behind and 60 yards distant from the "goal line produced," none of the side fouling to be within 20 yards of the ball. The side fouled being free to place themselves where they choose.

Penalty 5.—In the case of failure to correctly carry out:—

(a) Penalties 1, 2, and 4, *by the side fouling*—a second free hit at the ball if a goal has not been scored.

(b) *Penalty 1, by the side fouled*—a hit out from behind by the other side from the centre of goal, the defending side being free to place themselves where they choose.

(c) *Penalty 3, by the side fouled*—a second hit out from behind.

(d) *Rule 13, by the attacking side*—a second hit out from behind.

(e) When Penalties 1, 2, 3, and 4 are not properly carried out, or Rule 13 is infringed by both sides simultaneously, the ball shall be hit or hit at, as the case may be, from the same spot as before.

Penalty 6.—In the event of unnecessary delay in hitting out the ball, the Umpire shall call on the offending side to hit out at once; if the Umpire's request is not complied with he shall bowl in the ball underhand, at the spot where the ball crossed the back line at right angles to the goal line or "goal line produced" as hard as possible. In this case the penalty for an offside shall not be claimed against the attacking side should no one of the defending side be between them and the goal line produced, or behind that line.

Penalty 7.—The offender warned off the ground for remainder of Match, no substitute allowed to take his place.

Penalty 8.—Designation of any of the players on the side fouling, who shall retire from the game. The game shall be continued with three players aside, and if the side fouling refuse to continue the game, it shall thereby lose the match.

Penalty 9.—Disqualification of team offending.

Penalty 10.—The pony ordered off the ground.

CONDITIONS FOR CUP TOURNAMENTS.

Champion Cup Conditions.

- 1.—Open to any Polo Teams.
- 2.—The entries, naming colours, to be made on or before 5 p.m., on the Wednesday prior to the week of competition.
- 3.—The respective Teams to be drawn and the said draw to take place on Wednesday, at 5 p.m., prior to the week of competition.
- 4.—The Captain of each Team to name his four players at time of entry.
- 5.—Unless three Teams contend, the Cup may be withheld.

RULES OF MEASUREMENT.

1.—The measurement shall be made by an Official Measurer under the supervision of the Polo Committee. Such Official Measurer shall be appointed by the Committee, and shall be a duly qualified Veterinary Surgeon.

2.—The Official Measurer shall attend at Hurlingham for the purpose of measuring ponies on certain days which shall be advertised on the front page of the *Morning Post*.

3.—The person presenting a pony for measurement at Hurlingham must give it a name, and pay to the Manager a fee of 10s. before the pony can be measured. (Particulars as to the measurements and fees at other places may be obtained from the Manager.)

4.—Ponies aged 5 years and upwards may be measured and registered for life; ponies under 5 years can be registered for the current season only. The Official Measurer shall determine the age of the pony.

5.—No pony shall be registered for life between January 1st and March 31st (both dates inclusive) unless at least two permanent corner incisor teeth are actually through the gum; and on and after April 1st a pony must have a complete mouth of permanent incisors to obtain a Life Certificate.

6.—A pony shall not be measured if he appears to have been subjected to any improper treatment with a view to reduce his height, or if he is in an unfit state to be measured. If a pony is rejected under this Rule, he shall not be presented again for measurement until the following season, and the name of the owner of such pony shall be reported by the Official Measurer to the Hurlingham Polo Committee.

7.—The measurement shall be made with a standard approved by the Club, and in a box with a level floor specially erected for the purpose.

8.—Neither the owner of the pony nor his servant shall on any account enter the box during the measurement, nor shall any other person be admitted unless specially authorised by the Official Measurer, but members of the Polo Committee shall have a right to attend the measurement when their own ponies are not being measured.

9.—The pony shall stand stripped on the level floor, and the measurement shall be made at the highest point of the withers.

10.—The pony shall be held by a person deputed by the Official Measurer.

11.—The head shall be held in a natural position.

12.—The forelegs from the point of the shoulder, and the hind legs from the back downwards, shall be as perpendicular to the floor and as parallel to each other as the conformation of the pony allows.

13.—The wither may be shaved, but the mane must not be pulled down, nor the skin of the neck or wither in any way interfered with.

14.—Ponies may be measured with or without shoes, but no allowance shall be made if the shoes be retained.

15.—Certificates of height issued by the Indian Polo Association and South African Polo Association will be accepted at Hurlingham provided the standard height in those countries does not exceed 14 hands 2 inches.

16.—The Official Measurer is authorised to give 14.1 certificates for India.

17.—Any person who is dissatisfied with the determination arrived at may, by a written application, presented to the Manager within seven days from the time of measurement, apply for a re-measurement. Such re-measurement shall take place in the presence of one member of the Polo Committee, and on the first convenient day which may be appointed, and his decision shall be final. The charge for measurement on appeal shall be according to the usual scale.

18.—No pony shall be re-named, nor re-registered at Hurlingham, without a declaration of the previous owner's name, and the pony's previously registered name. Failure to comply with this Rule shall be reported to the Hurlingham Club Polo Committee, and may render the person responsible for such re-naming or re-registration liable for disqualification from playing at Hurlingham, and shall render the pony liable to permanent exclusion from the "List of Polo Ponies registered at Hurlingham."

RULES OF THE COUNTY POLO ASSOCIATION.

Constitution.

1.—That the Association be called the County Polo Association.

2.—The Association shall be open to all affiliated County Polo Clubs, duly elected, whose Club ground or grounds have been reasonably played upon during the current season, and whose ground or grounds are outside the Metropolitan area, that is, a radius of eight miles from Charing Cross (not being Service or Garrison Polo Clubs); also to the Universities of Oxford and Cambridge. Such Clubs shall have printed rules and a list of Members, which shall be annually lodged with the Secretary of the County Polo Association on or before May 1st. For the purpose of this rule Service and Garrison Polo Clubs are Clubs which are only open to Service playing members, and to which Civilian playing members are not admitted.

3.—Each Club shall be represented by one Delegate.

Annual General Meeting.

4.—There shall be an Annual General Meeting of the Delegates, to be called the Council, of whom five shall form a quorum, who shall elect a Committee of Management, to consist of not less than five in number, of whom three shall form a quorum.

Election of Clubs and Annual Subscription.

5.—Each Club of the Association shall pay an Annual Subscription of Two Guineas.

6.—Any Club desiring to be elected to the Association shall send in an application to the Secretary, who shall bring it before the Committee at their next Meeting for consideration.

7.—Polo Clubs joining the Association shall play under Hurlingham Rules.

Annual Tournaments.

The County Cup and the Junior County Cup.

8.—Tournaments shall be held annually, to compete for two Challenge Cups—the County Cup and the Junior County Cup—which shall be held by the respective winning teams for the year. Both Competitions shall consist of Preliminary Divisional Tournaments and Tournaments—Semi-finals and Finals—to be played at Ranelagh in July.

Divisions.

9.—For the purposes of the Divisional Tournaments, the Country shall be divided into four divisions:—*Northern, Midland, South-Eastern, South-Western*, and a map with the divisions marked thereon shall be forwarded to each Honorary Divisional Secretary.

Divisional Secretaries.

10.—Honorary Divisional Secretaries shall be appointed to arrange for ties in each Tournament to be played in their respective divisions by July 8th between all the clubs desiring to compete. Entries for the Divisional Tournaments close to the Hon. Secretary of the Division on June 12th, and must be made upon the printed form to be obtained from him.

Divisional Ties.

11.—In future the divisional ties of the County Cup and of the Junior County Cup shall be played as far as possible in rotation on the grounds of the clubs affiliated in each division. A Club not playing a team either in the County Cup or Junior County Cup shall forfeit its turn to have the tie played on its ground. But it shall be within the power of the Honorary Divisional Secretary to select the ground of the Club in his Division which he considers most suitable as regards situation, regulation size, means of access,

accommodation, and in other points most convenient for the majority of the Clubs which have entered for the Competitions.

Boarded Grounds.

12.—All Cup Ties shall be played on boarded grounds, unless such grounds are not available.

Conditions of Eligibility for Teams.

County Cup.

13.—The County Cup shall be open to the members of all affiliated County Polo Clubs, provided the aggregate number of points under which the four players are handicapped does not exceed 22.

Junior County Cup.

14.—The Junior County Cup shall be open to the members of all affiliated County Polo Clubs, provided the aggregate number of points under which the four players are handicapped does not exceed 14.

NOTE.—Neither Tournament will be played under a goal handicap, but both Tournaments shall be played without the "off-side rule." A match will consist of eight periods of 7½ minutes each.

Conditions of Eligibility for Players.

15.—No one shall be eligible to play for his Club in the County Cup or Junior County Cup Tournaments, unless he became a Member of such Club before May 1st of the current season, and has not played less than eight times on his Club Ground before June 12th, and not more than six times in all on grounds within the prescribed Metropolitan area prior to the above latter date, except in matches for his country Club, or (in case of an officer on full pay) for his Regiment.

Claim on Players.

The affiliated Club nearest to the residence of any of its Members shall have the first claim on their services in County Cup Tournaments.

Official Handicap of the County Polo Association.

No one shall be eligible to play for his Club in the County Cup or Junior County Cup unless his official handicap has been lodged by the Hon. Secretary of his Club and has been approved by the Committee of the County Polo Association, such handicap to be sent to the Secretary of the County Polo Association not later than June 1st.

Attendance Book.

The Hon. Secretary of each Club shall keep a book in which the attendance of Members taking part in Club Games shall be entered, and if called upon he shall forward same to the Secretary of the County Polo Association for qualifying purposes.

Ponies.

16.—Ponies played in the County Cup or Junior County Cup Tournaments to belong to Members of the competing Clubs.

Officers.

17.—Officers on full pay shall be eligible to play for the County Cup or Junior County Cup, provided they are Members of the affiliated Club, and are duly qualified.

Responsibility of Hon. Secretaries.

18.—The Hon. Sec. of each Club shall be held responsible for the qualifications of each Member of the team entered from his Club.

Substitution of Players.

19.—Should any team fall short after the names are once sent in, another Member, properly qualified, may, with the consent of the Divisional Secretary, be substituted. All matters connected with the Tournament (semi-finals and

finals) shall be decided by the Committee of Management.

Time when Full Team must be on Ground.

20.—If the full team is not on the ground within fifteen minutes of the time for play, it shall be deemed to have scratched.

Entry Fees.

21.—There will be an Entrance Fee of £2 2s. for each team, and any number of teams may be entered from the same Club. Where more than one team is entered from the same Club, they may play off the tie on their own grounds.

Date for Names of Semi-Finalists.

22.—The names of the teams left in for the semi-final Tournaments must be forwarded to the Secretary of the County Polo Association so as to reach him first post on July 10th.

Results of all Matches.

23.—The Divisional Secretaries must advise the Committee of the dates of all matches and the ground where play will take place before they are played, with the names of the players and the Club colours, and also of the result immediately afterwards, with names of Umpires and Timekeeper.

Expulsion of Clubs.

24.—Should any affiliated Club through its Officers, Members, or otherwise, conduct itself in such a manner as, in the opinion of the Committee, is prejudicial to the interest and good order of the Association, the Committee may, by a majority of those present at the meeting, expel such Club.

Dewar Cup.

DEWAR CUP.—Will be awarded in 1911 to the winning team in the Division from which the largest entry for the County Cup is received.

Divisional Cups.

The COUNTY POLO ASSOCIATION will give cups to members of the winning teams of the County Cup in each division, provided not less than three Clubs compete in such division for the County Cup.

Junior County Cup.

The conditions under which the Blackmore Vale Club presented the Challenge Cup provide that the ties in the South-Western division will be played on the grounds of that Club, should they so desire. And the Ranelagh Club will annually present a cup to each member of the winning team in the South-Western division.

HURLINGHAM CLUB.

Form for Description of Pony presented for Measurement.

| Owner's Name. | Pony's Name. | Colour. | Sex. | Age. | Distinctive Marks. |
|---------------|--------------|---------|------|------|--------------------|
| | | | | | |

Date.

Signature of owner.

Bibliography.—The following books and periodicals constitute the chief modern works on polo, outside of the information to be obtained at the British Museum: *Polo (Badminton Library)*, J. Moray Brown; *Polo*, J. Moray Brown (Vinton and Co.); *Polo in India*, G. J. Younghusband;

Modern Polo, Capt. E. D. Miller; *Station Polo*, "Lucifer"; *Hints to Polo Players in India*, Capt. H. de B. De Lisle; *The Game of Polo*, T. F. Dale; *Polo: Past and Present* (Country Life Library), T. F. Dale; *Polo*, T. B. Drybrough; *The Polo Annual*, L. V. L. Simmonds; *Polo Players' Guide and Almanack* (annually), Capt. E. D. Miller; *Hints for Polo Combination*, Walter Buckmaster; *The Polo Player's Diary Illustrated* (annually), "Rallywood" (Arthur W. Coaten); *Polo and Riding Pony Stud Book*; *The Polo Monthly*, L. V. L. Simmonds.

PRAIRIE CHICKEN.—Of all American grouse, the species of ground grouse, found as a rule away from woodland, and com-



PRAIRIE CHICKEN.

monly called "prairie chicken," yield most sport, though the ruffed grouse, a dweller in the woods, is a well-known and highly appreciated game bird whenever it is found. The big sage-fowl, also a grouse of the open country, the largest of all, exists so far from water that it is ordinarily not much sought after by the men who use setters and pointers. The blue grouse, spruce-grouse, and ptarmigan are as yet chiefly killed for the pot by men who are on trips after big game. The ptarmigan, except in the extreme north, is only found high up on the mountains, and the blue grouse and spruce-grouse in thick timber, where they are frequently killed with the rifle, their heads being shot off as they sit on trees.

There are two entirely distinct birds known as prairie chickens. The true prairie chicken, or pinnated grouse (*Tympanuchus*, or *Cupidonia, cupido*), of which there are several geographical sub-species, was formerly, in one of its forms, a common bird east to the Atlantic coast, but has now vanished from practically all the eastern part of its range, and has been sadly thinned out even in Illinois and Wisconsin. In Iowa and Minnesota it is still abundant, and it works its way westward with the cultivation of

the land. The ordinary way to shoot the birds is to take two or three dogs for each sportsman, and a wagon to carry the entire party. The distances are so great that the dogs must travel well and range far. Men on foot could hardly cover enough ground, as it will often be necessary to pass over a mile or two of country which is not worth beating. In all likely spots the wagon is left, and the sportsmen follow their dogs, just as was done in England before the days of "battues." The birds are sometimes found in the stubble fields, and sometimes out on the prairie. Early in the season they are easy to kill. By October they are very strong and wild, and then need straight powder. They are most delicious eating.

The other kind of prairie fowl is the sharp-tailed grouse (*Pediæcetes phasianellus*), likewise with several geographical sub-species, and a more northern and western bird. The limits of the two species overlap; and in the Dakotas the pinnated grouse has been extending its range westwards, the sharp-tail seeming to recede before it. As the sharp-tail is specially the grouse of the cattle country, it is much followed by all sport-loving ranchmen; but as it inhabits a drier country than the pinnated grouse, it offers a rather more difficult problem for dogs. Early in the season, sharp-tails are shot precisely as ordinary prairie chickens are shot. As cold weather comes on, they assemble on the river bottoms and take to perching on the trees. They then become very wild and shy, and do not offer much sport.

The first sparse settlement of the land does not in any way interfere with the increase of these grouse. On the contrary, the ranchmen, by the war they wage on the wolves and coyotes, help the grouse in their struggle for existence. In the purely pastoral parts of Montana and the Dakotas, these birds are probably more plentiful now than they were fifty years ago. But they disappear as the settlements become dense. This seems to be true of all the game of the plains, whether furred or feathered. The beasts and birds of the deep woods hold their own, as those of the plains cannot. There is no likelihood of the extinction of the ruffed grouse; it is still found in places from which the pinnated grouse has absolutely disappeared, though once the latter outnumbered it fifty to one. But both species of prairie chicken are steadily diminishing in numbers. The efforts of the game associations and sportsmen's clubs to have the game laws properly enforced have done much to arrest this diminution, and here and there to stop it; but the communi-

ties as a whole will have to see more clearly than they now do the effects of wasteful slaughter of game birds and game beasts before these birds and beasts can be effectually preserved.

THEODORE ROOSEVELT.

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PRONGHORN.—The prongbuck (*Antilocapra americana*) is almost universally known in America as "antelope"; yet it is, in reality, not an antelope at all, but a very peculiar beast which stands in a position nearly as unique as that of the giraffe and okapi, being the only hollow-horned ruminant which annually sheds its horns.

Pronghorns were formerly found all over the great plains of western North America from the Mississippi to the Pacific, and from Northern Mexico to the Saskatchewan. Like all other big game, their numbers have been very much reduced. They hold their own, of course, far better than great beasts like the bison and wapiti, where the conditions are similar: in many places where all three were formerly abundant the pronghorn is now the only survivor, though sadly thinned in numbers. But he is, when left to himself, purely a beast of the prairie and the open plains, and like all such beasts he vanishes far more quickly than those that dwell in the shelter of the tangled forests; the white-tail deer always outlasts him.

When much persecuted, pronghorns are driven into rough and even into wooded country, but their chosen ground is the open grass land. In power of eyesight they far surpass deer, and their noses are good. In consequence, they are very difficult to stalk; for they are always found far from cover. Their tactics are just the reverse of those of white-tail deer. The white-tail's one object is to avoid observation; he trusts to sheltering himself so that the hunter will not see him. The pronghorn does not care in the least whether he is seen or not, and indeed is usually found in some conspicuous position where he challenges attention: all that he wishes is to be sure that he sees everything within half a mile or more. Formerly it was possible to take advantage of the curiosity of the prongbuck and lure him toward the hunter by means of a red handkerchief, or something similar; but there are very few regions nowadays where the game is so unsophisticated. At present pronghorns are usually killed by fair stalking. They are also sometimes followed on horseback with the rifle, and they afford the best sport of all when regularly coursed with greyhounds.

Stalking antelope is very different work from still-hunting deer, wapiti, and moose, or climbing after mountain sheep and goats. More than any of these sports it necessitates skill in the use of the long-range rifle, the shots being customarily taken at standing objects, a rather long distance off. There is no need for the noiseless stealth of the hunter who follows his quarry through thick woods, and though long walks over the rough prairie grass give plenty of exer-



PRONGHORN.

cise, they are, of course, wholly free from the difficulty and fatigue of mountaineering. But there is much need to show the stalker's skill in the actual approach to the game. If the pronghorn once sees the hunter, the latter's chances are gone, unless the quarry suffers from one of those queer, freakish fits which occasionally attack it. The hunter must spy out the land with such care as surely to get the first glimpse of the animals he is after. He may see them either feeding or lying down, for they graze and rest at all hours of the day. Once seen, I think the lying down animal is easier to approach, because it cannot see so far, and, moreover, it is not continually shifting its position and thereby increasing its chance of destroying the benefit of the very little shelter the hunter has. At first sight it seems impossible to stalk anything on the plains, for to all appearance there is no cover whatever. Nevertheless, in most

places the ground is not really perfectly flat. There are slight rolls, making very gentle hillocks and valleys; and there are small watercourses which here and there make cut banks, though only a few inches in height. Often a band of pronghorns will be in an entirely impossible position—indeed, I think I may say that this is generally the case; but if carefully watched and followed they are apt, sooner or later, to get into some position where it is possible to approach within long rifle range. A good part of the stalk must be made on hands and knees, and the remainder flat on one's stomach, hitching along by means of the elbows. Occasionally, of course, the animals are found in places where the hunter can get a close shot, but ordinarily they must be killed at long range. In consequence, they are usually shot at a much greater distance than any other American game, and from this it follows as a corollary that more cartridges are expended for every head bagged than in any other kind of hunting.

Pronghorns can run away from any ordinary horse; but when once they have taken their line of flight they hate to swerve from it, and advantage can often be taken of this peculiarity by riding at an angle to their course to get a shot at them.

When I did my first shooting on the plains, in the 'eighties, there was plenty of other game, and I rather looked down on pronghorns; but later on I followed them to the exclusion of everything, except an occasional deer or sheep, on the few occasions when I was able to get out to my ranche.

For a fuller account of their habits and chase I would refer to my books, *The Wilderness Hunter*, *Hunting Trips of a Ranchman*, and *Ranche Life and the Hunting Trail*, and also to the chapters I have written on the subject in the three volumes of the Boone and Crockett Club.

THEODORE ROOSEVELT.

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PTARMIGAN (*Lagopus mutus*).—**Distribution.**—Unlike the red grouse, which we can claim as belonging solely to the British Isles, the ptarmigan is found in various types—all very closely allied—throughout the Arctic and Sub-arctic regions of the northern hemisphere.

Scotland, Norway, Russia, Siberia, North America, Canada, Greenland, and the islands of Iceland, Nova Zembla and Spitzbergen, can all boast their ptarmigan, and but for their welcome presence many a traveller in these northern lands would have to subsist on very hard fare indeed.

In the countries frequented by the ptarmigan in its more southern range, the bird is found in the picturesque solitudes of the highest mountains, for there only can it obtain its food, which consists of Arctic berries, &c. As we move to more northern latitudes the birds are found on ground of the same character, but at lower levels, for in northern Iceland and Spitzbergen they are found right down amongst the rocks by the sea.

In severe winters, too, immense numbers of the fjäl-ripa, which are almost identical with our ptarmigan, have been known to leave the high grounds of Norway and migrate across the strip of water to the flat shores of the Lofoden Islands, where they have been killed in thousands on the sea shores.

We must turn, however, to our own type, which is the most interesting to British sportsmen.

Natural History.—Most sportsmen and naturalists are already familiar with the general appearance of the ptarmigan, and have been struck by the marvellous provision of Nature which enables this beautiful creature to assimilate itself to its surroundings, in accordance with the seasonal changes of landscape. Every month sees some alteration in the plumage which, apparently at the will of the bird, becomes white, grey, red, or brown, as its surroundings alter, although parts of the wings, stomach, and legs remain white at all seasons.

Ptarmigan frequent nearly all the summits of the hills over 1,500 feet, in the deer forests of Ross, Sutherland, Inverness, Aberdeen, Argyle, and Perth. They also exist in the Western Isles, and, till recently, they were found in the Hoy Hills in the Orkneys, but they have long been extinct in Cumberland and Wales. Ptarmigan are monogamous, like grouse, but they do not split up into pairs at once, after the males have had loose fights with others, but the whole covey holds a sort of day-break tournament, in which the males fight somewhat after the manner of the blackcocks. The same spot is resorted to every morning at daybreak, but it is not maintained from year to year like the blackcocks' playing ground. The call of the male is a prolonged croak like the syllable "a-r-r-r-r," and that of the female "ee-ac."

The ptarmigan makes its nest about the first week in June, amongst the moss and stones, and it is one of the most difficult to find in the British list, as I can attest from personal experience. The female bird will scarcely move unless touched, and also

seems to give out no scent when sitting, so that a dog will not find her. Whilst in Iceland, in 1889, I found the male ptarmigan a most brave and daring bird in defence of his young ones, if one accidentally disturbed a female with chicks. The mother would give a call, and immediately the cock would come flying at great speed towards the intruder, as if to attack him, only just swerving off when within a few feet. He showed far greater concern and excitement about his family than any cock grouse would do.

Males are generally shy when found by themselves, but if the weather is fine and still, and a whole covey is met with, there are no birds more easily approached. Ptarmigan are very much affected by the weather, and are as unapproachable in rain and storms as they are tame on a still, sunny day. They possess the power of ventriloquising to quite as great an extent as the corncrakes, and sometimes, if you are lost in the mist, and the ptarmigan are croaking all around, you may walk for a long time without seeing one, although you think you could locate the position of the birds exactly from their call.

Though the ptarmigan and the grouse occupy at certain seasons the same ground, there is no authenticated instance of their interbreeding.

Shooting.—Though exposed to the attacks of foxes and eagles, the ptarmigan leads a life of safety as compared with that of other species of game birds. But a day on the tops, amidst the scenes of alternate gloom and splendour, such as only Scotland can present, is often more delightful than moor shooting on tamer ground. It is only once or twice, after the stalking is over, that a stray gunner may perchance

climb to their magnificent solitudes and shoot a few brace.

There is a fascination about the panoramic view, the exhilarating air, and "the towers of eternal silence," that gives this sport a quality all its own.

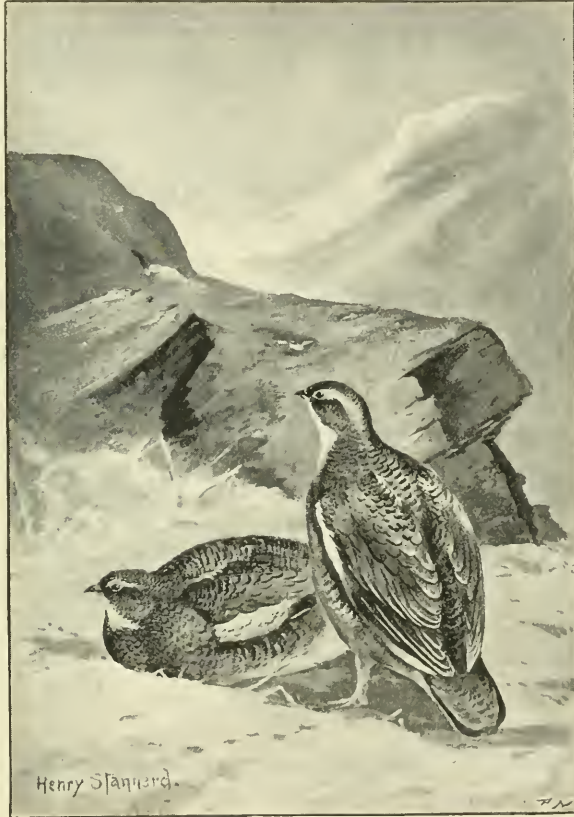
The novice will find it difficult to see ptarmigan, and, though so tame, when once on the wing they get away very smartly, and one has to be sharp with the second barrel to kill a brace neatly, for the birds are round a corner in a moment.

They nearly always rise all at once, keeping close together, and straight shooting is essential to make any sort of a bag, for the game in a few seconds will cross chasms and disappear into rocks that would take you hours to reach. Dogs are of little use in this kind of shooting, for the ground is often too difficult to work, and so full of blue hares as to upset the steadiness of any but an old and tried animal. A good old pointer may be very useful in finding wounded birds, &c.; but the chances are that

you will see as many yourself as the dog does, from the habit of the old cock, and sometimes of the whole brood, of standing up on the rocks and croaking.

The best ptarmigan ground in Scotland is to be found in the mountains of Ross-shire near Loch Maree, and on Auchnashellach sixty brace have been killed in one day by a single gun. Driving is occasionally practised, but it is hardly worth the trouble of organising beats on ground where things may go wrong in a moment, unless the game is very numerous. In Gaick Forest they generally have a drive at the end of the season, which results in from about twenty-five to thirty brace being killed.

J. G. MILLAIS.



PTARMIGAN.

PUMA (*Felis concolor*)—The puma or cougar, also known as panther or painter, and as mountain lion and Mexican lion, is found from Patagonia to southern Canada. It is now very rare in most places north of Mexico, except in the Rocky Mountains and Coast Ranges, where it is locally not uncommon. It was formerly very plentiful in the Southern States; but, for some unexplained reason, neither the puma nor the wolf hold their ground in the presence of man so well as the black bear, which nevertheless seems



PUMA.

an easier animal to kill than either of them.

Like all cats, the puma is not difficult to trap. It is, however, extremely difficult to kill according to the ordinary methods of the still hunter. The rifleman who trusts merely to his own skill hardly ever runs across the puma, except by accident. In all my hunting I have come across but two, both by chance; and of these one escaped. If dogs are used, however, the puma is by no means a difficult quarry. In the wilder portions of the Southern States the puma was often killed in olden times by the packs with which the planters hunted the deer and the grey fox; hounds readily run the trail of the puma, showing none of the fear and disgust which they are apt to betray at the scent of the wolf. These packs rarely did more than bay the puma, which was then shot by the hunters. Occasionally the pack was specially trained to rush in and take hold, and the hunter ended the battle by a thrust with his knife.

In the Rocky Mountains, of recent years, the practice has grown up in several locali-

ties of following the puma on foot with packs of dogs specially trained for the purpose. Such packs usually contain both the ordinary hound generally used in the chase of the deer and the fox, and large, active, hard-biting dogs, by preference collies. The puma will sometimes make a long and hard run, especially in difficult ground. At other times it will come to bay very speedily; or, what is more common, climb a tree. The puma is perhaps the least formidable of all the large cats, in spite of its extreme agility, for it is cowardly, and its head and jaws are small compared with the jaguar. There are on record authentic instances of its attacking man, but these are wholly exceptional. Even when at bay it can usually be killed without much danger; but it is never safe to take liberties with it, for exceptional individuals display the utmost ferocity, and I have known of several instances of men being maimed, and even killed in such contests. If the dogs are well trained, however, they usually occupy the puma's attention to the exclusion of everything else; and five or six of them, even ordinary hounds and collies, if thoroughly entered to their work, can themselves kill a puma. Such a fighting pack performs the work in the most business-like manner, each dog having its own favourite hold, and each being confident in the support of its fellows. If a wolf is throttled by a powerful dog, it can inflict little damage; but if the puma is throttled it may rip open the dog with its hind claws. A trained pack will, therefore, rush in together and spread-eagle the puma, which is then soon worried to death. Accidents to the pack, of course, frequently happen.

THEODORE ROOSEVELT.

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PUNTING AND PUNTS.—No pastime on the river Thames has increased so much of late years as punting; and the evolution of the punt, from the slow, heavy, clumsy craft of the old fishing type to the light, long, 16-inch wide racer, has been equally remarkable. The old fishing punt was well adapted to the needs of the Thames fisherman, for it was divided into two unequal portions by a well near the stern, through which the water flowed. Thus the smaller fish were kept alive for bait, to say nothing of such larger ones as with greater or less frequency fell a prey to the angler. Moored across the stream, with two ryepecks, and carrying three chairs, it affords a safe and comfortable vantage ground for the roach and gudgeon fisher, who seldom fails to be accompanied by a stout jar of nut-brown

ale, which is set to cool in the well. When it is let down stream by the skilful fisherman, who guides its course with a pole as quietly as he may, the spinner for trout or jack can cast his line with something firm and solid to stand upon; and, sitting safely in its stern, the barbel and chub fisher drops down to his haunts, with no fear of his equilibrium being disturbed. The navigation of this craft required both skill and strength, more skill and strength than is wanted to keep a tolerably straight course in its much lighter successors, which are now seen in such numbers up and down the river Thames. The old Thames fishermen were

chief charms lies in its variety; no two strokes are exactly the same; the depth of the river is constantly varying; sometimes the bottom is hard and sometimes soft; on many of the reaches there are ballast holes of some considerable depth, and other pitfalls for the unwary; and in order to urge your craft upon the even tenor of its way you must never let your attention wander, but be prepared for every event. And in this consists one of the greatest attractions of punting as an exercise; in rowing, variety is strictly discouraged, and each stroke should be as similar as possible to the one before; in punting, varieties of



START OF THE PROFESSIONAL CHAMPIONSHIP.

[Photograph by Sport and General.]

adepts in the art; they were acquainted with each eddy in the stream, and knew the bottom not less well than the surface, and the way they pushed their heavy loads up some swift-rushing weir-stream was a triumph of art not easy to acquire. In time the punt was adopted as a pleasure boat, and its evolution was rapid. The old fishing punt was built to stand rough work, with oak knees and treads, and bottom of thick deal, heavily pitched and tarred. The modern punt is built as light as possible throughout, and the old pitch and tar has been replaced by paint; the wet well has disappeared, and its place been taken by back rails and comfortable cushions. As a pleasure boat for the Thames, the punt cannot be beaten. Its speed may not be great, but it is still great enough for those who are not in too much of a hurry to enjoy the river properly, and, as an exercise, punting cannot be excelled. One of its

strokes are forced upon you from the constantly changing nature of the conditions; while the upright position, facing the direction in which the boat is going, and the greater freedom of motion, form an additional advantage. No wonder then that the popularity of punting as an exercise has increased; it calls into play every set of muscles, and makes demands upon the intelligence as well. The exercise is also well adapted for women. Ladies' competitions, where the palm is awarded to those who show the greatest skill in handling the pole and punt, are not unknown at local regattas; and to the onlooker a lady punting, standing erect and propelling her craft with ease and dexterity, is a more graceful and grateful sight than that of an equally accomplished sister labouring at the oar.

The proficiency of punters, both amateur and professional, has greatly increased of late years. The vagaries of the old punting

circumnavigators are much more rarely to be met with; the number of those who can stand still and keep a straight and



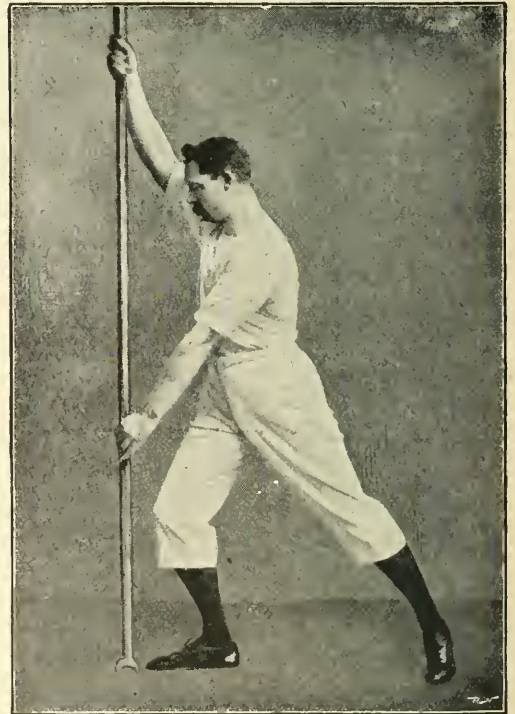
POSITION IN RACING PUNT.

speedy course has multiplied indefinitely. Both punts and punt-poles are much lighter and better made than those of days gone by; and the numerous amateur and professional punting races which take place annually have done very much to encourage their proper use.

Punt-racing—There are two styles of punt-racing, (1) running, (2) pricking; and the first may be described as the old method and the second as the new. The course has a turn in it, one or more ryepecks being fixed to mark it. In amateur races it is usual, when the river permits it and the stations are equal, to have a separate turning ryepeck for each competitor; and this practice has of late obviated to a great extent the collisions which took place when the competitors turned at the same pole. To do this neatly has been always considered an important point in a punting race, and having the course with a turn enables the spectators to see the beginning and finish of the combat; but it may be doubted whether a straight course downstream, in which each man would be com-

elled to keep his own water, would not be a better test of speed.

Running the Punt—The old style of running was in vogue when the punts used were heavy fishing punts with poles to match. Edward Andrews, of Maidenhead, champion in 1876, was perhaps the most practised exponent of the style; but when he went down in 1877 before Abel Beasley, of Oxford, who stood still and pricked his heavy punt, stern first, down-stream, the supporters of the old style experienced a rude shock. But even now, where the water is very deep and a strong stream or wind has to be faced, and the punt to be used is not a light one, running is still the best method of getting it along quickly; but one or two maxims should be borne in mind:—Do not attempt to run the whole length of the punt, three steps are enough. Do not go too far into her head or too far towards her stern, or you will stop her way. Get your weight well on to the beginning of the stroke, take three long strides and get a good strong finish. Turn on your heels (do not take a step backwards, as is so often done, as that makes the boat



PUTTING IN THE POLE. GOING SLOW.

roll), and then come back towards the head of the punt as quietly as may be, gathering up the pole as you go.

This was the style of running a punt adopted by Andrews, and it has not been beaten; it is a kind of double shove, and,



BEGINNING OF THE STROKE.

under certain circumstances, can even now be adopted with advantage. It is, however, a much rarer thing to see a punt well run than well pricked; there is generally too much running and not enough shoving about it, the punt is not kept on an even keel, and the pace is not proportionate to the energy expended.

Pricking a Punt—This is the method now adopted both in racing and pleasure punts. The long shove, its highest development, came from Oxford, having been evolved by the Beasley family, Abel of that ilk, who held the professional championship from 1877 till he retired in 1890, being its most successful exponent. It is no less successful in light than in heavy punts, and as the old champion used to say, "it breaks their hearts." The secret of it is to keep the body upright, not to bend over the pole, and to finish the stroke well out. To keep the body upright and to work hard, strong loins are requisite, such as are seen in a well-ribbed-up hunter. All cannot acquire it; some start with it well enough, but, when pace and distance have told their tale, they fall away into the old bent body position and short stroke, which lead to destruction.

In a 16-inch wide-racing punt, which requires steering as well as shoving, a good deal is wanted besides mere strength, and, unless a good style is acquired, the best results cannot be obtained; though practice under a competent instructor is the best receipt for the purpose, still a few hints may not be entirely useless.

A good punter should be able to punt either side equally well; but supposing that you are punting with the right hand leading, place your right foot against a knee of the boat, or some other well-defined spot, where she balances the best, and keep it there. Fix your eyes on the bow of the punt right through the stroke, and do not let them come round with the pole, or you will lose your direction, and a punt should never be allowed to deviate a hairsbreadth from the true course. If the punt is going fast, drop in the pole well in front of you (the distance depends in a great degree on the depth of the river and the pace at which you are going), raise your hands as far up the pole as you can, get the weight well on, keeping the pole quite close to the chest, and finish with the weight on and the chest square. Then recover the pole smartly with the hands, draw the extended foot



MIDDLE OF STROKE.

gently back, so as not to shake the punt, and commence the next stroke. The work should be done with the weight, loins, and

legs, and not with the arms. In fact it is not unlike rowing. You reach forward to the full extent, apply the weight, then take



FINISH OF STROKE.

a step back which corresponds to sliding, finish square, and, as it were, slide slowly forward and repeat the dose. The long body swing, smart recovery with the hands, and slow sliding forward will always beat the snatchy armwork which is the pitfall of racing punts.

The Amateur Punting Championship used to take place at Sunbury under the auspices of the old Thames Punting Club, and afterwards has been held at Staines, Maidenhead, and Shepperton; and the last course, which is $\frac{3}{4}$ mile in length, has proved so satisfactory that the amateur championship will probably be held there for the future.

The Professional Championship takes place at Maidenhead over what has been known as the championship course below Maidenhead bridge, half a mile downstream and half a mile back, and was started as an annual event in 1888, though before then several matches between watermen had taken place over this course during the previous thirty years. The prizes are £15 and a gold medal to the winner, £12 to the second, £8 to the third, and £5 to the competitor, exclusive of the winners,

who completes the course in the fastest time in any heat. When Abel Beasley was punting he carried all before him; but since his retirement in 1890, the meeting has, with few exceptions, been a profitable one to the Haines family of Old Windsor. There is usually a large number of entries, and the meeting takes a whole day; the entrance fee is 10s., and the competitor who punts his heats to the satisfaction of the committee receives £1. The punts are 27 feet long and 2 feet 9 inches wide, and are provided by the committee.

The Thames Punting Club was revived in 1890, and consists of more than 100 members. The committee have drawn up a body of rules and regulations, under which most punting races are now held, as well as their own championship meeting, at which, besides the championship proper, there are novice races, junior races, senior races, and veterans' races, to say nothing of double punting. As catamarans, and strange flat-bottomed craft shaped like canoes, made their appearance under the name of punts, the T.P.C. committee were compelled to define a punt in the terms given below.

DESBOROUGH.

RULES AND REGULATIONS.

DEFINITION OF A PUNT.

A Punt is a flat-bottomed craft without stem, keel, or sternpost, and the width at each end must be at least one-half of the width at the widest part.

The length of a Punt is its extreme measurement over all, and its width is its extreme part measured inside on the bottom.

Subject to compliance with these definitions, a Punt may be any length or width.

A Punt when used for racing shall have no external attachment to assist the balance, or for any other purpose.

For racing purposes a Punt shall not be propelled by any means other than by a pole used by the punter.

RULES FOR PUNT RACING.

I. All Punt Races shall be started in the following manner:—The starter on being satisfied that the competitors are ready and the sterns level, shall give the signal to start.

II. If the starter considers the start false, he shall at once recall the punts to their stations; any competitor refusing to start again shall be disqualified.

III. Any punt not at its post at the time specified shall be liable to be disqualified by the umpire.

IV. The umpire may act as starter, as he thinks fit; where he does not so act, the starter shall be subject to the control of the umpire.

V. A competitor must not put his pole in another competitor's punt, and any competitor who does so or touches with his hand—or any part of his body—any object outside his own punt, will be liable to disqualification.

VI. It shall be considered a foul when a competitor's punt collides with the punt of another

competitor, unless in the opinion of the umpire such contact is so slight as not in any way to interfere with it. The umpire shall be the sole judge of a punt's own water and due course during the race; he may caution any competitor when in danger of committing a foul, and may stop and restart a race at his discretion.

VII. At all Regattas and races held under the Rules of the Thames Punting Club a Ryepeck shall be provided for each competitor at the turn.

All punt races should be started down stream, the same as Club races, unless it be found impracticable by the Committee of the Regatta.

In Scratch races competitors being clear of their opponents after turning may choose their own water, but no boring or fouling will be permitted; the competitor so offending shall be disqualified.

In Handicap races all competitors must keep to their own stations. Any competitor departing therefrom, and by so doing fouling the punt of another competitor, does so at the peril of disqualification.

When the course is specially marked out with buoys each punt shall keep its own water throughout the races. A punt departing from its own water will do so at the peril of disqualification if touched whilst out of it.

VIII. The umpire, when appealed to, shall decide all questions as to a foul.

IX. A claim of foul must be made to the umpire by the competitor himself before getting out of his punt.

X. In case of a foul, the umpire, whether appealed to or not, shall have the power—

(a) To place the punts—except the punt committing the foul, which is disqualified—in the order in which they come in.

(b) To order the punts engaged in the race, other than the punt committing the foul, to punt over again on the same or another day.

(c) To restart the qualified punts from the place where the foul was committed.

XI. A punt to be adjudged the winner must, on reaching the winning post, contain all the competitors who started in it.

XII. Every punt shall abide by its accidents.

XIII. No boat shall be allowed to accompany a competitor for the purpose of directing his course or affording him other assistance. Any competitor receiving such direction or assistance shall be disqualified at the discretion of the umpire.

XIV. The jurisdiction of the umpire extends over the race, and all matters connected with it, from the time the race is specified to start until its final termination, and his decision in all cases shall be final and without appeal.

XV. Any competitor refusing to abide by the decision, or to follow the directions of the umpire, shall be disqualified.

XVI. The umpire, if he thinks proper, may reserve his decision, provided that in every case such decision be given on the day of the race.

XVII. Subject to the foregoing rules, the race will be won by the competitor who is the first to take his punt up to the winning line.

XVIII. Any person who is reported to the Committee of the T.P.C. by either the starter or umpire of any punting races for unbecoming conduct or intentional fouling, may be declared incapable of competing for or winning a prize at any Regatta or in any race held under the rules of the T.P.C. for such period as the Committee of the T.P.C. may decide upon, including the

race during which such conduct or fouling has occurred.

DEFINITION OF AN AMATEUR PUNTER.

An Amateur Punter is one:—

- 1.—Who has never punted in any race for a stake, money, or entrance fee.
- 2.—Who has never knowingly punted with or against a professional for any prize.
- 3.—Who has never taught, pursued, or assisted in the practice of athletic exercises of any kind for profit.
- 4.—Who has never been employed in or about boats, or in manual labour, for money or wages.
- 5.—Who neither is nor has been by trade or employment for wages a mechanic, artisan, or labourer, nor engaged in any menial duty.
- 6.—Who is not disqualified as an amateur in any other branch of sport.

DEFINITION—JUNIORS AND VETERANS.

A competitor who has won a scratch single punting race in punts the size of which is restricted shall, after that date, punt as a Junior in Best and Best Punts only.

A competitor shall be entitled to punt as a Junior in a Best and Best Punt until he has won a scratch single punting race in a Best and Best Punt, that is, a race in which the size of the punt is not restricted or in which the punts are not provided by the Committee of the Regatta. A Junior Punter is one who has never competed for the Championship.

A Junior who wins a race which disqualifies him from further competition as a Junior, may, however, compete at the same meeting in any Junior race for which he may be properly entered, but after that meeting will be no longer qualified to compete as a Junior.

A Junior who has won a double punting race is not eligible to punt in a double punting race as a Junior at a subsequent meeting.

A Veteran may be either a Senior or Junior Punter who is over 40 years of age.

LIST OF AMATEUR CHAMPIONS.

| | | Fastest time, the course | | Length of |
|------|----------------------------|--------------------------|------|-----------|
| | | min. | sec. | in yards. |
| 1886 | E. V. Gardner | | | |
| 1887 | F. Tomkins (T.P.C.) | | | |
| 1888 | W. H. Grenfell (T.P.C.) | | | |
| 1889 | W. H. Grenfell (T.P.C.) | | | |
| 1890 | W. H. Grenfell (T.P.C.) | | | |
| 1891 | N. M. Cohen (T.P.C.) | 6 | 48 | 1320 |
| 1892 | A. H. M. Kilby (T.P.C.) | 7 | 6 | 1320 |
| 1893 | B. Rixon (T.P.C.) | 6 | 40 | 1320 |
| 1894 | H. S. Verity (T.P.C.) | 7 | 7 | 1320 |
| 1895 | B. Rixon (T.P.C.) | 5 | 50 | 1224 |
| 1896 | B. Rixon (T.P.C.) | 5 | 29 | 1224 |
| 1897 | Colin Romaine (T.P.C.) | 5 | 50 | 1260 |
| 1898 | Colin Romaine (T.P.C.) | 6 | 0 | 1282 |
| 1899 | N. M. Cohen (T.P.C.) | 6 | 2 | " |
| 1900 | C. R. Mullings (T.P.C.) | 6 | 0 | " |
| 1901 | C. R. Mullings (T.P.C.) | 5 | 56 | " |
| 1902 | C. R. Mullings (T.P.C.) | 5 | 51 | " |
| 1903 | C. R. Mullings (T.P.C.) | 6 | 34 | " |
| 1904 | J. H. Secker (T.P.C.) | 6 | 9 | " |
| 1905 | J. H. Secker (T.P.C.) | 5 | 55 | " |
| 1906 | J. H. Secker (T.P.C.) | 6 | 6 | " |
| 1907 | J. H. Secker (T.P.C.) | 5 | 59 | " |
| 1908 | A. Gordon Dickson (T.P.C.) | 6 | 10 | " |
| 1909 | J. H. Secker (T.P.C.) | 6 | 8 | " |
| 1910 | F. C. Covell (T.P.C.) | 6 | 3 | " |

LIST OF PROFESSIONAL CHAMPIONS.

Over the Maidenhead Mile.

| | | | | |
|------|----------------------|----|----|-----------------|
| 1870 | E. Andrews | .. | .. | 13 min. |
| 1877 | to 1800 Abel Beesley | .. | .. | 10 min. 59 sec. |
| 1891 | W. Haines | .. | .. | 11 min. 14 sec. |
| 1892 | G. Haines | .. | .. | 11 min. 59 sec. |
| 1893 | C. Asplen | .. | .. | 11 min. 43 sec. |
| 1894 | W. Haines | .. | .. | 11 min. 28 sec. |
| 1895 | Meeting not held | | | |
| 1896 | F. H. Haines | .. | .. | 11 min. 41 sec. |
| 1897 | W. Haines | .. | .. | 11 min. 14 sec. |
| 1898 | W. Haines | .. | .. | 11 min. 10 sec. |
| 1899 | G. Haines | .. | .. | 10 min. 6 sec. |
| 1900 | G. Haines | .. | .. | 10 min. 21 sec. |
| 1901 | W. Haines | .. | .. | 9 min. 37 sec. |
| 1902 | F. Nicholes | .. | .. | 10 min. 5 sec. |
| 1903 | G. Haines | .. | .. | 10 min. 39 sec. |
| 1904 | W. Haines | .. | .. | 9 min. 47 sec. |
| 1905 | W. Haines | .. | .. | 9 min. 27 sec. |
| 1906 | W. Haines | .. | .. | 9 min. 28 sec. |
| 1907 | W. Haines | .. | .. | 9 min. 40 sec. |
| 1908 | W. Haines | .. | .. | 9 min. 39 sec. |
| 1909 | F. Nicholes | .. | .. | 9 min. 36 sec. |
| 1910 | F. Nicholes | .. | .. | 9 min. 56 sec. |

QUAIL.—It may be doubted whether any game bird has so extensive a geographical range as the so-called common quail (*Coturnix communis*). The red grouse is



QUAIL.

confined to the British Islands; the grey partridge is dispersed over Europe eastward to the Altai mountains, beyond which it is replaced by an allied species, but is not met with south of the Mediterranean, notwithstanding Malherbe's statement to the contrary. The quail, on the other hand, is to be found in Europe, Asia, and Africa, in all of which continents, or parts thereof, it is well known either as a resident or a regular migrant, while of late years it has been introduced into parts of the United States, as well as into New Zealand, so that it may be regarded as well-nigh cosmopolitan in its distribution. Sportsmen on both shores of the Mediterranean look eagerly for its appearance in spring on its northward journey to its breeding haunts, and again in autumn on the southward passage to its winter quarters. At both these seasons an enormous toll is taken of the passing flocks. On the Spanish side of the Straits of

Gibraltar, says Colonel Irby, the chief vernal migration of the quail is during March and April, whilst the autumnal passage takes place chiefly during the latter half of September, at which time the numbers which arrive are sometimes almost incredible.

"Though not strictly marsh-birds," says Mr. Abel Chapman (*Wild Spain*, p. 419), "yet quails at times abound among the moist rushy prairies both of Spain and Portugal, and hardly a hillock of drier ground or patch of maize stubble but will yield a brace or two." In such situations Mr. Chapman has shot $27\frac{1}{2}$ couples in less than an hour, and as many as 52 brace in a day—a bag which he believes has been, and certainly might be, largely exceeded. From Algeria to Sardinia and Corsica, and from Tunis to Malta, Sicily, and Southern Italy, vast numbers cross over, and have to run a blockade, not only of the gunners who are expectantly awaiting them, but of fowlers who make use of nets to intercept the migratory flocks, and in this way capture thousands on their arrival.

In his admirable *History of Fowling* (1907), the Rev. H. A. Macpherson has included a chapter on "Quail-catching in Italy," and to this the reader may be referred for a description of the different kinds of nets employed for the purpose, and other details of interest in connection with this subject. In a succeeding chapter he deals with quail-catching in other parts of Europe, as in France (particularly in the neighbourhood of Marseilles, whence large consignments of live birds are forwarded to Paris and London), Germany, Russia, and Greece. In all these countries the great bulk of the quails taken for the markets are captured in nets of various kinds, supplemented by a judicious use of a "quail-call," by means of which the fowler imitates the trisyllabic note of the cock bird—*Whit-twit-twit*—or the more subdued *Tri-tri* of the hen. Sometimes the migrating strangers are lured towards the nets by the calls of caged decoy birds. In former days, when quail were more plentiful in England than at present, it was a common pastime with country gentlemen to entice these birds with quail-calls, and old books on field sports often contain directions on the subject. Burton, in his *Anatomy of Melancholy*, tells us that in his day "many gentlemen would take a singular pleasure at morning and evening to go abroad with their quail-pipes, and take any pains to satisfy their delight in that kinde." The practice has long since fallen into disuse in England, as has also

the diversion of capturing them with a trained sparrowhawk.

The comparatively few quails that are now killed in England and Ireland are all secured with the shot-gun early in September, before the autumnal migration has commenced, a few now and again being met with in winter.

It has for some years been a matter of general remark amongst sportsmen that quails are not nearly so often met with in England as was formerly the case. Whether this is due to alteration in the methods of farming and cutting the crops, whereby a great many nests and eggs are destroyed in the spring, or whether it is due to the exorbitant toll taken of the birds in the South of Europe before they can reach the British Islands, can only be surmised. It is probable that both these causes have contributed to the present scarcity of this much-coveted little game-bird.

The distribution of the quail in this country during its sojourn with us between April and the end of September has been carefully traced by Mr. Howard Saunders, in the third volume of the fourth edition of Yarrell's *British Birds*, and it is noteworthy that it pushes its way, not only as far north as Orkney and Shetland, but has been found even in the Faroe Islands. In Ireland it has always been more plentiful than in England—a circumstance which has been accounted for by the fact that in Ireland there is so little frost that the food of the quail may generally be procured with ease at all seasons. The Irish naturalist Thompson remarked that "the slovenly system of farming unfortunately too common in Ireland is greatly in favour of the quail, as the seeds of weeds among the stubble supply these birds during winter and at other seasons with abundance of food." Thus the mildness of the climate with a sufficient supply of food, induces many of these birds to remain the winter, as sometimes happens in the South of England, although the majority of those which escape the gun quit this country during the first month of partridge shooting.

English sportsmen desirous of making good bags of quail have to go abroad in search of them—to Egypt and other parts of Africa, the Ionian Islands, India, China, and Japan. In India, the common quail is well known, where it is called the "grey quail," to distinguish it from the "rain-quail" (or black-breasted quail), which is also common there. Jerdon states that our bird is found throughout India in considerable numbers during the cold weather, most migrating during the rains and breeding

elsewhere; but a few remain and breed in various parts of the country, especially towards the west and north-west. Considerable numbers are often found together, and in certain seasons it occurs in great profusion and affords excellent sport to the gunner. Dogs stand very steadily to quail, and in the cool weather excellent sport is to be had, fifty couple being not unfrequently bagged by one gun in a morning's shooting in the North-West Provinces.

The question is sometimes asked whether the quail found in South Africa and that found in China or Japan are specifically identical with our bird, or distinct. On this point we may quote the remarks of Mr. W. Ogilvie Grant in his recently-published *Handbook to the Game Birds* (vol. i. p. 181). He says "the migratory quail has been constantly confused with two more or less resident local forms, *Coturnix capensis*, found in South Africa, and *Coturnix japonica* from Japan and China. The former is probably nothing more than a more richly-coloured, rather smaller resident local race of our common quail, but the latter is a perfectly distinct and easily characterised species. The migratory bird, wandering over an immensely wide range, visits the countries inhabited by both these forms, and constantly interbreeds with them, the result being that all sorts of intermediate forms occur."

The migratory quail also interbreeds freely with the chestnut-throated form, *Coturnix capensis*, found in South Africa and the islands surrounding the coast, and the results are to be seen in the many male birds from South Africa and Southern Europe, in which the white parts on the sides of the head and throat are more or less suffused with the bright rufous chestnut characteristic of the resident bird.

Thus it would seem that no game-bird is better known than the quail, or stands less in need of description. It is the French *caille*, Italian *quaglia*, Spanish *codorniz*, German *wachtel*, Dutch *kwakel*, and Danish *vagtel*.
J. E. HARTING.

QUARTERSTAFF.—**The Weapon.**—The quarterstaff was formerly in common use among our English yeomen. Its dimensions vary from 6½ feet to 8½ feet, or even to 9½ feet in length and 4 or 5 inches in circumference.

Although there is no arbitrary rule as to the length, anything beyond 9½ feet would be awkward to the user.

That the quarterstaff was not of an uniform length, the following verse from

Evans' *Old Ballads* goes some way to prove. In the encounter between Robin Hood and Arthur a' Bland, the tanner of Nottingham, the former insists upon measuring weapons:

"But let me measure," said jolly Robin,
 'Before we begin our fray,
 For I'll not have mine, to be longer than thine,
 For that will be counted foul play.'"

And we learn from the next verse that Arthur's quarterstaff was $8\frac{1}{2}$ feet in length, and was of oak, as was also that of Robin. But as there was no hard and fast rule as to length, so neither was there as to material, and we may be sure that there were as many good staves of ash or any other suitable wood, as easily procured, as there were of oak.

We may assume that the quarterstaff was never less than 6 feet, for it bore the same relation to the singlestick, as the two-handed sword did to the ordinary sword.

Its History, Literature, &c.—The etymology of the word is not very certain, and in default of a better we must take Dr. Johnson's view, that it is so called from



QUARTERSTAFF OF THE SIXTEENTH CENTURY.

the manner of using it: "One hand being placed at the middle, and the other equally between the end and the middle." This, to our mind, is not a very satisfactory reason for the name, even if the staff were invariably held in this manner, but, as a matter of fact, it is more usually held with both hands in the middle, about 2 feet apart, or in other words, each hand about 1 foot from the middle.

It seems curious at first sight that so little should have been written either about the singlestick or the quarterstaff, seeing that almost every Old English sport has had its historian, and many of them a literature of their own, but, while little enough has been written on singlestick, the writer on the quarterstaff has practically no data to go upon.

Were it not for the well-described scene of a "bout" with this weapon in the pages of Sir Walter Scott's novel *Ivanhoe*, Chap. XI, between the swineherd Gurth, and "the Miller," one of Robin Hood's men; and a short account in Strutt's *Sports and Pastimes of the English People*, and another in Chambers's *Book of Days*, together with a few legendary ballads, the sport would possibly have been lost, and

never revived, even in the gymnasium, which is the only place in which it is now practised. The revival occurred, if we recollect right, about the year 1868, and was brought about by Captain Hutton of the King's Dragoon Guards.

The dearth of literature on the singlestick may be accounted for by the fact that it is only the dummy or practice weapon of the sword, about which everything that can be said has been said.

In like manner, the quarterstaff may have been the practice weapon of the Partisan, some earlier examples of whose blades partook more of the character of a sword than of a spear, notably one of Edward IV.'s time (*vide* Skelton's *Illustrations of the Meyrick Collection*, plate 87, vol. ii.).

This, however, is only conjecture, and the quarterstaff may possibly have been only evolved from the ordinary staff, for the quarterstaff has existed in everything but name in every age and country.

There is, we believe, no mention of the quarterstaff by name in Chaucer or in Shakespeare, and the earliest allusion that we can find to the word is in Dryden, who speaks of the manner in which it was carried when not in use in attack or defence:—

"His quarterstaff which he could n'er forsake,
 Hung half before, and half behind his back."

It seems probable that it went out of date soon after his time, for the bow was discarded as a weapon after the reign of Charles II., and the quarterstaff had been co-existent with the bow perhaps for centuries.

Use or Play.—There is a little pamphlet still existing, but extremely rare, by one R. Peecke, published in London, 1626, 4to., entitled *Three to one; being an English-Spanish combat performed by a Western gentleman of Tavystock, in Devonshire, with an English quarterstaff, against three rapiers and poniards, at Sherries, in Spain* [on November 15th, 1625], in the presence of the Dukes, Condes, Marquises, and other great Dons of Spain, being the Council of War. Peecke himself was the actor in the combat.

That this is not the only occasion on which the staff has been pitted against the steel, we find in Pierce Egan's *Book of Sports*, p. 110, where it is narrated that in the year 1779, a serjeant of Elliots' Horse, "who was reputed one of the best swordsmen of the day, challenged his sword against a Mr. Harry Smith's staff (quarterstaff) to draw first blood. At the expiration of four minutes, the squire gave his adversary the

end of his staff in the forehead, which laid him flat on his back, and gained the victory. The staff, which is 7 ft. 10 in. in length, is now preserved, and has thirteen cuts of the sword."

This mention of the delivery of a *point* would seem to agree with our conjecture that the quarterstaff might have been the practice weapon of the Partizan (whose nomenclature, by the way, is equally misty), and would thus have been used both to cut and thrust. Also, in Sir Walter Scott's account of the "bout" before alluded to, "Gurth darted his staff at his (antagonist's) face with his left hand."

There has been, we believe, only one attempt to reduce the play of quarterstaff to a method or manual exercise, and it is given in a small work by Thomas A. McCarthy, called *Quarterstaff: a Practical Manual, with 23 figures of position*, published by W. Swan Sonnenschein and Co., Paternoster Row, London, 1883. 24 pp., 12mo.

In our opinion, however, there is little to be gained by a *system*, and we would rather say: Let the combatants take their stand opposite each other, with the quarterstaves poised in their two hands, in the manner which is most convenient to each, whether fingers up or fingers down, right or left leg forward as they please.

Let either make a "hit" or a "point" wherever he can get one in, with either end of his staff, and let the other stop the blows as he may. All is fair in quarterstaff, and the combatants will learn for themselves more quickly than any book can teach them, the possibilities of this healthy and fascinating exercise.

The same dress that is necessary for the practice of broadsword, is suitable for that of the quarterstaff, with the addition of a left hand padded glove.

F. H. HUTH.

QUOITS.—This game is played by driving two iron pegs into the ground 19 yards apart, but it can be altered by agreement to any distance varying from 15 to 30 yards.

It is usual to fix on the weights of each quoit. The quoit is a flattened ring of iron thick at its inner and thin at its outer edge; the pin is variously called spud, hob, or spike. To play it properly, a man should possess considerable strength in the arms and shoulders, and a quick eye will enable him to acquire the requisite pitch. The players are generally two or four—two on a side. Each player has two quoits and throws one round, endeavouring to fall over the hob; after each has had a turn,

the first recommences, and so on, throwing back to the hob whence they commenced. The quoit is held with the forefinger along its outer edge, in which there is a small dent for the end of the finger to lie in without being cut. The two surfaces are held between the thumb and other fingers, and the quoit is pitched with a slight rise and with a rotary motion to make it pass smoothly through the air. The score depends upon the quoit falling on the hob, or as near it as possible. A ringer, that is, a quoit which surrounds the pin, scores two; two ringers count four. If a player's two quoits are nearer the hob than his antagonist's, he scores two; if he has but one nearer, he scores only one, but when the nearest quoits are equidistant and belong to different players, neither scores.

F. T. POLLOK.

RULES.

1. The distance from pin to pin shall be as agreed; the player shall stand level with the hob and deliver his quoit with the first step.

2. No quoit which measures more than 8 in. external diameter shall be used; the weights may be unlimited or as agreed upon.

3. The hobs to be an inch above the surface of the ground, which should be, if possible, clayey, or sufficiently soft for the quoits to be partially embedded.

4. All measurements should be taken from the pin to the nearest visible part of the quoit; the quoit and the soil must not be disturbed.

5. No quoit shall count unless fairly delivered in the clay free from the outer rim. No quoit on its back shall count unless it holds the clay or is knocked out by another quoit. No quoit rolling on the ground shall count unless it first strikes another quoit or the pin.

6. Each player must deliver his quoits in succession, his opponents then following.

7. The fiat of an umpire shall be final in cases of dispute.

RABBITS.—The rabbit, considering its size and insignificance, has probably been more productive of trouble among the human race than any other four-footed animal that one can readily name, hardly excepting the racehorse; on its account political factions have fought unceasingly, and legislation, beneficent or the reverse, has followed close upon its scut. For years the Antipodes have been up in arms against the beast, and thousands of pounds have been spent to discover some method for its extermination in the colonies. Poison, the importation of vermin, destruction of its food by fire, even the dissemination of most loathsome diseases among what some were wont to term the "feeble folk," have all been tried in vain.

It was generally thought that, after the passing of the Ground Game Act, the rabbit would diminish in numbers and possibly

increase in value, his place among the items of our food-supply standing very high, more particularly in the manufacturing districts. Leeds and Sheffield were, and are still, amongst the best markets for a consignment of dead rabbits. Like most prognostications as to the effects of the Ground Game Act, the prophecy was falsified, and rabbits are in the aggregate probably as plentiful as ever in this country, although their *habitat* and ownership have considerably altered. The tenant farmer now looks with a keen eye to his half of the ground game, and in most cases tries to steal a march upon his landlord's keepers in its acquisition. Unfortunately the deadly steel trap is not always, indeed very rarely, placed inside the "burrow" or "bury," as is contemplated by the Act, but it lies outside many a dry ditch, in a furrow or hedgerow, waiting for what pheasant, hare, or partridge it may devour.

As to a humane gin to take rabbits alive and painlessly, we have accomplished that, and the contrivance has been in use upon the Rhiwlas Game Farm, Bala, for the purpose of transferring rabbits alive to the warrens, for many years. No inconvenience or pain whatever is felt by the captive, who continues peacefully browsing around the peg that holds it, until the keeper arrives to transport it to a new home.

In cover-shooting, the rabbit is not so much in evidence as he was before the passing of the Ground Game Act; indeed, except where covers are within an enclosed park, or some such demesne, ground game is nowadays generally conspicuous by its absence.

Keeping Under.—It seems a waste of words almost to describe the various methods of keeping rabbits down, as nothing very new has been invented. Long nets and gate nets for the poachers, the ferret and purse-net for farmers, school-boys and gamekeepers, the pea-rifle for the ambitious, the lurcher for the loafer, the pitfall for the lazy, and the steel trap and gin for the professional; these efficient, though antiquated, weapons still constitute the main methods of attacking the rabbit, the gun being in the main only an auxiliary and principally used for purposes of sport.

With regard to gins, humane or otherwise, it may be as well to describe, for the benefit of the tiro, the best and most accepted way of setting them.

Choose a frequented run, one well covered with herbage, if possible, to conceal the apparatus, either on the flat, or, better still, on the side of a hill. Select the narrowest part of it, between the "jumps"

of the rabbit; his squatting places can easily be distinguished by the herbage being flattened out into a wider space. A rabbit, let me mention, does not, when unpressed and at his ease, run down the rack, so to speak, but seeks his goal by a series of leaps or jumps, stopping every few yards to squat before going on again. Having, then, pitched upon a narrow part of the run, drive the big peg firmly into the ground at the side of the run with a wooden mallet; let this be well hidden by the grass, heather, or what not; then give a hitch or bend to the centre of the wire to hold it in a loop just four inches in diameter. Next, stick the carrying peg in the ground to hold the loop (which should just easily go round your closed fist) at an acute angle to the run, preferably in the grass at the side, or otherwise concealed, four inches from the ground, and with the runner of the noose on the low side, so that the loop may run easily along the wire. Properly set, the catch loop should stand up at right angles or nearly so from the support peg, elevated above the surplus wire. If the latter be at the top, the noose will not run so freely; this can advantageously be hidden with bits of cut grass, leaves, &c., as also may the string which connects the wire with the holding peg. The time for setting all kinds of gins and traps is very important, and should be so chosen that as long a period as possible elapses before the hour at which the rabbit comes forth for its morning or evening meal, that in the meanwhile the scent of the human hand may die out. From nine to eleven in the morning for the evening catch, and from ten to midnight for the morning will be found to be the most suitable hours. Make as few marks in the grass and as little disturbance as possible, and always work in gloves when dealing with rabbits or rats.

An experienced hand can so manipulate and set his gins as to catch buck or doe rabbits at will, the difference in the length of the jumps being well known to the wily snarer, who sets his snares accordingly.

Increasing Stock.—So much for the taking of the rabbit; now for a few words as to the best method of increasing the stock. Of course, all ground vermin must be kept down as close as possible. Ruthless war must be waged on stoats, weasels, cats, and the like. The rabbit has the advantage of being able to bolt underground at will, in consequence of which the depredations of winged vermin need not be a cause of very serious anxiety, although the buzzard is, where he still exists, an active and untiring enemy. The great secret in getting up a

large stock of ground game, whether hares or rabbits, is to get annual change of blood. Too much stress cannot be laid on this point. Buy, or otherwise acquire, bucks from your neighbours, and from those neighbours more especially who live furthest off, and you will have plenty of rabbits. Our own plan is to kill off nearly all the rabbits in the warrens as early as possible, leaving the ground untainted for as long a period as can be managed, and then restock in January and February. In killing off, of course, we leave a certain number of does; fortunately, the buck rabbit, as is the case with the cock grouse, is the bolder and puts himself first into

official rabbit preserve I will now attempt to describe.

Find a field or rough open space, either partially or wholly surrounded by woods in which the rabbits live and breed. Let this be walled round, and let holes be made in the wall at regular intervals, and closed by wooden or iron shutters at will. Encourage the rabbits to feed in your walled-in ground. (The best way to feed rabbits in winter time is with hay put in low miniature racks with wooden bars, such as are used for feeding sheep, only, of course, close to the ground, and of a smaller size suited to the rabbit. Never give turnips; they scour your rabbits and kill them off with



STOPPING HOLES BEFORE A RABBIT DRIVE.

danger. Such bags as have been procured in our warrens would have been impossible, had not this constant change of blood been rigorously insisted on. The cartridges used should be lightly loaded Schultze Powder, charged with only three-quarters of an ounce of No. 3 shot, which is the proper charge for rabbit shooting.

Do not, when getting up your stock of rabbits, allow any admixture of Belgian hare or any other even approximately tame blood to creep in with a view to increasing the size of your animal, for disease and decimation are certain to follow such a disastrous introduction.

A warren, or shooting park, for rabbits can be made anywhere; even a plain grass field can be made to serve the purpose, and such an one has been turned to good account in Carnarvonshire, which thoroughly arti-

dysentery.) Of course, the beasts soon get quite at home in your enclosure. A night or two before you shoot, shut down the shutters, and the thing is done.

An improvement would be, to my mind, to make the shutters of light iron bars to swing outwards from the cover into the preserve, shambles, or whatever we choose to designate the scene of slaughter; the rabbits would soon learn to use these, and as the gratings would swing back of themselves, preventing the return of the tenants, your enclosure would soon fill itself without any particular attention on the part of the keepers. Care must be taken, however, not to leave the huge trap too long without emptying, or else to supply plenty of food inside, or the rabbits would starve. The arrangements for the "Battue" are as follows:—The whole space is laid out in lines of some 20 to 30 yards in breadth,

marked out by heaps of sticks or brush-wood euphemistically termed "castles," artistically arranged on faggots at the bottom, so that the whole structure shall lift up easily. If you wish to make your captives extra comfortable, put a few half drain tiles, split down the middle, under each heap for them to sit in should it rain.

On the day of reckoning, each gun takes up his position and walks slowly down the



TAKING A RABBIT FROM A SNARE.

open space between the heaps of brush-wood, keeping good line and looking right or left as his attendants lift them up. A boy or two dog his heels to run after and capture the cripples, otherwise the intervening spaces are kept clear.

Two beaters, armed with stout poles, walk on either side of each heap, and simultaneously at a bugle sound from the head-keeper, every "castle" is lifted up, while a third man, walking behind the other two, vigorously prods the natural mattress below, on which one bunny or more is reclining.

When every heap has been turned over and its contents accounted for, or missed, and the line of guns and beaters have reached the boundary wall, ground is taken to the right or left, the line reformed with fresh hummocks to conquer, and a repetition of the particularly edifying process goes on.

This is in truth shooting made easy; a man in a bath-chair has been known to par-

ticipate in the performance; it is not a bad way, though, to teach youngsters to be quick and careful with their weapons, while an odd pheasant that has somehow got bottled up in a heap occasionally helps the bag.

Beating.—In beating for rabbits in any kind of cover, always instruct your beaters to *poke*, not *beat*; a rabbit in a bush will refuse to go out for any kind of cudgelling; in fact, I have seen them beaten to death sooner than move, whereas the gentlest little prod from the end even of a switch will send them flying.

It may be useful here to observe that the way a rabbit's head is pointed when at rest is the way he goes, so that if you are lucky enough to detect him in his retreat, you can without difficulty place yourself in the most favourable position to finish him.

Remember, also, that it is impossible to drive hares down-hill and up-wind to guns, and almost equally difficult to manipulate rabbits in these directions. In common with pheasants and all sorts of game, rabbits have a keen sense of smell, and will sooner a thousand times try to break back through the most compact line of beaters, stand they almost leg to leg, than go forward where, even though no danger be visible, their noses teach them that their most dreaded enemy is located.

Too little attention is paid to this point when organising big ground game shoots, as also to the question of "stopping," few keepers recognising the fact that rabbits require keeping off the ground that has been beaten quite as much as pheasants. A net should be run and duly guarded at proper intervals by responsible human beings—old women are not bad, if not gun-shy—or a sufficiency of stops should be placed to guard the exhausted beat.

Although a certain number of rabbits will always lie close and afford sport, yet the experienced keeper well knows that considerably more will keep creeping ahead, and a large proportion of such will inevitably escape the gun, as instinct leads them on to the beaten ground and consequent safety; and beaters using one hand to beat and trailing a rope with the other, held, of course at the further end by the next beater, will do far more in thick grass, or any cover over which a rope will pass, than will beaters armed with sticks alone. Rabbits are far more frightened of a rope than of any stick.

Should you wish to keep rabbits out of any particular bury or burrow, say in a shrubbery, pleasure-ground, lawn, or what not, an excellent plan is to put a piece of rabbit's paunch down each hole and then

block up the opening. No rabbit will come near the place for weeks. The same applies to scratches under a wire fence or other obstruction, where rabbits are attempting to break in; indeed, a piece of flannel placed upon the spot of forcible entry will often drive away the intruder.

But be careful not to use rabbit paunches for manure, at any rate not till they have been decomposed in soil for many months; they are, when fresh, most destructive to vegetation of any sort.

Whilst on this "savoury subject," it may be as well to suggest that pits, dug beforehand at convenient spots for the accommodation of whoever presides over the last obsequies of our subject, are a cleanly and sanitary precaution, and that no rabbit should be paunched until the blood has set, or whilst warm. The pits when used can be filled in with soil.

Packing.—In packing rabbits for market, let them get quite cold and stiff, then lay them in layers in hampers, turning the heads over the shoulders so as to fit the carcasses well into the interstices; press them in all round; let there be no shaking about. They should come out a compact mass. Fill in the top of the hamper with clean straw or fern. Do not believe in those nice-looking baskets with holes across them to sling the rabbits on. A porter is quite sure to throw the whole affair upside down into the van. Hang your rabbits up for a night before packing, then, if at all wet, dress the fur over with a curry comb and finish off with a good hard brush. The appearance of your merchandise at market is vastly improved by these simple precautions.

Laying out.—In laying out rabbits for shooting, do not use ferrets or anything but gas tar, which is cheap enough. The proper way to set out rabbits is to send men round with spades, and block every hole with earth, which must be sprinkled on the outside with tar from a can. In twenty hours the rabbits will scratch out for food, and carry with them to their dinners a recollection of the unsavoury scent of the gas tar. The men should then go and again block the holes and again besprinkle the stoppings with the tar; let this operation be repeated every day until the last before shooting. Four or five days will complete the whole process, and you will find every rabbit lying out. If this is done in a wood, they will be found lying in the rough fields around, if in a park or warren in the cover nearest to their habitations.

Do not believe your keeper if he tries to insist upon the use of ferrets—a lengthy operation, and ruinous to your stock—as

the mere scratch of a ferret is poisonous to a rabbit, although, if you can find your rabbits out and manage to run a ferret whose coat has been well saturated with train oil (avoid paraffin, it burns the poor animal) through the burys, the rabbits will not return to them for a considerable time.

Fencing.—Now as to the best way of fencing rabbits, out or in.

Wire-netting forms the best, lightest, and cheapest fence for rabbits, whether for park, warren, or plantation. A special kind is made nowadays—I get mine from Boulton and Paul, of Norwich, graduated as to



THE KEEPERS AND THEIR EQUIPMENT.

its meshes from bottom to top, very small at the bottom to stop the baby bunnies, and gradually increasing in size as it ascends. This is the most effectual plan. Have your posts cut to stand 4 ft. out of the ground (I am quoting now from my book, "Rabbits for Powder and Rabbits for Profit," p. 42, published in 1888—so its instructions have been proved reliable by time). Make them of larch, or, still better, of oak, or iron if you please; if of wood, be sure to char them well before fixing in the ground. The stouter they are, the better; and they should be round, or at least triangular, with the blunt side outermost. These posts should then be driven into the ground 4 ft. apart, and a barbed wire run all round them on the top, or, better still, an inch or two below, so as to offer the firmest resistance to any animal pushing against it. At the height of 3 ft. 6 in. from the ground, or even 3 ft., fix on each post iron or wooden arms to carry a black annealed wire on both sides of the posts, outside and in, so as to turn over your wire netting both ways, to prevent rabbits from scrambling and climbing up the wire and thus entering, or escaping

from, the enclosure. Rabbits will learn to climb like cats. I have often seen them do it myself, so that it is absolutely necessary that the wire netting should be turned both outwards and inwards, not only at bottom, but at top, to give you a really secure fence. Another black annealed wire should be stapled on the posts on the outside, or that furthest from the rabbits. From this the wire netting should be turned both ways over the other wires, supported by the projecting arms. Of course, it will be necessary to piece, or attach, a loose strip of wire netting to form one of the turns over. Another annealed wire should be stapled on to the post 21 in. from the ground, and yet another quite close to the soil, underneath which let the netting be again turned outwards and inwards some 5 or 6 in., lying along the surface of the ground. Then you have a perfectly secure fence, both ways, and, strange though it may appear, not a rabbit will scratch out, while, if you sink the wire netting *straight* into the ground after the usual fashion, escapes will be frequent, and a man's time almost entirely taken up in blocking and repairing the holes where the rabbits scratch out and in. The grass and other herbage soon grows up through the turned-in wire, and forms a matted surface through or underneath which the rabbits will not attempt to scratch, their habit being to go right up to any obstacle, and then dig downwards until they get underneath it, when out they bolt; fortunately, they never go right away and tunnel under.

Having now got your rabbit-proof fence complete and in order, do not forget to put some ladder-stiles to get over it at the points most frequently used, or even a couple of stumps, one each side, to enable a man to stride over; this will save your fence and also your knickerbockers from the effects of wear and tear. Now, having got your rabbits safely housed, the next thing to do is to see that no depredators help themselves without leave. To guard against long netting, put parallel lines of barbed wire pegged up 3 or 4 in. from the ground at right angles to the spot at which the nets would have to be set. Leave plenty of cut brambles and thorns about; loose bundles of barbed wire rolled round short thick pieces of wood are also awkward for a net.

Drive your rabbits in early on moonlight nights; if there be no poachers about, it is a good habit for them to get into their holes at once on sight or sound of a dog.

Beware of midnight ferreting with purse nets; this is the most dangerous form of all

poaching, and the most difficult to detect. A poacher gets into some quiet part of your warren, park, or cover, with no dog, nothing but his ferrets and nets. He lays himself down in the fern and quietly goes to work; and, unfortunately, rabbits will bolt well to ferrets at night. Nothing but midnight prowls and very careful watching on the part of your keepers will obviate this most destructive form of depredation.

Retrievers.—Editors of sporting papers are constantly being asked by would-be "rabbit potters" as to the best kind of retriever to take out rabbit shooting. The question is easily answered with "none."

A retriever is quite out of place when out after rabbits. Either your whole time is taken up in trying to keep him to heel, or he has seen so much of the game that it bores him, and he will not try when you want him.

If you must have a retriever, get a fast one, keep him on a string and have him in good condition. The only use for a retriever is to retrieve your bungles, and when a rabbit is racing for home, even on three legs only, he puts in very good time, and the dog has to be pretty smart to have a chance with him.

Concluding Hints.—Undoubtedly the best way—it cannot be too often repeated—to get up a good stock of rabbits is to kill off your stock, more especially as regards the bucks, before December, if possible, and then turn in plenty of fresh blood on the untainted ground to start you well for the next season. Feeding what you have left in the winter, and more especially during snow, must on no account be overlooked. Never give your rabbits turnips; as already mentioned, it only scours them, and they die like flies. Put a little Indian corn into their burrows, and keep them well supplied with hay in little low racks, made on the same principle as those for sheep. Do not spread the hay about the ground; it gets damp, sodden, and trodden in. Those who wish to catch their rabbits wholesale will find a pitfall with a swing plank across it, which goes down at a rabbit's weight, very effectual. A turnip or two at the bottom will prove irresistible; but do not forget to examine and deal with the captives every morning without fail. A general enclosure for rabbits can be easily and expeditiously filled from the outside where there are any walls, or turf banks, or even hedges, if properly trimmed down at the end nearest to the place into which you wish to entice the quarry. A plank projecting from the end of your wall, which should be pulled down for a foot or two away from the rabbit

fence, well over the wire, into the warren or cover, will lead the rabbits in; and they will jump down off the plank to join their comrades inside. Jealousy forms a striking point in the rabbit's disposition; he always thinks every other rabbit is better off than himself. I have seen an iron bar projecting from the end of this plank, on the point of which a turnip can be occasionally impaled, to tempt the rabbits to the extremity and their subsequent downfall, and this is a very effective device.

R. J. LLOYD PRICE.

RACING.—ORIGIN AND DEVELOPMENT.—A duller task could scarcely be undertaken than that of endeavouring to trace the history of horse-racing from material furnished by the vague and contradictory accounts of the earliest writers on the subject. It may safely be assumed that racing dates from the period when two energetic men found themselves side by side on high-couraged horses. Whether the steeds or their riders were first fired by the spirit of emulation no one can say; but surely such a prehistoric spin was the nucleus of the Derby. This is not a theme that could profitably be enlarged upon by a writer whose object is to be practical. Antiquity will be entirely disregarded; and, skipping over centuries, no effort will be made to summarise the history of Newmarket, or relate what potentates and princes have shaped and sustained the sport upon the historic Heath. There is so much to be said about racing in its modern developments that no space could well be devoted to archaic matter even if it seemed desirable; and one of many reasons why it does not so seem is that, in all essentials, the sport, as it is conducted in the twentieth century, differs completely in its character and surroundings from what it was before the Turf became so widely popular. When race meetings were first organised they were held annually near many cities and towns, the runners being provided by the local magnates and gentry. The horses, usually hunters, were ridden at catch-weights by their owners or their grooms, and, to spin out the programme, in contests other than matches the races were run in heats. By degrees it became apparent that horses trained systematically and kept exclusively for racing had enormous advantages over others; and it appeared, furthermore, that men who were accustomed to riding races turned their experience to highly profitable account. By degrees the vast importance of weight began to be recognised, and some rough rules

were formulated. Racing, indeed, showed signs of growing into shape as it is now conducted. Owners of proved good horses ceased to be content with local successes. Prize-winners were sent into neighbouring counties, ridden and led by their jockeys with racing saddles strapped on their backs; and it was probably imagined that finality in the way of convenience had been reached when Lord George Bentinck hit on the brilliant notion of sending one of his horses, Elis, to Doncaster in a van. How animals are now despatched from one end of the country to another, often by special train on the morning of a race, so that those who dislike strange quarters should be away from their stables for as short a time as possible, need not be described; nor is it necessary to dwell on the immeasurable impetus which has been given to the sport by the introduction of railways, telegraphs, and the modern increase of newspapers.

A few words may be interpolated as to the serviceability of racing as a means to an end. The English thoroughbred horse is the most valuable animal in the world. Flying Fox was sold for 37,600 guineas, and other horses have made 30,000 guineas; Sceptre changed hands as a yearling for a bid of 10,000 guineas, and, after her racing career, fetched 25,000 guineas; the brood mare Flair cost her owner 15,000 guineas. The only method by which the excellence of a horse can be demonstrated is by racing him. Opponents of the sport, who do not fail to recognise the value of the blood, have expressed the belief that the exhibition of racehorses at agricultural shows and similar functions would meet every requirement; but this is not the case, for the reason that the creature's worth depends upon the possession of other than external qualities. One does not want a horse merely to look at. Make and shape are not to be despised, but the great point is whether the horse has speed, stamina, constitution, soundness, and other attributes calculated to render its offspring worthy upholders of the family; and this can only be ascertained by submitting the animals to the ordeal of preparation and testing them on the course. An infusion of thoroughbred blood confers special and peculiar benefits on those so endowed, whether chargers, hunters, hacks, or carriage horses. The fact has been constantly made obvious when horses of what may be described as the royal strain have drifted out of their own class and been put to try conclusions with their coarser bred cousins. The "blood" horse—thoroughbred or even half-bred—that comes to carry a soldier, or a sportsman in the hunting-

field, may not have the size and scope of some of his companions, and may not look so well able to bear weight; but as a very general rule his action and courage will unmistakably prove what his breeding signifies.

Eclipse was the grandson of the Darley Arabian; he became the sire of three of the first five winners of the Derby, and thus is gained something like a direct connection between the earliest days of recognised racing and the present time. It is said of Eclipse that he galloped at the rate of a mile a minute; and the statement is valuable as showing how utterly untrustworthy and ridiculous the records of sport in the last century must be. No horse has ever galloped a mile in that time with half as much again added to it. This would lead, if one were tempted into it, to a discussion as to the relative speed and stamina of the thoroughbred horse now and a century ago—a profitless theme, as times vaguely spoken of as having been accomplished in bygone days were altogether untrustworthy. They have constantly improved since they have been taken with a near approximation to accuracy. The conviction is that the horse of to-day is speedier than his predecessor was; there are those who think him less gifted with staying power, though as to this opinions again differ. The crop of thoroughbred horses is now annually so enormous that there must inevitably be a large proportion of weeds; the more so as, for many years past, at any rate, speed rather than stamina has been the object aimed at by breeders; but there is no sound reason to doubt that the best horses of to-day would gallop the four miles and a quarter (less 43 yards, if strict detail be demanded) of the Beacon Course at Newmarket at least as speedily as did the horses of any former period. It is not a little strange that, whereas the infusion of Arab blood from the three sires, the Godolphin Arabian, the Darley Arabian, and the Byerly Turk, has made the English racehorse of to-day what he is, the Arab of to-day should be in all respects such a vastly inferior animal. The fact is unquestionable. No weight—and what weight means will be presently considered—will “bring together” the best Arab and the poorest of English horses. This was demonstrated some years ago at Newmarket in a race between Asil and Iambic, between the best Arab of his day and about the worst thoroughbred; for, with a huge advantage in weight for Asil, and over a course which was supposed to suit him and to be four times more than Iambic could compass, the latter won in a trot. The value of the

English thoroughbred is indeed universally recognised, and the whole world supplies itself from England. Europe, America (North and South), India, the Colonies, have all derived their racing stock from this country, and they can only sustain it by continuing to draw from the same supply.

BREEDING.—That there is no royal road to the production of good horses is shown by the fact that many owners to whom money has been of no importance, who have added long experience and keen observation to practically unlimited expenditure, have vainly tried all their lives to produce the object of every racing man's ambition—a Derby winner. Much is written about scientific breeding, but the most that can be really maintained in regard to it is that by the judicious union of certain strains of blood a fair proportion of valuable horses is likely to be secured. When a horse wins a number of the principal stakes, strong evidence seems to be furnished that he is bred on highly judicious principles; but all the own brothers and sisters of such a horse—not only one or two, but all of them—not seldom prove absolutely worthless for racing purposes, and this is an argument against scientific breeding which takes a vast deal of explaining away. The different supporters of the theory of scientific breeding have different ideas on the subject; there are no set rules. The majority of them, however, would doubtless have agreed cordially as to the absolutely and unimpeachably scientific breeding of several horses who finished far behind St. Gatien in the Derby and behind Robert the Devil in the St. Leger; and it is certain that neither of these two animals would ever have been picked out as an example of the science. One naturally chooses a sire of approved merit, and looks for size and quality in the mare; but if she is good-looking and comes of a distinguished family, it is not essential that she should have won races. A great many of the mares that have been most successful when in training have failed to produce winners. Possibly in some cases their vital energy has been more or less exhausted during their career on the Turf. The fact remains, whatever the cause may be; and, on the other hand, many mares that ran moderately, or even badly, have become the dams of famous horses. There are what may be called “chance” sires also. An example is Wisdom, a wretchedly bad horse when in training, who greatly distinguished himself at the stud, one of his sons having won the Derby, another the Ascot Cup, and a daughter the Oaks. Reference



After Harington B. 1870.

ISINGLASS WINNING THE DERBY.

has already been made to The Rover, sire of St. Gatien, and to Bertram, sire of Robert the Devil, though it must be remembered that unless a horse has shown capacity to win races he rarely has good mares sent to him.

Advocates of scientific breeding are specially contemptuous about what they describe as "rule-of-thumb"—that is to say, disregard of intricate and exhaustive calculations of strains of blood, in favour of the simple attempt to supply from the dam deficiencies in the sire, to obtain from the

his stud duties. It can scarcely be necessary to remark that the age of thoroughbreds dates from January 1st, and that the period of gestation is a year. Foals have occasionally appeared during the last days of December, and the unfortunate owners find themselves possessed of "yearlings" that are actually only a few hours old, the little creatures therefore rating as two-year-olds when their age is really twelve months *plus* the hours by which they anticipated the beginning of the year; and it is obvious that they are at a hopeless disadvantage with



TAKING OUT THE STRING TO EXERCISE.

sire correction of weak points in the dam, and so forth. It is far from certain, however, that, if this is carefully done, the secret of breeding, so far as there is any, has not been discovered. The suggestion will no doubt provoke the contempt of the theorists, but it is an idea firmly held by many men who have considered the subject and dealt with it practically all their lives—and have very likely in their time been themselves ardent supporters of theories, before the futility of their most ingenious calculations had been repeatedly exposed. Certain questions as to make and shape being borne in mind, if a man sends a dam of winners to an approved good sire, the result is very likely to be a good animal.

Of late years the majority of breeders have paid attention to a point which was formerly much neglected—the necessity of keeping the stallions in good health by giving them sufficient exercise. Opinions differ as to whether it is advisable to ride the horse or to lead or lunge him, and the truth is that this depends in a great measure upon the disposition of the individual animal. But robust exercise is essential, particularly in the autumn, that he may be hard and in good health when he begins

their *quasi*-contemporaries who have months of additional growth; for a few weeks make a great difference to a foal when he once begins to grow the right way and to "do well." Some breeders like their foals to be born in January, so that they may have the more time to get forward; others think that the young creatures thrive better if they do not come into the world till the spring grasses have begun to grow, till there is more sun. Seeing that days in March are not seldom as bleak and cold as any in the year, attempts to avoid winter winds are likely to have doubtful results. Here, as elsewhere, hard-and-fast rules are in truth impossible. Much depends upon the mildness or inclemency of the season; much more on the treatment to which the foals are subjected, the shelter afforded them, and so forth; very much, again, on the young animals' constitutions. Roughly speaking, it would seem that a colt born in February would have great advantages over the one born three months later, when as two-year-olds they run against each other; but some of the most successful horses known have been May foals. The Bard, Saraband, and Best Man may be cited as examples.

TRAINERS.—As a rule the trainer has worked his way to the position he occupies after apprenticeship as a jockey. In very many cases, having become too heavy to ride on the flat, he has afterwards taken to riding over a country; for under National Hunt Rules, which govern steeplechasing and hurdle-racing, the minimum was an irreducible 10 st. until within the last two years, when, though only for handicap steeplechases of three miles and a half or upwards, a minimum of 9 st. 7 lb. was intro-



YOUNG HORSE AT EXERCISE.

duced. Of the principal trainers now in active pursuit of their calling, those who acquired a knowledge of the business in the manner indicated include Richard Marsh, Charles Archer, Joseph Cannon, Tom Cannon (who, however, only rode as a jockey on the flat), Richard Chaloner, George Chaloner (a flat-race jockey only), S. Darling, H. Escott, Fallon, W. A. Jarvis, T. Jennings, jun., the Hon. George Lambton, Mr. Gwyn Saunders Davies, Mr. H. S. Persse, and Mr. J. Fergusson (exclusively amateur riders under National Hunt Rules, or on the flat for the clubs to which they belonged), F. Lynham, W. Nightingall, John Osborne (on the flat only), John Porter (on the flat), W. F. Robinson (on the flat), and F. Webb, the last-named having ridden in the Grand National, though only on one occasion. There could not be so good a way of obtaining practical experience of every detail of the sport; for no one can tell the condition of a horse better than the jockey who rides day after day and year after year; and to get a horse into perfect condition is the aim and end of the trainer's art. At the same time, that this apprenticeship is not essential is proved by the successes, for example, of the famous Dawson family. The four brothers, and the sons of two of them, John and George, have successfully superintended large stables of horses; George in particular was associated with many notable triumphs, for he was fortunate in finding animals of especial

excellence—Ayrshire, Donovan, Semolina, Memoir, Mrs. Butterwick, and Amiable, all classic winners—under his control.

The modern trainer is a far more prosperous person than the old training groom; but if his rewards are higher he has more work to do in the majority of cases, for racing has enormously increased during the last few decades; usually trainers have a larger number of horses to look after, and it is a common thing for owners to rely much—in some instances exclusively—on their trainers' advice as to when horses shall be engaged and which of the engagements they shall fulfil. Making entries, striking horses out of stakes for which they are not to run, sending them about the country in all directions, finding jockeys to ride, are all duties which require anxious care; and then there are the yearly sales at Ascot, Newmarket, Doncaster, and elsewhere. Some owners recruit their stables entirely from sales, nearly all buy occasionally; and it is part of a trainer's business very critically to look over what is to be sold, estimate the value of the animals, and advise as to what may judiciously be bought.

The opinions of experts, it may be remarked, differ very widely on the subject of yearlings. Some trainers—good judges and in all honesty—will strongly recommend their employers to buy horses which other trainers—equally capable men and actuated by the best motives—regard as worthless, and beg their patrons not to bid for. This may be partially due, no doubt, to prejudice against sires or dams or strains of blood; there may be a suspicion, more or less well founded, that the stock of a certain horse exhibit a tendency to “make a noise,” that the progeny of a certain mare are “soft,” that hereditary bad temper will break out, or that some defect is likely to show itself; but, apart from this, in examining the animal one trainer will see some fault—coarse hocks that threaten to be curby, badly shaped feet, a jaw which suggests roaring, lightness of bone, uprightness, hocks too far back, want of length, or one of a score of weaknesses which will escape other eyes or will be set down as unimportant. “A nice compact horse,” one man will say. “Too set and furnished; no room for improvement,” will be the verdict of another. “Too small; nothing of him,” A. will decide, turning from some youngster that is being led round. “Very well shaped colt; good bone; I like him; he ought to grow into a very useful sort of horse,” B. will observe. It will be found that there are two ways of regarding almost everything that is inspected. When owners have

many horses, a very large sum can be annually saved by keeping a careful eye on the *Calendar* and paying minor forfeits for animals which it is certain will not be sent for races in which they are engaged. By inattention to this matter a well-known trainer who died not long since annually cost his employers many thousands of pounds. Of course, this was the fault of the owners for not looking into the matter themselves; but, as so many gentlemen do, they left the matter in the trainer's hands and continually found when too late that they had to pay for his carelessness. If the owner breeds for racing, again, it frequently happens that the trainer is called in to superintend that department, also to advise as to mating the mares, to see that they have all possible attention at critical times, and to keep an eye on the foals when they are born.

wins with 10 lb. more on his back than the touts can possibly imagine he carries; and so back to a luxurious breakfast—after wiring off in cypher to make arrangements for winning a fortune on the good thing just brought to light—a meal made more enjoyable by perusal of sporting journals, full of compliments on his skill, astuteness, and the perfect manner in which yesterday's winners from his stable were turned out.

That is the conventional view, and it is not entirely accurate. The trainer may not improbably have been kept awake half the night wondering whether he dare "go on" with the Derby colt, or the favourite for some big race on which he has invested money he cannot afford to lose. The animal's shortened stride in his gallop yesterday was not to be mistaken, and certainly there was something suspicious in the



TRAINER WATCHING WORK AT NEWMARKET.

Many persons imagine that the trainer's duties consist in riding out on a well-broken hack to look after his string at exercise in the morning, and say which are to canter and which to gallop; in going round the stable once a day, accompanied by the head lad, who will be ready to answer all questions; and attending race meetings where he may look on at, or assist in the saddling of his horses when they are about to run. He is supposed by the outside world to have an almost positive knowledge of what is going to win; so that he can bet as much as he pleases, with a comfortable conviction that he will make a great deal of money, and can rarely experience disappointment or vexation in this matter, except, indeed, habitual displeasure at the shortness of the price which the ring will lay against his "certainties." It seems such easy work to canter over the heath or the downs, to inhale the fresh morning breeze, to watch, chatting to a friend, while the string come past, beckoning with his whip for some to go a little faster, or raising his hand to check the pace of others. Then there is the pleasurable excitement of the trial, in which, of course, the right horse always

manner in which he walked away afterwards. Shall he stop him, or chance it? This worry is increased by perplexity as to whether his most promising two-year-old—so charmingly shaped, with such perfect action—did or did not whistle—or worse—as she passed him. Was it the beginning of a "noise"? The boy "did not hear anything," but he is stupid; a jockey shall be put up when she next goes out, she shall be sent a good gallop, and he will find out the worst. The morning, when it dawns, is dull and dispiriting; he rides out in the drizzle, gallops the two-year-old, and discovers—a fact too surely confirmed by the jockey—that she does make a noise; the Derby colt, there can be no further doubt about it, is lame; and a horse which is well in a handicap next week, with nothing to beat, in fact, coughs badly several times. Breakfast is not made more agreeable by the *Calendar*, which shows that two horses who have been entered in forthcoming handicaps can have no possible chance, two or three belonging to other stables being "thrown in," and by some irritating remarks in a newspaper to the effect that a horse which he ran yesterday, knowing it

to be in perfect condition and believing that it could not lose, had, in the opinion of the critic, evidently been galloped to death, could obviously from its appearance have had no chance, had doubtless left the race on its training ground; "but if trainers will try their horses every other day, they must expect." &c., &c., with a hint to conclude with—not impossibly the critic had lost

the structure, anatomy, and constitution of the horse must be practically complete, and, more than this, of the varying constitutions of different horses; he must be, in fact, a thorough "stableman," which is another way of saying a veterinary surgeon. The professional M.R.C.V.S. is called in at intervals; but unless operations of some sort have become necessary, the chances are that



PRACTICE AT THE STARTING GATE.

money on the horse—that it may not have been the animal's "day out," it may do better later on; a suggestion, in fact, that it was not trying. A grumbling letter from his employer, an intimation that the only light-weight jockey who could "get out" a troublesome horse, a lad he supposed he had definitely engaged, will not be able to ride; and the bad news that his best foal had been kicked and had her leg broken—a filly that would have been worth a handsome price for the paddocks if she never won a race—make up a companion picture which is very often the truer one of the two.

Much more of the trainer's business is done in the stable than the outsider would suppose. He must, if he does his work thoroughly, study and get to understand the peculiarities of every horse under his charge. So many feeds a day, consisting of so much hay and oats, will not do; in certain cases food must be varied if the best results are to be obtained, and there are many examples of horses that have not done well on ordinary diet thriving on very unusual varieties of food. His knowledge of

the trainer knows quite as well as the "vet." what is wrong, and how the ailment had best be treated; if the two differ it is far from certain that the man with letters after his name is correct; but he is consulted mainly for the satisfaction of the owner, who may complain, if anything goes wrong, that the "best advice" was not obtained.

The trainer's first essential is to be a judge of condition. Some horses thrive on little work, run better when rather "above themselves"; others, gross horses, require a great deal more exercise to make them really fit; and the position is complicated by the fact that some animals look perfectly trained, or even light, when they are not really "wound up," and, as the expressive phrase goes, "clean inside." It is necessary, therefore, to find out exactly what work is required by each horse. There are some points upon which the most knowledgeable and experienced owners are almost bound to seek their trainer's advice; for the man who has charge of the horses naturally sees much more of them than the man to whom they belong. The trainer, for example, is best able to judge over what dis-

tance of ground a horse is likely to be seen to the greatest advantage, that is to say, whether or not he stays. This he judges from the way in which the animal does his work. It is a more difficult business than the inexperienced might imagine. "If you want to find out whether a horse can get a mile and a half, gallop him the course and see." would be the simple philosophy of the unpractical; but he may get a mile and a half when he has done work over something like the distance, and the question is whether it is worth while to train him and try him for such a course with the not improbable effect of impairing his speed if he is in truth not even a miler. The owner, if he have any familiarity with the sport, will observe whether his horse appears to finish his races strongly, to be "running on" at the end, and will draw his own deductions; but on the all-important question of an animal's best distance, the trainer will almost certainly be the safer guide. He must also necessarily be a sound judge of pace and of riding, or else his trials are likely to be very wrong and his reading of public running likewise much at fault. He must be sure whether a trial is run at a good pace, and whether the boys have been able to "get out" their horses—whether, in fact, it has been the equivalent of a true-run race. To him generally falls the important duty of giving the jockey orders how to ride—after or without consultation with the owner according to circumstances. If the trainer has not a keen appreciation of horsemanship, subsequent confusion is

desirable that the trainer should form his own opinion instead of depending upon the explanation of the average jockey, who, for instance, if he did not get well away when the flag fell, will be found not inapt to declare that he was first off. Some jockeys can and will give a trustworthy account of what has happened in a race; but these are a very small minority, for by no means all of them possess sufficient keenness of observation to take in what other animals are really doing, and if they themselves have done anything clumsy or stupid in the race they will not improbably find an excuse in some misleading explanation.

The trainer's work is unending, and it is rather the custom to ignore his labours and to underrate his share of success when it is achieved. The jockey who has narrowly and luckily escaped defeat by a head when he would have won comfortably by a couple of lengths if he had done justice to the horse and obeyed orders, is eulogised for having ridden a brilliant race; while the labour of the trainer, who has overcome many difficulties in bringing the animal to the post fit and well, is too often lightly esteemed, or accepted as a matter of course. Appreciation of a handicap is another requisite, that the trainer may perceive what chance his horse has, and if it is desirable to accept. Few professions are, indeed, more arduous, anxious, and responsible.

YEARLING SALES.—A particularly interesting feature of the season to genuine



A TRIAL.

likely to arise, as he will not know what his horse had in hand if he wins, or what happened in the course of the race—whether any legitimate excuse can be found for defeat—if he was beaten; and it is very

lovers of the thoroughbred horse is the sales of yearlings which take place periodically. On the mornings and evenings of the days on which the Newmarket July Meetings are held Messrs. Tattersall are busy. The

mornings of the Doncaster week are devoted to the same occupation, but at this time of year, approaching mid-September, the days are beginning to "draw in," and after racing the sales are not carried on, intending purchasers, or the curious who would like to purchase if they could, devoting themselves to an inspection of the lots that are still to be put up. Little groups of owners, trainers, their friends and acquaintances, go from box to box, reading the statement of pedigree that is fastened to the door—unless, indeed, they have read it before and



GOING BACK TO THE STABLES AFTER A GALLOP ON EPSOM
DOWNS.

have it in their minds—and critically examining the youngsters, who are not seldom upset by their strange quarters and unaccustomed relays of visitors, though some of them stand it calmly enough. Now is the time when one may hear much shrewd and instructive comment, together with a vast deal of nonsense and affected knowledge. How greatly the opinions of experts differ is dwelt on elsewhere in the pages devoted to "Trainers." By reason of an evil practice much followed by breeders for sale, the yearlings are frequently so overloaded with fat that it requires a particularly experienced eye to detect what they really are, and only the expert can tell whether they are likely to grow out of suggested defects and progress in the right way.

A few leading points, however, will be evident. One looks to see that their feet are well shaped and that they stand truly, not turning in their toes or showing other malformation. Evidence of good bone is sought, and the slope of the shoulders is specially noted. It is a great source of probable trouble if a horse is too upright in front.

Many good judges are particularly careful to examine the eye, which is believed to indicate much, though others scornfully observe that "horses do not gallop with their heads," and disregard this. The way in which the head is put on, and certain formations of throat and jowl, are very generally supposed to indicate danger of "roaring," however, and animals so made are to be carefully avoided; though their breeders, who are usually at hand in person, or are else well represented, are slow to admit the evidence of such failings, and probably ready to name and describe other animals of precisely similar structure, and very likely nearly related to these young ones, who are said to have emphatically upset all such theories and done great things when in training. One is careful to note whether the yearling is well ribbed up, and, if he be not, to refrain from paying too much heed to the theory that slackness here may very probably be a sign of speed—many breeders have a pretty invention. Good second thighs may be traceable even at this early age, undeveloped as they necessarily are; and particular attention must be paid to the hocks, to see that they are not coarse or curby, that there is good length from hip to hock, and that the hocks are not sickle or cow-shaped for one thing, and are well under the horse—not too far away from him—for another. A powerful broad back is also desirable. If the breeder notes his prospective customer standing by the yearling's shoulder and looking at his back, he will perhaps tell him that he "might play billiards on it." He will scarcely want to do so, but he will desire to be assured that there is strength. Size is a further requisite, and in this respect an animal may be too big or too small. A little horse is apt to be deficient in length of stride, though here action comes in; and those who saw the Derby of 1886 will not easily forget how the little Bard for a few exciting moments fairly held his own with his in all ways greater rival, the far-striding Ormonde. On the other hand, it requires specially strong legs and sound joints to carry an exceptionally large frame. Many yearlings, however, come triumphantly out of the ordeal of examination, have fascinating pedigrees to support their title to consideration, claim close relationship—are often own brothers and sisters—to animals that have done great things; and are nevertheless presently found to be worthless for racing purposes. Those who give three or four thousand guineas for such an animal are usually rather slow to understand, or at any rate to approve, the

appositeness of the adjective in that common phrase, "the glorious uncertainty of the Turf." In the so-called "Figure System," which is supposed to show how Derby winners are to be bred by mathematics, I have no confidence.

The Royal yearlings, which used to be sold at Bushey Park, appear no more, the Hampton Court stud having been abolished; but at the Ascot Meeting a number of lots come up, and at various other times and places yearlings are offered; though at the Newmarket December sales, which have of late years grown to considerable importance, few yearlings are to be found, the catalogues being chiefly made up of horses in training, mares, and foals. It is a set phrase with a certain school of critics that "no yearling is worth more than a thousand." That large sums are often paid for worthless animals, and that at the best there must always be a grave risk about the transaction, is, of course, true. On the whole, purchasers of high-priced yearlings have had an exceptional amount of bad fortune; not a few horses of whom high hopes were formed on apparently sound premisses have never been seen in public again after leaving the sale ring. But buyers must take their chance; and, indeed, year after year many are found quite ready to do so. No one can guess what a yearling will fetch, because no one knows what reasons a certain person or persons may have for desiring to possess it; and there are not a few rich men who, if they take a fancy to a thing, are not deterred by monetary considerations from obtaining it; but at the same time it is strange to note how often the expert foretells approximately the prices for which lots will be knocked down, except, indeed, when something very specially tempting is brought into the ring; and then, if 2,000 guineas are bid, it is often very possible that nearly twice that amount will have to be given to obtain the apparent treasure.

WEIGHT.—The usual record of a race states that a horse has won by a short head, a head—a very narrow distinction—a neck, half a length, three-quarters of a length, or more as the case may be. This is the common formula; but the critical expert is accustomed to say, "he won with 3 lb. in hand," "it was a 7-lb. beating," or, to use some such phrase which deals with weight and not with distance. The reason of this is plain. A horse may win by a neck and have 3 lb. in hand or 3 st., because jockeys do not want to win their races by a much larger margin than is necessary; though it may be incidentally added that the very

best riders have thrown away not a few races by attempting to draw things too fine—a stumble, a peck, some trivial accident, and a victory that had seemed inevitable is turned into a defeat. Weight, as the phrase runs, "brings horses together," hence the origin of handicapping, and of the system of penalties and allowances which is adopted to make chances more equal. It is impossible to give figures setting distance against weight, saying, for instance, that a length means 5 lb., for the reason that races are run over distances varying from five furlongs to close on three



A SAND BATH.

miles, and the farther a horse goes the more the weight tells. If the finish of a mile race be ridden out, and the winner beats the second by a good length, the chances are that with 5 lb. less on the latter the two would have as nearly as possible run a dead-heat, and in considering the relative capacity of the pair, the handicapper would probably make that allowance. Authorities differ. After a race, when the question arises what beating the second has received, the estimate of good judges not seldom varies to the extent of several pounds; but in such cases it will often be found on investigation that prejudice has a good deal to do with the opinions expressed. Success in a race usually entails a penalty, and in many weight-for-age contests, "maidens"—that is to say, horses that have never won—have allowances of from 3 lb. to as much as seven times that figure. As a rule, 5 lb. or 7 lb. is the maiden allowance; in practically every weight-for-age race mares and geldings are allowed 3 lb. The fact that a man's clothes weigh 3 lb. or 4 lb. more or less makes very little perceptible difference to him even when taking brisk exercise; and when the



THE SALE PADDOK AT NEWMARKET.

strength of a horse is considered, when, furthermore, one remembers that the race-horse is full of muscle and "condition," in the plenitude of health and strength, it seems strange that so slight an additional burden should really have any considerable effect upon him. That it has such effect is, however, daily demonstrated. The matter is still further complicated when one observes what heavy weights some good horses carry to victory on the one hand, and how frequently the tables are turned by a small penalty or allowance on the other. Foxhall, Plaisanterie, and La Flèche, all as three-year-olds, won the Cambridgeshire with 9 st., 8 st. 12 lb., and 8 st. 10 lb., the last-named in a canter, with her ears pricked; Isonomy and Carlton won the Manchester Handicap with 9 st. 12 lb.; Minting, the Jubilee, with 10 st. These are instances of brilliant successes under severe burdens; and to grasp the opposite side of the question a glance at Turf records will show how many moderate horses have been helped first past the post in the Prince of Wales's Stakes at Ascot by the 7-lb. maiden allowance. During the first three years of a horse's Turf career he is supposed to be constantly growing in capacity, and to adjust these ever-varying differences a scale of weight for age has been constructed. It runs as follows:—

SCALE OF WEIGHT-FOR-AGE.

The Scale of Weight-for-Age below is published under the sanction of the Stewards of the Jockey Club as a guide to

| Age. | Mar. and April. | May. | June. | July. | Aug. | Sept. | Oct. and Nov. |
|---------------------------------|-----------------------|---------|--------|---------|---------|---------|---------------------|
| <i>Five Furlongs.</i> | st. lb. | st. lb. | st. l. | st. lb. | st. lb. | st. lb. | st. lb. |
| Two years | 6 0 | 6 2 | 6 7 | 6 9 | 7 0 | 7 4 | 7 7 |
| Three years | 8 2 | 8 3 | 8 5 | 8 7 | 8 9 | 8 10 | 8 11 |
| Four years | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 |
| Five, six, & aged | 9 1 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 |
| <i>Six Furlongs.</i> | 6 0 | 6 4 | 6 7 | 6 11 | 7 0 | 7 5 | 7 7 |
| Two years | 8 4 | 8 6 | 8 8 | 8 10 | 8 12 | 9 0 | 9 2 |
| Three years | 9 7 | 9 7 | 9 7 | 9 7 | 9 7 | 9 7 | 9 7 |
| Four years | 9 9 | 9 8 | 9 7 | 9 7 | 9 7 | 9 7 | 9 7 |
| Five, six, & aged | 9 9 | 9 8 | 9 7 | 9 7 | 9 7 | 9 7 | 9 7 |
| <i>One Mile.</i> | — | — | — | — | — | 6 5 | 6 7 |
| Two years | 7 9 | 7 11 | 7 13 | 8 2 | 8 4 | 8 5 | 8 6 |
| Three years | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 |
| Four years | 9 7 | 9 7 | 9 7 | 9 7 | 9 7 | 9 7 | 9 7 |
| Five, six, & aged | 9 4 | 9 3 | 9 2 | 9 0 | 9 0 | 9 0 | 9 0 |
| <i>One Mile and a half.</i> | — | — | — | — | — | 6 0 | 6 4 |
| Two years | 7 7 | 7 9 | 7 11 | 7 13 | 8 1 | 8 3 | 8 5 |
| Three years | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 |
| Four years | 9 5 | 9 4 | 9 3 | 9 2 | 9 1 | 9 0 | 9 0 |
| Five, six, & aged | 9 5 | 9 4 | 9 3 | 9 2 | 9 1 | 9 0 | 9 0 |
| <i>Two Miles.</i> | — | — | — | — | — | 6 0 | 6 2 |
| Two years | 7 8 | 7 11 | 7 12 | 8 0 | 8 3 | 8 4 | 8 5 |
| Three years | 9 4 | 9 4 | 9 4 | 9 4 | 9 4 | 9 4 | 9 4 |
| Four years | 9 10 | 9 9 | 9 8 | 9 7 | 9 6 | 9 5 | 9 4 |
| Five, six, & aged | 9 10 | 9 9 | 9 8 | 9 7 | 9 6 | 9 5 | 9 4 |
| <i>Three Miles.</i> | — | — | — | — | — | — | — |
| Three years | 7 1 | 7 4 | 7 5 | 7 7 | 7 9 | 7 11 | 7 13 |
| Four years | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 |
| Five years | 9 8 | 9 7 | 9 6 | 9 5 | 9 5 | 9 4 | 9 3 |
| Six & aged | 9 10 | 9 8 | 9 7 | 9 6 | 9 5 | 9 4 | 9 3 |

managers of race meetings, but is not intended to be imperative, especially as regards the weights of two- and three-year-olds relatively to the old horses in selling races early in the year.

It is founded on the scale published by Admiral Rous, and revised by him in 1873, but has been modified in accordance with suggestions from the principal trainers and practical authorities.

TIME.—Occasionally in reports of races a comment is appended to the effect that the time was so many minutes, seconds, and fifths of seconds. If the figures happen to be accurate, they are utterly worthless for all practical purposes. The accuracy is to be doubted, because not seldom the time is found to vary on different watches. Of course, it is obvious that the animal who really covers a given distance in exceptionally short time must have great speed. No one can deny that. But the utter worthlessness of the "time test" is proved by the circumstance that horses who are unquestionably bad have very frequently won races in better time than that taken by horses universally acknowledged to be of the very first rank. The object of a race is not to accomplish the distance in the least possible time, but to arrive first at the winning-post. Nothing is more common than to read that some good horse has "won in a canter." If he had galloped his best, it is obvious that his time would have been considerably shorter. The fallaciousness of the "test" is further increased by differences in the going and in the nature of courses. If the turf be deep and holding, horses are likely to take longer than they would if they were galloping "on the top of the ground," and five furlongs down the hill at Epsom or at Brighton is a speedier business than up the hill at Ascot or to the finish of the Bunbury Mile, on the July course at Newmarket. Examples bearing on this have not seldom been quoted, but may be repeated here. Galopin, one of the very best horses that ever won the Derby, took 2 min. 48 sec.; Signorinetta, one of the very worst, took 2 min. 39 $\frac{1}{5}$ sec. Wheel of Fortune, one of the best mares ever known, took 3 min. 2 sec. to win the Oaks; the flying Pretty Polly took 2 min. 45 $\frac{1}{5}$ sec.; Glass Doll, a very common filly, 2 min. 42 sec. The mighty Ormonde's Leger time was 3 min. 21 $\frac{2}{5}$ sec.; Challacombe, a most moderate specimen, occupied 3 min. 5 $\frac{2}{5}$ sec. in doing the distance. These instances will probably suffice. "The watch" is of service in showing whether a two-year-old has speed, whether he can cover five furlongs in such

time as to suggest his ability to race with good prospects; but it has been found in many years' experience that a carefully chosen trial horse will give the same assurance. As an almost universal rule, to take (or attempt to take) the time of a race and to draw deductions from it is an utterly futile proceeding.

THE JOCKEY CLUB.—The Jockey Club, an association of noblemen and gentlemen dating from 1751, gradually became the supreme authority and the governing body of the Turf. The control of racing exercised by the Club is absolute. The Rules of Racing have been drawn up by the members with such continual additions and alterations as circumstances have seemed to demand, and adherence to them is rigidly enforced, offences against them being visited by fines of various amounts, and penalties which may effectually prevent those by whom they are incurred from running horses or taking any part in the sport; for horses may be disqualified from racing under Jockey Club Rules if, for instance, their owners are found guilty of corrupt practices, or if they run at unauthorised meetings, that is to say, meetings not under Rules; and men may be warned off Newmarket Heath and other places where the Rules are in force, as, in fact, they practically are at every place where a thoroughbred horse is at all likely to run. During the off season, when there is no regular flat racing, and in connection with steeplechases, hurdle-races, and a few other contests when flat racing is in progress, the National Hunt Committee is the governing body; but this is in close relation with the Jockey Club, and may be said to execute a delegated power. The seasons used to be distinguished as the "legitimate" and "illegitimate," but the expressions are obsolete.

All officials—clerks of the course, handicappers, stakeholders, clerks of the scales, starters, and judges—must receive licences from the Stewards before they can act, as must all jockeys. Election to the Club is by ballot; nine members must be present and two black balls exclude. The affairs of the Club are actively directed by three Stewards, the senior of whom retires annually, and is replaced in the spring by some energetic member who has been recommended by the retiring Steward and has consented to act. The Stewards have much more work to do than is usually imagined. Arranging the dates of meetings for the following year is by itself a most troublesome business, for it involves an infinity of correspondence. It rarely happens that

charges are not annually brought, openly or anonymously, against owners, trainers, and jockeys; and the Stewards have the task of investigating what they come to hear in one way or another, and of considering whether to renew the training and riding licences. The attendance of the Stewards at Messrs. Weatherby's offices is constantly requested; indeed, there is always pressing business demanding their attention. The three Stewards of the Jockey Club are Stewards of all races run at Newmarket, and are also, *ex officio*, Stewards of Epsom, Ascot, and Goodwood; in conjunction with the Jockey Club Estate Committee they have complete possession and control of the property and estates of the Club, and the management of the course and the training and trial grounds at Newmarket is in their hands. There is practically no appeal from them for men convicted of offences against the Rules of Racing. On a few occasions the common law has been invoked, but with no satisfactory result to those who have thus taken measures against the Club. The Stewards are frequently grumbled at for what they either do or fail to do, their action having very likely been influenced by excellent reasons of which the fault-finders can know nothing; but the most absolute confidence is reposed in their earnest desire to do their best for the sport. Their powers are great; for to be "warned off" not only prevents a man from visiting Newmarket Heath or entering any ring or enclosure at a race meeting, but involves a social stigma which irreparably ruins character; and, to make the penalty more sweeping, the warning off is usually reported to the National Hunt Committee, and various foreign Jockey Clubs, by which it is extended to meetings under their control.

Racing Officials.—The duties of the various officials need not be stated here at length. That a HANDICAPPER should give general satisfaction is, of course, not for a moment to be expected, as there are many owners who do not really want a handicap with which no fault can be found, but a compilation of weights which gives their horses an advantage. Palpable blunders in the chief handicaps are rare. For years past the weights have been compiled by a Committee of three, each of whom makes his own handicap, after which they meet, compare, and adjust differences. Mistakes arise, for the most part, from too close an adherence to book form with no special knowledge behind it. Roguery is less common than is usually supposed, but a few owners and trainers, aided by dishonest

jockeys, do at times run horses for the purpose of deceiving handicappers, so that the animals, having been to all appearance easily beaten, may have less to carry on future occasions.

The JUDGE must be in his box when the horses pass the post. He carefully scrutinises the approaching field through his glasses, takes in generally the positions of the leading horses, puts down his glass when the leaders are near at hand, and so notes precisely how the first three at least—usually the fourth, and occasionally others—pass the imaginary line between his box and the winning post. He can see infinitely better than anyone else how the horses finish; and though there are legends of judges having made mistakes in short-head verdicts, the chances are that their decisions have been correct. There is reason to suppose that once or twice a blunder has occurred, and never been protested against, when a horse, out by himself, has been an easy winner, but has come up on one side of the course under the box of a judge whose attention has been fixed upon two or three others on the opposite side fighting out what he has mistaken for the finish. On one occasion there was nearly being no verdict at all. The late Judge Clark, a wholly admirable occupant of the position—though he took no sort of interest in horses or any other animals, and occupied his leisure hours in the study of ecclesiastical architecture—went fast asleep one hot summer's afternoon at Goodwood when the horses were at the post for the Stewards' Cup. He gazed over the shimmering landscape before him till he dozed away, to be suddenly aroused by a happily observant policeman, who shook him up to consciousness just when the field had reached the distance, so that he had time to fulfil his duties. Only men who have hoped, feared, and anticipated much from the result of a race can realise what those most deeply interested in the winner would have felt had it been declared that the race was void and must be run again, as would have been inevitable. When there are objections to winners on the ground of crossing, jostling, bumping, or anything that has occurred in the course of the race, the evidence of the judge is sought, and always carries great weight with the Stewards. Very often after a close race only the judge can say for certain which has won, and the spectators wait with the utmost tension of anxiety to see what number he has instructed his assistant to hoist in the frame; or possibly it may be no number at all, but the "o o," which stands for a dead-heat.

The STARTER'S duties have scarcely been lightened by the introduction of the "starting machine," a colonial invention, first tried in this country in 1897, which still has warm advocates and no less energetic opponents. There is usually less delay at the post than under the old system of starting with a flag; so much must certainly be admitted; but good starts are by no means assured by the employment of the contrivance. Some horses never take to it kindly.

Of late years the starting gate has quite superseded the old-fashioned flag start in

walking up to take their places. The Stewards of the Jockey Club have made exhaustive inquiries, with the result that they have convinced themselves the walk-up start would not prove successful, though it is freely admitted that some animals cannot jump off from a stand, whilst others are able to do so with the utmost celerity, and there can be no question that therefore the standing start is not equally fair for all. The problem remains in a somewhat unsatisfactory condition. In races under National Hunt Rules the flag start is still the custom.



JOCKEY CLUB ROOMS, NEWMARKET.

[*Photograph by Sport & General.*]

all races under Jockey Club Rules, or in all but the Goodwood Cup, which is exempt for the reason that the horses in a race of two miles and a half can quite well be got away without a gate, especially as there are always so few, and it would not be worth while to erect a machine for this one event. The so-called "gate" consists of a couple of pieces of webbing stretched between two upright posts, so contrived that the webbing fly up when the starter releases them by electricity. Various new gates have been invented, and it is not considered that the one now in vogue is perfect. Discussion periodically arises as to the desirability of allowing what is called a walk-up start. Now the horses must be standing at the barrier when they are sent on their way—or so the rules require—for starters at times do let them go when some of them are just

The CLERK OF THE SCALES is on duty in the weighing room, his business being to weigh every jockey who is going to ride, and make out a list of those competing. The jockeys declare their weights as they take their places in the scales, and he sees if they draw the amount. After the race he again weighs the riders of the horses that have been placed by the judge, putting an extra 2 lb. in the scale to prove that the horse has not carried too much. Jockeys, of course, weigh with their saddle and weight cloths, and, if they do not quite turn the beam, the bridle may be sent for to ascertain if that will make up the necessary difference. Sometimes rain increases their weights, so that they draw too much, but in these cases the Stewards give permission to pass the extra.

The CLERK OF THE COURSE is responsible

for the general arrangements of the meeting at which he officiates. He must see that the distances of the course are correctly measured and marked, though this is not often a source of trouble, as the various posts on most courses have stood for many years. A more pressing duty is the publication of cards of the races. He must also engage officials, and see that the meeting is provided with Stewards. Very often those who have consented to act neither appear nor send any intimation of their inability to attend, and the Clerk of the Course is hard put to it to find suitable substitutes.

STEWARDS may for convenience be here included. They are appointed to fulfil duties which they very often perform in a perfunctory manner or not seldom entirely neglect—occasionally from ignorance; for clerks of courses are apt to invite distinguished persons to act as stewards because they are locally popular or important, and notwithstanding the fact that they know nothing of the sport they are requested to control. There must be at least two stewards, whose task it is to see that in all respects the Rules of Racing are observed and obeyed; and some knowledge of these Rules is obviously essential. Any disputes which arise are submitted to the stewards, who seek the best evidence obtainable, and act accordingly. If an owner or jockey makes an objection for foul riding, bumping, or some such offence, intentional or unintentional, the stewards hear what he has to say, examine other jockeys who have ridden in the race, obtain the judge's version of the affair, and sustain or overrule the objection as they may consider just. They may suspend an offender for the rest of the meeting, and inflict fines. When serious offences are committed, the stewards of meetings usually report the matter to the Stewards of the Jockey Club, who investigate the subject, and, if proof be forthcoming, sentence the culprits to such penalties as they decide will meet the justice of the case. If stewards of meetings did with more strictness what they were appointed to do, there would be much less scandal and suspicion than are at present found on the Turf. One does not want a steward to be fussy and unnecessarily prone to investigate; but there are occasions when horses or their riders perform oddly, when perhaps the betting has foreshadowed or suggested something suspicious, and when after the race shrewd and experienced men—not the foolish public who generally lose their temper when they lose their money, and immediately proclaim their certain conviction

that a robbery has been committed, but cool-headed men who know what racing is—are deliberately of opinion that dishonesty has been practised. Stewards not seldom hear such whispers—if the comments are confined to whisperings—and do nothing. There may be, there often is, a simple explanation of what has seemed inexplicable except on the ground of roguery; and if only to clear characters that are besmirched the Stewards should inquire into such cases; especially as, if they feel themselves unable to decide, they can always report the matter to the Stewards of the Jockey Club, leaving the onus of decision on them.

MESSRS. WEATHERBY. The name of Messrs. Weatherby occurs more than once in this article, and a few words must be added about the firm. Messrs. Weatherby are the active agents of the Jockey Club, the connection having apparently arisen from the fact that in the year 1773 a Mr. James Weatherby first published the *Racing Calendar*, which became the official organ of the Club. The *Sheet Calendar*, which comes out every Thursday afternoon, and occasionally at other times also, contains records of all races run since the previous issue (including sport under National Hunt Rules), programmes of races to come, notices and orders of the Jockey Club, lists of licensed jockeys, &c., the forfeit lists, and, indeed, all matters which the Club desire to make known. There are also *Monthly Calendars* and *Book Calendars*; a volume of "Races Past" and another of "Races to Come" are published annually; and at irregular periods Messrs. Weatherby add to their already long array of volumes of the "Stud Book," which gives the pedigree of every thoroughbred foal destined to race—or to be prepared with a hope that he may be able to do so. "Not in the Stud Book" is equivalent to not thoroughbred. Messrs. Weatherby keep what is known as the "Registry Office," and matters too numerous to mention pass through their hands. Before a horse's name is registered it must be sent to their office; and they have authority, delegated by the Jockey Club, to reject it if there is another animal with a similar name, so that the existence of the two might cause confusion. They receive entries for almost all races, and charge fees for their services. But the firm has other functions besides those which arise from their agency to the Jockey Club. They act as bankers for the great majority of owners, and certainly save them an infinity of trouble. It would be a serious business if every owner had to send cheques for his entrance and forfeits, collect his own win-

nings from stakeholders, pay jockeys, and so on. Messrs. Weatherby do all this for their clients. When a man "goes on the Turf" it is customary for him to start an account with Messrs. Weatherby (one or two other firms seek the same sort of business) by paying in a sum of money; all forfeits, entrances, &c., are then paid for him as long as the money lasts, and his winnings are put to his credit. He may win so much that he can draw money for private use, or he may have to replenish his account. Some member of the firm has almost always, if not invariably, filled the position of "Keeper of the Match Book," his business being to receive the stakes and collect entrance money and all other funds belonging to the Club, and he is entitled to charge half-a-crown for every horse entered to run at Newmarket. Once a year, shortly before the Derby, he makes a handicap of the chief three-year-olds, thus giving an opinion as to their relative merit. Until a few years since, Messrs. Weatherby were handicappers to the Jockey Club, but they resigned.

JOCKEYS.—Considerably over 3,000 horses run every year in England. The number in 1910 was 3,875, and almost all these horses have their own boys, who ride at exercise, and, as the phrase goes, "do" them, that is to say, groom and attend to them in their stables. Nearly all these boys are at any rate able to perform the elementary duty of sitting tight on a thoroughbred horse—a wiry, eel-like animal, given to antics which would be very liable frequently to displace an inexperienced rider. The boys constantly have opportunities of learning much about pace, and keen-eyed trainers are always on the alert to discover those who show any real skill in horsemanship. When symptoms of ability are perceived the boy is put up to ride trials, races on the home training ground, from which duty, in the ordinary course of events, he should learn much; and if he displays any promise, and his weight is suitable, he is tolerably sure to be given a mount in public. Out of all this multitude of boys, however, an extremely small percentage ever blossom into jockeys, and there are usually fewer than half-a-dozen of these so far ahead of their compeers that they practically command what terms they like. As much as £5,000 a year has been given for the first call on a leading jockey; for every race he rode he would have been paid in the ordinary course of events, in addition to his retaining fee, three guineas for a losing mount, and five

guineas for a win. The owner who had the first call on him would, of course, only have utilised his services on occasions; at many meetings he would have had no horses running, and that would leave the jockey free to accept other mounts. As a matter of fact, large sums are paid for second and third claims on a successful jockey. One of the leading horsemen not long since refused £1,500 a year for a second claim. It will be seen what handsome rewards await success in this profession; and it may also be judged how rare is the combination of qualities which ensure it. A jockey must have in the first place a very accurate knowledge of pace; he must know how fast his horse is going, so that though at times he is in front he may still be "waiting"; he must also be able to sum up at a glance what the other horses in a race are doing, what, in fact, they have left in them for the finish. He must have patience, and at the same time must ride with resolution, noting the psychological moment when his effort has to be made. If he waits too long he will be beaten, and if he comes too soon he may fail by exhausting his horse just before the post is reached. When it is considered what success in a race means, the mere difference of a few inches, whether the horse just wins or just loses, the skill which affects results will be appreciated; races on the flat may be worth any sum from £100, the smallest amount permitted by the Rules of Racing, up to £10,000. In many cases owners have bets which amount to thousands more, and in addition to these there is the enormously increased value of the horse which has the reputation of having won a great race.

A few names stand out among recent or contemporary riders whose styles were in many cases widely different but who attained the same admirable successes. It may be noted that the leading jockeys for many years past have, as a rule, averaged about one win in four mounts. In some cases this has been exceeded, as it was notably by the late Fred Archer, though at the same time it must be remembered that he had a great advantage, inasmuch as owners were always eager to secure his services. If they thought their horses had a good chance of winning they were anxious to engage Archer, unless, of course, they had at command the services of one of his few capable rivals. During one year, when Archer rode an enormous number of races, from 600 to 700, his victories averaged two in five. He possessed one of the chief secrets of his profession, the ability

to understand the peculiarities of the various horses he rode. His principal fault was extreme severity; what might happen to a horse afterwards appeared to be no concern of his; his mind was set on winning the race he was at the moment contesting, and not a few two-year-olds on whom he had won were good for very little afterwards, his whip and spur having taken all the heart out of them. At the same time, if he could persuade a horse instead of coercing him he would do so. On one occasion at Sandown, in a five-furlong race, before the distance had been half covered he leant forward and patted the neck of his horse; his quick eye had already assured him, even at that early point of the struggle, that he had nothing to fear from any of his opponents. His method of sitting back, and as it were driving his horse before him, was in striking contrast to that of his great rival, George Fordham, who had anything but a graceful seat upon a horse, and was a man of little education and general knowledge, but whose appreciation of the delicacies of his profession was simply phenomenal. It may be doubted whether any one who ever lived understood horses and the art of race riding more thoroughly. The value of a jockey's services, it may be incidentally remarked, has vastly increased of late years. It is not long since for the first call on his services Fordham received £100 a year. In contrast, again, to Fordham was his friend, Tom Cannon, who to the other requisites of perfect jockeyship added extraordinary grace. For George Fordham, Cannon had the warmest admiration, declaring that all he knew he learnt from his colleague—an expression, however, which may be taken as not a little exaggerated, for he continually profited by his own experiences and singularly astute observation. Tom Cannon's hands on a two-year-old will long be famous in the history of horsemanship. He was usually the personification of gentleness on a horse, and declared that he would as soon hit a child as an anxious young two-year-old that was doing its best; and in this respect, it may be remarked, George Fordham entirely agreed with him. There can be no doubt that Tom Cannon often got more out of a horse by his persuasive methods than any other jockey could have done by the administration of punishment. At the same time, if he had to use his whip, he could do so most effectually; but as a general rule one or two cuts in the last three or four strides was the most he did towards what is called "a punishing finish," and when he did hit a horse, moreover, he always hit him at the right moment, not in the middle of his

stride, when the stroke would make him "curl up" and shorten, but as he was about to make it; for such *minutiae*, which scarcely anyone notices, are part of the perfect horseman's equipment. Cannon, so admirable a rider himself, was also the cause of good riding in others. His pupils included his son Mornington and John Watts. S. Loates, W. F. Robinson, and Kempton Cannon were likewise his apprentices, and did the fullest justice to their master. Mr. Arthur Coventry, the present starter, in his time unrivalled as a gentleman rider, was another pupil of the famous jockey. Watts' style was closely modelled on that of his teacher, as, indeed, was that of Mornington Cannon. Both father and son were much given to waiting, a practice which some critics considered that Mornington Cannon carried to excess. Both riders, however, when they just lost races sometimes expressed the conviction that if they had only dared to wait for two or three strides longer they would have won; and it is by no means certain in this matter that lookers-on see most of the game, or at any rate are best able to estimate the situation. It is quite certain that the most usual fault in young riders is the reverse of this, a disposition to begin to finish too soon: they are in too great a hurry to get home, and there can be no doubt that many races have been won by these waiting tactics. It is absolutely certain that Enthusiast ought not to have beaten Donovan in the Two Thousand Guineas of 1889; but Donovan, and Pioneer, who was esteemed his most dangerous rival, spun themselves out before the post was reached. As Tom Cannon said, in accounting for his most unexpected victory, "they had two or three little races to themselves a long way from the judge's box, and when they came near it I thought I would join in." Few persons who saw the race for the Leger of 1894 will doubt that Mornington Cannon only won on Throstle because he waited well behind.

In the season of 1897, an American jockey named Tod Sloan came to England and won a good proportion of races by tactics of a diametrically opposite sort. His method was to jump off and "come through," as the phrase runs. He was a sound judge of pace, and so avoided the common fault when races are thus ridden of keeping nothing in hand for the final struggle. The fact is that both plans are good on occasions, but the circumstances of nearly every race differ according to the pace, the distance, and the capacity and disposition of various horses.

Sloan's success led to an influx of American jockeys, and at the beginning of the century they were so numerous that they threatened to dispossess the native riders. For one reason or other, however, they almost entirely disappeared, for in course of time only Maher, who speedily came to occupy a prominent position, and J. H. Martin, less conspicuous, remained. The visitors had, however, effected an astonishing revolution. They entirely altered the jockey's seat which had always been in

and with less exertion. In 1906 an Australian trainer named Wootton came to England, bringing his son Frank, a lad just entering his teens, who was something in the nature of an infant prodigy. He rode with extraordinary success, which, when long continued, implies extraordinary skill, and, child as he was, he would almost certainly have headed the list of winning jockeys in 1908 but that he suffered a month's suspension for foul riding. He made up for lost time by heading the list,



THE PARADE FOR THE DERBY

vogue; though it is strange that Fordham had instinctively adopted the habit of sitting very far forward on his horse, if not to the extent practised by the Transatlantic horsemen. Opposed as it was to all idea of grace, and containing the weak point that a rider so near to the animal's neck could have less control over him than if sitting back in the saddle, the new style of seat became well-nigh universal. It is the rule in France as here. The idea of invariably "coming through" with a horse, which was supposed to be a fundamental principle of American riding, soon, however, to a great extent fell into disuse. Maher frequently waited, as English jockeys had been accustomed to do, the truth being that different horses and different conditions require different treatment. But with the forward seat horses appear to go faster

though without quite so good an average as Maher obtained, in 1909 and 1910.

A few lines must be added about amateurs. At rare times an enthusiast is granted leave from the Stewards of the Jockey Club to ride on equal terms with professional jockeys, but the number of these gentlemen is necessarily limited, because the man who seeks the permission must be what he represents himself to be, and not a jockey in disguise; there are few gentlemen whose weight enables them to ride on the flat; and, unless the amateur has shown that he is really an expert, the Stewards would refuse his request, for the reason that he would be likely to hamper and interfere in a dangerous way with the other riders. The late Mr. George Baird, who ran horses in the name of "Abington" and won the Derby and Oaks with

Merry Hampton and Busybody, was one of the few amateurs who have ridden much of late years; and, in spite of wasting and severe privation, he could only take part in welter races. By constant practice he acquired considerable skill, and at the last held his own with fair success against professional opponents of the second class. Since his time, Mr. George Thursby, half-brother of Sir John Thursby, Bart., has been chiefly conspicuous.

TWO-YEAR-OLD RACES.—It must be assumed that, by a happy combination of gentleness and firmness, by good hands, a strong seat in the saddle, and a temper most under control when most severely tried, the yearling has been backed, after the preliminary processes of biting, saddling, and lunging; that he has been accustomed to daily exercise with his companions, led by a placid old horse; and that after being "jumped off" he has shown the possession of such speed as suggests that he is worth training. The 1st of January comes and he is a two-year-old with a prospect of running possibly in less than three months. In some instances a two-year-old has been entered for races before he was born, as, for example, in the Buckenham Stakes at the Newmarket First October Meeting, for which subscribers name three mares and send the produce of one to the post. In various other races the animals are entered as foals, and in others again at different periods of their yearling existence. It will readily be understood why entries close so long before the time set for the race. If owners could wait till their young horses gave some actual proof of capacity the number of subscribers to many stakes would be small. A foal or a yearling, well bred, good looking, and with no apparent defects, may, however, turn out well, and so the owner nominates his colt or filly and takes his chance, the conditions of races very often enabling him to strike it out on payment of a minor forfeit should it entirely disappoint expectations. Much misapplied criticism is directed by ill-informed persons to what they regard as the forcing of the immature animal. The truth is that there are some two-year-olds, usually small and well developed, who if they did not win races early in the season would never win at all. Owners and trainers take stock of their youngsters and enter them accordingly.

Examination of the volumes of *Races to Come* will show that some horses are entered for stakes run early in the season, their names being rarely or never found in races

that take place later in the year; for other animals no engagements are made till the summer, and they are nominated frequently for events in the autumn. It will be understood why this is so—owners and trainers judge when their representatives are likely to "come to hand." There are those, again, who give promise of early maturity and have something about them which forbids their owners to despair of subsequent development. It is an extremely rare thing to find a horse entered for, say, the Brocklesby Stakes, run towards the end of March, and the Middle Park Plate, run in the middle of October, though at the same time Donovan in 1888 actually won both. As a general rule, however, when October comes, the winner of the Brocklesby is very lightly esteemed, and the chances are that before June the winner of the Middle Park has not been seen on a racecourse. The winner of the Brocklesby "may be anything," as the phrase goes. The Bard won in 1885 and held his own next year, running a good second to Ormonde for the Derby; in four years out of six The Bard would doubtless easily have won the great race. Other winners have soon sunk to "plating." But The Bard and Donovan were notable exceptions to the average run of Brocklesby winners.

It is seldom that two-year-olds destined to attain to the front rank are out before, at any rate, the Woodcote Stakes at Epsom. The Woodcote was originated in 1807, and, with the exception of the July Stakes at Newmarket, first run in 1786, is about the oldest two-year-old contest now surviving. Derby winners have won the Woodcote—Cremorne (1871), Ladas (1893), Rock Sand (1902), and Cicero (1904); but in the ordinary course of events it is not till Ascot, a fortnight after the Derby, that one sees the two-year-olds on which the fame of the English racehorse is to depend. The New Stakes at Ascot dates from 1843; the list of winners is a brilliant one, and now come names that are to be met with again in the Middle Park Plate, the most important stake for horses in their first season. Of late (since 1890) the Coventry Stakes has been added to the Ascot programme, and this is of equal interest with the older race; indeed, it is in one respect superior, for in the Coventry all competitors meet at even weights (except as regards the usual 3-lb. allowance for fillies), and in the New Stakes there are penalties and allowances. Kermesse, Melton, Friar's Balsam, Donovan, Isinglass, Flying Fox, Bayardo, Rock Sand, St. Amant, Cicero, and Lemberg won both the New Stakes and Middle

Park Plate; Ladas won the latter after carrying off the Coventry.

At Ascot one begins (often, however, arriving at most incorrect conclusions) to speculate upon how the two-year-olds of the season should be rated, and it is probable that further light will be thrown upon the question by the July Stakes at the Newmarket First July Meeting and the Chesterfield (1834) at the Second July. Here, too, Middle Park winners and Dewhurst winners (the Dewhurst ranking only second to the Middle Park) are found, as they are in the Richmond and Prince of Wales's Stakes at Goodwood. It was at Goodwood that St. Simon ran for the first time, though in a

was founded at the suggestion of Mr. Blenkeiron in 1870. This gentleman was a breeder of thoroughbred stock at the Middle Park Stud, and the race was named accordingly, he having subscribed £500 towards the stake. At once it became established as the chief two-year-old event of the season. The winners have nearly always been animals of the very highest class since Albert Victor's name was inscribed at the head of the list. A fair share of the misfortunes that horseflesh is heir to has befallen winners, it is true. A horse entered here would almost invariably be nominated for the Derby and the St. Leger, so that if all went well with the winner his chance at Epsom should have been specially good;



AT THE STARTING GATE.

minor event called the Halnaker. There are rich stakes at Sandown, Kempton, and elsewhere which attract excellent fields, but the programmes here are somewhat mutable, and these races have not yet existed long enough to gain prestige by their association with many famous names. The most valuable two-year-old race now is the National Breeders Produce Stakes, run at Sandown the day after the Eclipse, and worth well over £4,000 to the winner, with another £1,000 for distribution; but the Portland Plate at Leicester, won by Donovan in 1888, amounted to £6,000. As to the importance of the Champagne Stakes (1823) at Doncaster there can be no question. Occasionally it falls to a moderate horse—Ayah, Solaro, and Grandison are poor examples of Champagne winners—but of late years one finds the names of Neil Gow, Lesbia, Pretty Polly, Rock Sand, Velasquez, Ladas, La Flèche, Riviera, Chittabob (one of three horses that—with an advantage of 13 lb. in weights—beat Donovan), Ayrshire, Minting; and further back many others of note.

There had for a long time been urgent necessity for a good two-year-old race late in the year, a contest that would attract the best horses and really show the capacity of the principal two-year-olds, and such a prize

but for a long time an unfortunate fate seemed to overshadow Middle Park winners in their advance to Derby honours. Something untoward happened year after year. St. Louis and Macheath failed to stand training, and it was not till 1885 that Melton broke the spell, and won the Derby after winning the Middle Park, though Busybody, after taking the latter in 1883 had won the Oaks next year. Since then the result of the Middle Park has pointed strongly to the result of the Derby. Five horses have won both—Donovan (1888), Isinglass (1892), Ladas (1893), Galtee More (1896), Lemberg (1910); the famous Pretty Polly also won the Middle Park and the One Thousand Guineas, Oaks, and St. Leger. Gouverneur won in 1890 and ran second, the colt that beat him, Common, not having run in the Newmarket race. St. Frusquin, who won the two-year-old race in 1895, was just beaten at Epsom.

The Middle Park Plate takes place over the Brethby Stakes Course, six furlongs, and soon after its inauguration it was felt desirable to have another and a still severer test of merit in the shape of a seven-furlong race. The Dewhurst Plate was therefore started at the Houghton Meeting in 1875, and speedily shared the success of the race

which makes so interesting a feature in the Second October. The Middle Park Plate is worth between £2,000 and £3,000, the Dewhurst about £1,000 less, but the lists of winners are of nearly equal merit, and on several occasions both races have been won by the same horse—Chamant (1876), Friar's Balsam (1887), Donovan (1888), Orme (1891), St. Frusquin (1895), Bayardo (1908), and his half-brother, Lemberg (1909).

Two-year-olds are not permitted by the rules of racing to run a longer distance than six furlongs before July 1st; and until September 1st they always run at weight for age, with or without penalties or allowances, according to the nature of the race; but on September 1st "Nurseries," or two-year-old handicaps, are allowed, and restrictions as to distance are removed. At the Houghton Meeting there used to be a Feather Plate over the trying Cesarewitch course, two miles two furlongs, in which the young horses met their elders, and the race was nearly always won by a two-year-old—who was as a rule worthless afterwards. Another race at the Houghton Meeting, which always promises well and nearly always disappoints expectation, is the Free Handicap for Two-year-olds. Horses are not entered by their owners for this stake. The handicapper takes the best-known two-year-olds and weights them according to his estimate of their capacity, thus enabling one to learn how they stand in the eyes of an impartial authority. The field, however, very seldom includes those that the lover of the Turf would chiefly desire to see in antagonism.

WEIGHT-FOR-AGE RACES.—It has been seen that practically everything depends upon the weight a horse carries. There is an old saying that weight will bring together a donkey and a Derby winner, and the extravagant assertion may be accepted as tending to show how vast a difference a horse's burden is recognised as making. Weight-for-age races are of three varieties. In the first place there is what may be called weight-for-age proper, in which animals of the same age carry the same weight, as in the Coventry Stakes at Ascot and the Champagne at Doncaster, for two-year-olds; the five "classic" races for three-year-olds, and a very few stakes which linger for older horses. Here the only variation from even weights is that mares and geldings are allowed 3 lb. In the second place there are races, like the New Stakes at Ascot and the Middle Park Plate at Newmarket, for two-year-olds; the

Prince of Wales's Stakes at Ascot, for three-year-olds, where horses of the same age carry the same weight, with, however, penalties for previous successes, and, in the case of the Ascot race, maiden allowances. In the third place, there are weight-for-age races in which horses of different ages meet and are weighted according to the table already given.

Of weight-for-age races, the five "classic" events are supposed to come first, and the Derby first of these. Since this point of view was adopted, a number of valuable and important stakes have been introduced, wherein Derby winners may and do meet each other; and a special prestige has always attached to the Ascot Cup, in which there are none of the penalties and allowances that "bring horses together," and where also Derby winners and others of the highest class may be found in opposition. The five three-year-old classic races are, however, the Two Thousand Guineas, for colts and fillies, dating from 1809, and the One Thousand, for fillies only (1814), run at the Newmarket First Spring Meeting; the Derby, for colts and fillies (1780), and the Oaks (1779), for fillies only, run at the Epsom Summer; and the St. Leger, for colts and fillies (1776), run at Doncaster. It is difficult to understand why the Derby should be so generally, if not universally, regarded as the chief of these. The mile and a half Epsom course is far from one of the fairest, as a horse that has the misfortune to be badly placed when Tattenham Corner is rounded is at a great disadvantage; whereas the Doncaster course (1 mile, 6 furlongs, 132 yards) is one on which there is much less chance of jostling and accidental interference; it is longer, and so affords a better test of merit; and, besides these things, the Derby winner usually runs to prove or disprove the correctness of the Epsom race, and not seldom he meets the Oaks winner, so that an interesting point as to the relative capacity of the colts and fillies of the season comes on for decision.

Horses are entered for the Derby in the middle of their yearling season—thus the entries for the Derby of 1910 closed on July 21st, 1908. The reason for these early entries has already been given: if owners were allowed to wait until they had ascertained something of the real ability of their animals, many fewer subscriptions would be taken; as it is, the chances are that the most promising colts and a smaller proportion of the most promising fillies are given an opportunity of obtaining what is supposed to be the highest honour the Turf

affords. A few years since there was no "minor forfeit" for the Derby—that is to say, a man entered his horse, paid £50 if he ran it, and £25—half forfeit—if he did not. Now, however, if his representative turns out disappointingly, and seems to have no chance, further liability can be escaped by payment of £5 at a date in the January after entry. The subscriptions usually exceed 300—there were 375 for the Derby of 1911. The stakes have been well over £7,000, but they have also sunk to under £4,000. The conditions now are:—

The DERBY STAKES of 6,500 sovs., by subscription of 50 sovs. each, h. ft., or 5 sovs. only if declared by the last Tuesday in March, 1908, for entire colts and fillies, foaled in

Entries for these close in November, when the animals are yearlings. There are, as a rule, well over 100 for the former, fewer for the fillies' race. The stakes vary in total between £4,000 and £5,000. The conditions of the Oaks are the same as for the Derby, except that the nominator of the winner receives £400, the owners of second and third £200 and £100. Another important three-year-old race is the Newmarket Stakes of £30 each with £1,000 added. This is run at the Newmarket Second Spring Meeting, and the tendency of it is not wholly for good, as it affords a temptation to owners to start horses who have probably taken part in the Two Thousand a fortnight previously, are to go for



JUMPING OFF.

(Photograph by Sport & General.)

1905; colts 8st., and fillies 8st. 9lb.; the nominator of the winner to receive 500 sovs. out of the race; if not sufficient surplus is obtained from subscriptions to give the second at least 400 sovs. and the third at least 200 sovs., the difference to be made up by the Race Fund; about one mile and a half.

Derby time is never very good, because of the nature of the course. The average for a considerable number of years past has been a rate of 1 minute 48 seconds a mile, and in a well-run race a mile ought not to take much more than 1 minute 40 seconds; but, as is elsewhere remarked, it is futile to pay attention to the times races occupy. The subject of Derby winners is treated later on in this article, under the side-head "Famous Horses."

Entries for the St. Leger are made as nearly as possible two years before the event, in the September of the animals' yearling existence. Subscribers pay £25 whether they run or not, and the value of the stake therefore depends entirely upon the number of subscriptions. These are usually some sixty or seventy fewer than for the Derby, and the two races are as a rule worth not very far from the same amount. For the Two Thousand and One Thousand Guineas, £100 each, half forfeit, is the condition.

the Derby a fortnight later, and are thus liable to be overtaxed. For several years there was a three-year-old race at Epsom called the Grand Prize, set for the day after the Derby; but this failed for obvious causes, and has been discontinued. Horses that had run the day before were likely to be feeling the effects of their exertions, if, indeed, their owners sent them to the post; animals that seemed to have any chance for the Derby were almost certain to have been run in it; if any were specially kept for the Grand Prize it was because of their obvious inferiority, and the contest was felt to be unsatisfactory. One thing to be specially desired every year is a good field for the Ascot Cup, but the average of runners is only about five, and it is perhaps not unnatural that this should be so. Two or three horses nearly always stand out by themselves, if, indeed, one animal does not appear to do so, and as there are here no penalties or allowances (beyond the inevitable 3 lb. for mares and geldings), few owners care to submit their horses to the ordeal of a preparation for a struggle over two miles and a half, with a very faint prospect of victory. Three-year-olds carry 7 st. 7 lb., four-year-olds 9 st., five, six, and aged 9 st. 4 lb. But when worthy oppo-

nents are in opposition it is truly a great race. The Goodwood Cup is weight-for-age with a difference. One horse may be penalised 21 lb., another may be allowed 14 lb., if a maiden four-year-old, 8 lb. in addition if bred in British colonies or dependencies, making 22 lb. in all, so that one four-year-old might have to give another no less a weight than 3 st. 1 lb.

About the year 1884 it occurred to the managers of Sandown Park to inaugurate a race that should be the richest in England, and ingeniously to do so in a way that would not be likely to cost them anything; for these gate-money meetings are commercial speculations, whatever they may do for the sport. A round sum of £10,000 was to be the prize, and owners were to subscribe it out of their own pockets, though if a sufficient number of entries were not obtained there might be (and often has been of late) an amount for the Club to make up. The idea will be understood by a study of the conditions, which were as follows for the first Eclipse, run in 1886:—

The ECLIPSE STAKES of 10,000 sovs. nett, with 500 sovs. for the second, the third to save his stake of 110 sovs.; three-year-olds, 8st.; four, 8st. 12lb.; five and upwards, 9st.; mares and geldings allowed 3lb.; winners of a stake value 500 sovs. to carry 4lb., of 1,000 sovs. 7lb. extra (handicaps not included); winners of the Derby, Oaks, St. Leger, or Grand Prix de Paris to carry 10lb. extra; about one mile and a quarter.—265 subs., 103 of whom pay 10 sovs. each, and 66 of whom pay 30 sovs. each. By subscription of 10 sovs. each, the only forfeit if declared by the first Tuesday in October, 1884; if left in after the first Tuesday in October, 1884, a further subscription of 25 sovs.; if left in after the first Tuesday in January, 1885, a further subscription of 30 sovs.; if left in after the first Tuesday in January, 1886, a further subscription of 50 sovs. In the event of the forfeits exceeding the expenses of the stake, the surplus will be devoted either to a Consolation Stakes for the unplaced starters, or will be divided between the second and third horses, at the discretion of the Executive.

It thus cost £110 to run—that is to say, owners were taking the liberal odds of 10,000 to 110 about their horses, with the chance of certain other recompenses or compensations. The scheme was successful, though in 1887 and 1890 there was no race. In amount, the total of the stakes has varied, dependent as it is on the number of entries. Ayrshire's Eclipse was worth £11,160, St. Frusquin's £9,310, Bayardo's £8,870. These Ten Thousand Pounds, as they were called, were tempting races for conductors of meetings, and other places followed the lead of Sandown. The

Lancashire Plate was started (1888) at Manchester, and Seabreeze, who had beaten Ayrshire in the St. Leger a fortnight previously, beat him again, and credited her owner with the curious sum of £10,222 10s. 10d. Le Sancy, destined to become the best sire in France, was third. A race called the Royal Stakes was run at Kempton, and added £9,500 to Ayrshire's large winnings on the year. There he had the best of Seabreeze, who was second. The Prince of Wales's Stakes, for three-year-olds, was also devised at Leicester, and Donovan in 1889 earned £11,000 by his victory; but the race was a mistake, as it was fixed for April, and it was felt to be doubtful policy for owners who wanted to run their horses in the classic races to have them ready so soon. Colts and fillies could not well be trained for this event and be at their best a few weeks later in the Two Thousand, a month afterwards in the Derby, and between three and four months later still in the St. Leger. The Leicester race was for a time transferred to the Summer Meeting and reduced in value; but this, together with the Royal Stakes and the Lancashire Plate, were soon abandoned, though, on the other hand, the Stewards of the Jockey Club introduced two £10,000 races at Newmarket, the Princess of Wales's Stakes, run at the First July Meeting, and the Jockey Club Stakes at the First October. The conditions of these were on the lines of the Eclipse, but only the Jockey Club Stakes is now worth £10,000, the value of the Princess of Wales's Stakes having been reduced first to £6,000, with deductions for second and third horses and nominators of the placed animals, and now the value to the winner is about £3,500. Dark Ronald secured £4,844 in 1908. Comments on horses who have been seen here are made in the division of the article headed "Famous Horses." The two Newmarket Ten Thousand Pounds date from 1894.

Other more or less notable weight-for-age races are the Alexandra Plate at Ascot, the longest race now run, the distance being 2 miles 6 furlongs 85 yards. It is always fixed for the last day, and, as the Cup has been run for on the previous afternoon, and stayers are so few, the field is invariably very small, owners of Cup horses seldom being willing to subject their animals to the ordeal of two such races, especially on the well-nigh inevitably hard ground. The Doncaster Cup (1801) must also be mentioned, and the Jockey Club Cup, over the Cesarewitch course, at the Houghton Meeting. For these, starters are always few. The Champion Stakes, also at the Hough-

ton, must not be omitted, by reason of the good horses that have won it—Jannette, Rayon d'Or, Robert the Devil, Bend Or, Tristan (twice, besides a dead-heat on a third occasion), Paradox, Ormonde, Bendigo, Friar's Balsam, Amphion, Orme, La Flèche, Velasquez (twice), Sceptre, Pretty Polly, and Llangwm. The conditions of the Challenge Cup and Whip will be found set forth in the "Rules of Racing," and need not be repeated. The Whip is a trophy containing hairs from the tail of Eclipse.

FAMOUS HORSES.—Some few years since a journal devoted to racing sought the

by numerous votes; and in fact these nine received most suffrage. Donovan, Isinglass, Persimmon, and others had not made their names at the time when this difficult question was being discussed, or no doubt they would have had pronounced admirers.

It is absolutely impossible to form any trustworthy estimate of the relative capacity of horses of the present day and their remote predecessors. The late Sir Francis Doyle and some other lovers of the Turf, who wrote plausibly and well, have endeavoured to prove that the modern thoroughbred has deteriorated in stamina if



VOLTIGEUR AND FLYING DUTCHMAN.

ideas of a number of authorities as to the names of the best ten horses of the nineteenth century. Great difference of opinion prevailed, there being general agreement about only a few animals. Ormonde and St. Simon were in all the lists, and they could not well have been omitted, seeing that neither had ever been beaten. The Flying Dutchman, Voltigeur, and West Australian were usually included. Blair Athol had supporters, notwithstanding that doubts were expressed as to whether he was really a stayer; and Gladiateur was not forgotten. Galopin was almost the first choice with a band of enthusiasts who chanced to know how greatly superior he was to some amongst his contemporaries that were almost universally accepted as really good horses. Isonomy, in spite of the fact that his chief performances were in handicaps, was rated as one of the ten

not in speed, and that over the Beacon Course the horses of the present century would have had no chance against the stalwart racers of the first half of the nineteenth; but there is no real basis of justification for this argument. Horses were formerly trained to gallop the Beacon Course; they are not so trained now; and as to the pace at which they went, we have no knowledge. In all probability they took a long while about it, but records as to time are, we may be assured, not in the least to be depended upon, considering for how many years the preposterous fiction of a mile a minute received credence. It is a perplexing business to endeavour to sift out the truth about the capacity of horses. Some writers are given to eulogising bygone days. The horses of their youth appear to them far better than any they have seen since; others, again, are constantly making fresh idols, and discover

the "horse of the century" almost every other year. Prejudice, too, is a mighty factor in most comparisons. Men are interested in horses and magnify their achievements; possibly they base their calculations on some trial which was never authenticated by public running, and they implicitly believe that it was quite right when it may, in fact, have been quite wrong. More probably still, they are prejudiced against a horse, disgusted, it may be, by the panegyrics expressed in wild and whirling words by fatuous enthusiasts, and so try to pick holes by way of proving that these enthusiasts are writing nonsense. Unbiased and dispassionate judgment is rare, and when it is found, it may be based on inaccurate or insufficient grounds.

In these articles I have sedulously avoided quotations, of which so many books on racing are so largely made up, but it is obvious that no new ideas can now be promulgated about the famous horses of long ago; and it may be very briefly stated that Marlow's observation when he first rode the Flying Dutchman (on whom he won the Derby of 1849) must surely be accepted as going far to stamp that colt a great one. "I was never on such a one as this before!" was the remark of that experienced jockey. Voltigeur is naturally coupled with his immediate predecessor in the list of Derby winners, and it is curious to recall the fact that when this notable animal was offered for sale at auction as a yearling no one would bid 100 guineas for him. Frank Butler's inarticulate admiration when first he saw West Australian, and the circumstance that he found the colt did more than justify his appearance, tend to gain for this notable son of Melbourne a place in the very front rank. The question was not whether he was sure of the St. Leger, but by how much it would be desirable to win, Butler declaring that if he won by the length of his arm it would do, whilst Isaac Walker, who managed the colt, protested against heads and necks, and running things close generally. Blink Bonny (a daughter of Melbourne) was doubtless one of the best mares of modern times, and therefore in all probability in the history of the Turf; Pretty Polly was a wonderful animal; and Stockwell's name is almost unsurpassed in racing annals. It is usually discreet to avoid superlatives, but if it should not be said that no horse ever did such good service to the race of the English thoroughbred, it is safe to assert that none has ever done better. His sire, The Baron, won the Leger of 1845, and from him we have a direct line to some of the greatest

horses of the present day. Here is a list of his contributions to the roll of classic winners.

TWO THOUSAND GUINEAS.

| | | | |
|-------|---|---|---|
| 1852. | Lord Exeter's Stockwell, by The Baron. | | |
| 1862. | Mr. S. Hawke's The Marquis, by Stockwell. | | |
| 1866. | Mr. Sutton's Lord Lyon | " | " |
| 1871. | Mr. J. Johnstone's Bothwell | " | " |
| 1873. | Mr. W. S. Crawford's Gang | " | " |
| | Forward | " | " |

ONE THOUSAND GUINEAS.

| | | | |
|-------|------------------------------|---|---|
| 1863. | Lord Stamford's Lady Augusta | " | " |
| 1866. | Marquis of Hastings' Repulse | " | " |
| 1867. | Col. Pearson's Achievement | " | " |

THE DERBY.

| | | | |
|-------|------------------------------|---|---|
| 1864. | Mr. W. P'Anson's Blair Athol | " | " |
| 1866. | Mr. Sutton's Lord Lyon | " | " |
| 1873. | Mr. Merry's Doncaster | " | " |

THE OAKS.

| | | | |
|-------|-------------------------|---|---|
| 1865. | Mr. W. Graham's Regalia | " | " |
|-------|-------------------------|---|---|

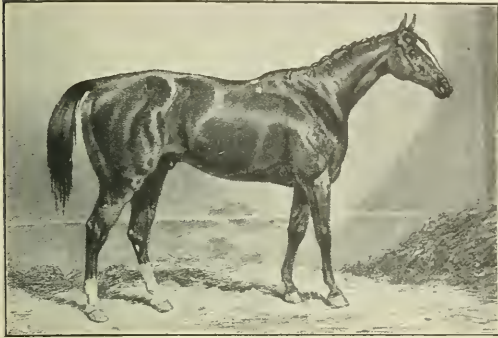
THE ST. LEGER.

| | | | |
|-------|------------------------------|---|---|
| 1860. | Lord Ailesbury's St. Albans | " | " |
| 1861. | Mr. W. P'Anson's Caller Ou | " | " |
| 1862. | Mr. S. Hawke's The Marquis | " | " |
| 1864. | Mr. W. P'Anson's Blair Athol | " | " |
| 1866. | Mr. Sutton's Lord Lyon | " | " |
| 1867. | Col. Pearson's Achievement | " | " |

Six times in eight years, it will be seen, Stockwell's sons and daughters carried off the St. Leger; Doncaster's son, Bend Or, won the Derby of 1880, and became the sire of Ormonde, who won the Two Thousand, Derby, and St. Leger six years later.

If this division of my work deals chiefly with recent times, it is because we have more trustworthy data to go on, and in consequence of a belief that readers will be more interested in animals whom they have seen, or the exploits of whose progeny they have witnessed. The success of Blink Bonny in the Derby of 1857—the second of the four fillies that have won it in 130 years—reminds one that the old rivalry which used to exist between northern and southern stables, notably between Yorkshire and Newmarket, has practically disappeared. John Scott, of Whitewall, the "Wizard of the North," as he was called, was a power in the racing world of his day; and his brother William, if not too scrupulous or too sober, was doubtless a highly effective horseman. The Dawsons, too, came from the north—from farther north than Whitewall, indeed—and the great reputation of John Scott and one or two more northern trainers tended directly or indirectly to the establishment of other north country stables, as head lads and capable men who had learnt their business under masterly tuition found patrons to fill stables for them. Newmarket was really very little esteemed as

a training centre some fifty years ago, odd as that may appear at present. The Dawsons came south, however; other establishments followed, and nowadays, the northern stables are regarded by



STOCKWELL.

southerners—whatever opinions may survive in Yorkshire—as generally inferior. Blair Athol was the culmination of northern glory, and that the chestnut made something of a sensation when he cantered to the post for the Derby on his first appearance on any racecourse there can be no doubt. The Duke of Beaufort recounts—though the story has never been published—how greatly he was struck by the looks and action of the son of Stockwell; so much so, indeed, that, having had a great fancy for, and having backed, another horse in the race, he straightway went to the ring, and took care that Blair Athol's victory should not be unprofitable to him. The colt had great speed and a certain amount of stamina, but, as already remarked, he was not universally accepted as a stayer. When a handicap horse called The Miner beat him at York, excuses were made, as they always are in such cases, for his defeat; but John Osborne, who rode The Miner, states that he was not at all surprised at his success, and, indeed, expected to win. Two of Blair Athol's sons won the St. Leger, but neither Craigmillar nor Silvio (the latter also won the Derby) was a good horse.

This is somewhat overshooting the mark, however, for Blair Athol's year was 1864, and there was a three-year-old in 1863 who had and has staunch admirers. He did not win the Derby either, having been just beaten in that race; for reference is made to Lord Clifden, who—possibly by ill luck, but the point does not now need argument—succumbed at Epsom to Macaroni. There are some animals that, for reasons not very easy to trace, firmly win a place in the affections of lovers of the horse, and Lord Clifden was one of these, possibly because

this idea of his bad luck in the Derby so strongly prevailed. He carried off the St. Leger, after having been left at the post so that he had an apparently impossible distance to make up, and it was a triumph of patience and judgment on the part of his jockey, John Osborne, that he beat his eighteen opponents. Whatever may have been the relative merits of Macaroni and Lord Clifden when in training, the chestnut son of Newminster has done far better service at the stud. Macaroni is chiefly remembered by his two daughters, Spinaway and Camelia (who won the One Thousand and ran a dead-heat for the Oaks with Euguerande), although the former, it is true, was the mother of a memorable family; but no fewer than four Leger winners were sired by Lord Clifden: Hawthornden (1870), Wenlock (1872), Petrarch (1876), and Jannette (1878). The blue blood of Wenlock is still in evidence, with promise of much to come, moreover. His daughter, Wedlock, dam of Best Man, was sold at auction when twelve years old for 4,600 guineas; and Petrarch was sire of The Bard, who has done excellent service at the stud in France; for though critics complained that his stock are light of bone and are prone to bad hocks, they keep on winning. Another Petrarch, Throstle, won the Leger of 1894, moreover, so that Lord Clifden must assuredly be included among famous horses.

The idea that a French-bred colt could win the Derby had been deemed impossible prior to 1865. Gladiateur had beaten a big field of twenty-nine starters in the Two Thousand, and not a little fluttered the holders of pronounced opinions on the subject of the invincibility of the English



WEST AUSTRALIAN.

horse; but the Two Thousand was not the Derby, and a strong conviction was felt that something or other would come to the rescue of the British reputation at Epsom.

But nothing did. The son of Monarque followed in the footsteps of West Australian, who won all three "classic" races in 1853, and there was nothing to be said beyond the expression of an unworthy doubt, started by bad losers who could not take defeat gracefully, as to whether he was really a three-year-old. The feat was to be repeated next year by Lord Lyon, and both were horses of the very first rank. Lord Lyon's early trials were exceptionally good; indeed, his first gallop was wonderful, for on September 10th, 1864, the Saturday before Doncaster, when he was a yearling—an age at which very few horses are ever asked to gallop, and if they are at all it is usually three months later than Don-



BLINK BONNY.

caster, in December—he was only beaten a head over a severe three furlongs by a really smart two-year-old named Jezebel, who was giving him no more than 7 lb., the weight being: Jezebel, 2 years, 8 st. 10 lb., and Lyon, 1 year, 8 st. 3 lb. "A tremendous performance for a yearling," is Lord Suffolk's commentary in his admirable book on *Racing* in the Badminton Library. Afterwards he did great things in private and in public; but the "glorious uncertainty of the Turf" was exhibited in those days at the stud. Gladiator never sired a good horse, though his name is found in the pedigrees of French winners, and Lord Lyon—unless the useful mare, Placida, be counted—is memorable only as the sire of Minting, one of those horses who would have made a mighty name for himself but for the fact of his being a contemporary of one unquestionably superior animal—Ormonde.

Hermit was certainly a famous horse, though by no means of the first rank. The story of his sensational Derby victory in a snowstorm after he had broken a blood-vessel and been stopped in his work is too familiar to bear repetition; it was, indeed,

less the race itself than the circumstances attending it which made the event remarkable, and this romance of the Turf arising from the private antagonisms of the Marquis of Hastings and Mr. Henry Chaplin is unsuitable for discussion in these pages. Marksman was a colt of whom the greatest things were expected, and until the Duke of Beaufort went to Danebury and found that John Day had sorely overdone the Two Thousand Guineas winner, Vauban, the prospects of the Badminton light blue and white hoops had looked rosy. Though, as a rule, what is past soon becomes archaic and uninteresting in this rapid age, the true story of Lord Hastings's racing career would always be absorbing. It has, indeed, occupied many pens, but it is all too evident that the writers have usually drawn upon their imaginations for their facts, and they differ ludicrously about their fiction.

In some years the fillies are greatly superior to the colts, and 1867 furnishes a case in point. Achievement, the daughter of Stockwell and own sister to Lord Lyon, the hero of the previous season, was doubtless unapproachable, and a wonderful animal to boot, for though she never ran as a four-year-old, and in her day the rich stakes of £10,000, which afterwards came into vogue, were not inaugurated, she is one of a select little company of horses that won over £20,000; and she was followed by another filly of almost equal fame, who also comes into the list of "over £20,000," Formosa, a daughter of Buccaneer. She carried off the One Thousand, the Oaks, and St. Leger, and she was not beaten for the Two Thousand. In that race she ran a dead-heat with a horse of Mr. W. S. Crawford's named Moslem; he subsequently walked over, and she is consequently not enrolled as a winner of the first classic race of 1868; but that he was inferior to Formosa few ever doubted, and he consequently enjoys credit, which he does not really deserve, as the victor in this event. He was a sadly bad-tempered horse, and sank to the lowest depths.

"He won the Derby" is the best recommendation a horse can have whilst he lives, the most effective and suggestive epitaph he can earn. The world in general accepts this as fame, in spite of all that is urged about the probably higher value of the St. Leger as a real test of merit, disregarding the circumstances, so obvious to experts, that between Derby winners there is a vast amount of difference. Galopin, Ormonde, and Isinglass won the Derby; so did Sir Visto, Orby, and Signorinetta; and as Derby

winner the outsider would very likely place them on the same mark; but though it is quite impossible accurately to gauge the respective capacity of the fields of different years, if experts do not agree that the first-named trio were 21 lb. better horses, it is only because many good judges will continue to doubt whether that difference of weight would have brought these together had they been contemporaries. Accepting this view, and having regard to the need of brevity, it is not every Derby or Leger winner whose performances can be discussed at length or even liberally summarised.

Avoiding not thrice, but thirty-times-told tales, little need be said about the Derby of 1868, which Sir Joseph Hawley won with Blue Gown. To win the Derby at all is so great an object of every owner's ambition, or of every owner with very few exceptions, that one might have supposed Sir Joseph Hawley would have been content, the more so as his success was achieved for the fourth time; but he was anxious to win with Rosicrucian, always maintaining that this was the best of his three starters, for Green Sleeves ran as well as Blue Gown. The details of this story are given in John Porter's book, *Kingsclere*, and in numerous other publications, so that it need not be dwelt on here, the more so as Blue Gown's name has now dropped out of Turf history, the horse having died while crossing the Atlantic to stand in America. For the next few years the Derby and St. Leger winners were chiefly famous because they won the Derby or the St. Leger. Pretender's success in 1869 was one of the races about which the crowd differed from the judge; there was an idea that Pero Gomez had just got up, but the judge doubtless knew best, though Pero Gomez had his revenge at Doncaster. Lord Falmouth certainly managed his racing affairs with great discretion; but that luck which has been spoken of as a prevailing element doubtless aided him in his two Derbys; for Kingcraft in 1870 and Silvio in 1877 were both a great deal below the average of Derby winners. It has already been remarked that Galopin has admirers who believe him to be as good as any horse that ever ran. A son of Vedette, he could not have been more English, but his owner, Prince Batthyany, was one of the many distinguished foreigners who have found an irresistible attraction in the English Turf; and in the next year also the Derby went abroad, Mr. A. Baltazzi having been the owner of Kisber, a son of Buccaneer, and so a close relation of Formosa. Which is the worst

horse that ever won the Derby is a point upon which agreement could hardly be reached. Sefton, Sir Bevys, Merry Hampton, Signorinetta, and others would probably all be named if the question were put to the vote, and so little need be said about them under the present heading. Probably Sir Bevys owed his victory in a great measure to the fact of Fordham having ridden him with peculiar discretion. The weather is generally fine during the Epsom Summer Meeting, but that year the course was a quagmire on the lower side, and Fordham came wide on the right, thus running a little farther, but securing firm ground to gallop over. He was a great believer in the difference made by good



LORD CLIFDEN.

going, thinking the smallest advantage well worth gaining, and there was a track at Newmarket along which he always, when possible, took his horse under certain conditions of going. The Derby of 1880 is memorable for the desperately close struggle between Bend Or and Robert the Devil, and hard as I am trying to avoid the repetition of facts which will probably be known to most of my readers, it must be remarked that Robert the Devil ought certainly to have won, but that his rider looked round and was apparently paralysed by Archer's desperate rush with the Duke of Westminster's colt, notwithstanding that the famous jockey was riding with one arm at the time, not having recovered from the injuries inflicted when he was savaged by Muley Edris.

When there are two notable horses of the same age it not seldom happens that some unfortunate chance keeps them apart, as, for instance, was the case in 1884, when lovers of the Turf were exceedingly anxious to see what would happen if St. Simon and St. Gatien met over two miles. Bend Or and Robert the Devil, however, had several tussles, and each scored in turn, though in the St. Leger Robert the Devil

had it all his own way, Bend Or being nowhere in the race. When they repeated their struggle over the Epsom course for the Cup neither horse was really himself. The fact of the matter doubtless is that Bend Or had the better speed, and that Robert the Devil was the better stayer. At the distance of a mile and a quarter it is probable that the chestnut would have won, but over the Cesarewitch course the general opinion would have leant almost unanimously to his rival.

The French and the Hungarians had, it will be seen, carried off the Derby, and in 1881 it was to go to America by the aid of Iroquois, a son of Leamington. Iroquois was probably not a good horse, though he won the Prince of Wales' Stakes at Ascot with the full penalty, an achievement which always counts in reckoning up a horse's capacity; and he did all that was asked of him in the St. Leger without difficulty. About this time the fillies were doing well. Going back a little way, it is obvious that Marie Stuart (in 1873), who won the Oaks, was better than her stable companion, Doncaster, who won the Derby, because the two fought it out in the St. Leger, one of the most exciting contests ever seen on the Town Moor, and the filly beat the colt by a short head. Next season, too, Apology was surely the best of her year, and Turf historians are fond of relating how there was a doubt about her being able to run at Doncaster, as she had shown signs of lameness, and how the clergyman who owned her insisted upon her fulfilling the engagement, which she won gallantly in the hands of John Osborne.

In 1883 there was what is called a sensational Derby, Galliard, Highland Chief, and St. Blaise, all three having staunch supporters, running a close finish, and only the judge could say for certain which had won. There was a scandal about the race into which it is not necessary to go at present. Charles Wood on St. Blaise shot round Tattenham Corner in a fashion of which Archer was very fond when he got the chance; thus St. Blaise gained some two lengths, and his resolute jockey never lost his advantage. St. Blaise, it may be added, went to America, where he did excellent service at the stud. In 1884 it is tolerably certain that Busybody must have won the Derby had she run, as there is no doubt of her superiority to Harvester, who ran a dead-heat with St. Gatien. Busybody was, indeed, a very good mare, but she showed signs of lameness after her Oaks victory, and, though sent to Ascot, was never able to run there or subsequently;

she finally broke down a fortnight before the St. Leger, but has distinguished herself as the dam of Meddler, many of whose children have run and won in England, though he was early sent to America.

St. Simon, a contemporary of St. Gatien and Busybody, was not entered for the Derby. Before the death of Prince Batthyany it had been rumoured that he owned a remarkably promising colt in a son of the Derby winner, Galopin, and of a mare called St. Angela. More than one man, however, who had reason to believe in the colt's capacity, timidly let him slip when he was for sale after his master's terribly sudden death at Newmarket, and the lucky Duke of Portland bought him for 1,600 guineas, his dam being sold the same afternoon for 320 guineas. Four weeks afterwards to the day St. Simon made his first appearance on a racecourse in the Halmaker Stakes at Goodwood, ridden by Archer, and won in a canter by half-a-dozen lengths. Next afternoon he came out again for a Maiden Plate against a solitary opponent, of whom he disposed without an effort. The few engagements which had been made for him were, of course, rendered void by the death of his first owner, and his next race was in the Devonshire Nursery at Derby. Though he had now earned 8 st. 12 lb., he played with his opponents. In the Prince of Wales' Nursery at Doncaster he was top weight, 9 st., in a field of twenty-one, and "won by eight lengths" was the verdict—the judge was not called upon to say that the eight lengths might have been eighteen if Archer had wished it. As it happened, this was a year when the fillies seemed to be doing much better than the colts. Wild Thyme, a daughter of Lowlander and Fragrance, won the Woodcote, the New Stakes at Ascot, the Exeter Stakes at the Newmarket July, and the Lavant Stakes at Goodwood; the Hermit—Adelaide filly, known afterwards as Solitaire and then called Queen Adelaide, won the July; Superba carried off the Astley Stakes at Lewes and the Champagne at Doncaster; Busybody won the Rous Memorial at Newmarket and the Middle Park Plate; but there was a colt, who strangely enough had run for the first time in public within an hour of St. Simon's *début*, who was believed by his friends to be quite as good as, if not better than, the son of Galopin. This was the Duke of Westminster's Bushey, as he had been originally named, by Hampton—Preference. He had gone to Goodwood with a great reputation, and, having won the Richmond

Stakes, was re-named Duke of Richmond. A match was consequently made between the two and came off immediately before the Dewhurst Plate (in which Queen Adelaide, 8 st. 13 lb., beat Busybody, 9 st.



MACARONI.

2 lb., a neck, thus showing themselves practically the same animal). The colts ran at even weights and St. Simon won, easily, Archer, who rode him, declared; with scarcely 7 lb. in hand was the estimate of Tom Cannon, the jockey of the defeated colt. Duke of Richmond may be here dismissed with the remark that hard struggles in the Hunt Cup and Stewards' Cup next year, for both of which he was just beaten, apparently broke his heart, or at least disgusted him with racing, and he sunk to hurdle jumping.

St. Simon was to begin as a three-year-old in the same way he had ended as a two-year-old—with a match. It had been questioned whether he could stay, and M. Lefevre, the owner of Tristan, one of the few sons of Hermit who had exhibited capacity to win over a distance of ground, challenged the Duke of Portland to run St. Simon a mile and a half, each having a pacemaker to bring him along. That was if they could, for the pacemakers were reduced to helplessness very soon after the start, when St. Simon left Tristan and won at his ease by half a dozen lengths. There was nothing that dared to oppose St. Simon for the Epsom Gold Cup (an extinct race). Tristan came out again to run against St. Simon for the Ascot Cup, to see if the additional mile of that race would make a difference, but "won by twenty lengths, a bad third"—Faugh-a-Ballagh occupied the place—was this time the result; at Newcastle, with odds of 100 to 9 on him, St. Simon very easily disposed of a solitary opponent, Chislehurst, and with odds of 100 to 7 on him in the Goodwood Cup he cantered away from Ossian, who had won the Teger

of the year before but was not sound in his wind. That was St. Simon's last appearance on a racecourse; he retired to the stud, where his success had been enormous, his fillies having been considered specially good, until his sons St. Frusquin and Persimmon, not to mention St. Serf, showed that he could produce horses as well as mares. As for these mares, in five years his daughters won the Oaks four times. That handsome is as handsome does is a proverb not to be disputed, but certainly St. Simon was as different as he well could be from the "long, low, level" horse whose make and shape has been so often eulogised. He was unusually short, and had slight-looking hind quarters.

Melton's beautiful action gave him distinction, but he misses a place quite in the first rank, as other animals were too close to him; for he only beat Paradox a head in the Derby, and Paradox only beat Crafton a head in the Two Thousand Guineas. Moreover, it is very probable that Paradox won only because Archer hustled Crafton out of it, and that if the owner of the latter had objected he would have got the race. During this year (1885) a rumour which was not uncommon at the time, and has often been repeated since, became current, to the effect that there was something out of the common at Kingsclere; and the rumour subsequently proved to be true. The animal in question was a bay son of Bend Or and Lily Agnes; but it was not until late in the year, at Newmarket in October, that Ormonde, as he was called, appeared to run in a Post Sweepstakes, and



BEAU ADIEU.

his excellence was not so generally recognised as to prevent backers from laying a slight shade of odds, 6 to 5, on Modwena, a little filly belonging to the Duke of Portland. Ormonde, however, had warm supporters at 5 to 4, and he won with very great ease; it was then perceived that the stories which had been told about him were

true, and he was a very strong favourite for the Criterion, which he won, having some speedy animals behind him, notably Oberon and Mephisto. Oberon, it may be interpolated, was the son of Galopin and Wheel of Fortune, and his dam must certainly hold a prominent place in the list of famous horses; for when asked by the present writer which was the best animal he had ever ridden, Fred Archer replied that he could not decide between St. Simon and this mare, though it must be added that this was before the appearance of Ormonde. Ormonde came out for a third time in the Dewhurst Plate, and with long odds on him again gave proof of his capacity; but he had not much behind him, his best opponent being Miss Jummy, only a moderate animal, who, however, won the Oaks.

The year 1886 was a memorable one, for there were several three-year-olds of altogether exceptional excellence. A handsome little horse, called The Bard, had won the Brocklesby Stakes at Lincoln, and ran sixteen times during the season without ever having been beaten. A colt named Saraband had come out at Kempton and won his race so easily that there seemed to be no saying how good he was; and Matthew Dawson was training a son of Lord Lyon, named Minting, whom he declared to be the best animal he had ever known. Here, it will be seen, was material for most exciting contests; and, indeed, a race has rarely been more absorbing than the Two Thousand Guineas of 1886. Matthew Dawson's opinion of Minting led to his starting favourite at even money; in many cases odds were laid on him, though the *Racing Calendar* returns his price at 11 to 10 against. Saraband was second favourite at 3 to 1, and Ormonde came next at 7 to 2, 33 to 1 bar three being the price of those next in demand, if it can be said that there was any sort of demand for them. Mephisto and St. Mirin figured at these odds. Watts rode Minting, Archer was on Saraband, George Barrett on Ormonde, and the race was never in doubt. At the distance Minting was rolling about hopelessly beaten, and Ormonde won in a canter. So unmistakable was the result that Mr. Vyner, the owner of Minting, perceived he could have no chance for the Derby, and with great discretion determined to reserve his horse for the Grand Prix. Of course, Ormonde was a very strong favourite for the Derby, nothing else being supposed to have the least chance with him except The Bard. The betting is returned at 85 to 40 on Ormonde, 7 to 2 The Bard, 25 to 1 bar two,

a horse of Lord Zetland's called Grey Friars being the nominal third favourite. The betting, it may be added, extended to "1,000 to 5 Ariel and Coracle coupled," probably the longest odds ever offered, but a great deal too short to indicate their chances. The little Bard ran a gallant race, though his jockey, who had been told to keep him well in front, as it was thought he might stay better than his great rival, did not obey instructions—or possibly could not do as he was told. Down the hill, however, The Bard for a moment got on terms, and just for half a moment flattered the hopes of his friends; but Ormonde's stride told, and Archer, who rode him, won quite comfortably by a length and a half. Ormonde went to Ascot and played with two indifferent opponents in the St. James's Palace Stakes. In the Hardwicke next day he had a Derby winner against him, Melton, but the result was never in doubt. Going on to Doncaster he ran for the St. Leger, and with odds of 7 to 1 on him won in a common canter by four lengths. 25 to 1 was laid on him the next time he appeared for the Great Foal Stakes at the Newmarket First October, where he cantered away from Mephisto; and for the Newmarket St. Leger nothing ventured to oppose him—a wise discretion. He came out next for the Champion Stakes, "100 to 1 on" being his price, and again for the Free Handicap, where he gave two stone to Mephisto and won in a canter by eight lengths, ending his year's labours—though in fact there had been no labour about his performances, except possibly for a few strides in the Derby—by walking over for a Private Sweepstake on the last day of the Houghton meeting.

During the winter an ugly rumour became current that Ormonde had begun to "make a noise," and the story was, in fact, too true. Notwithstanding, backers were content to lay 4 to 1 on him for the Rous Memorial at Ascot, when he beat Kilwarlin by six lengths, the race, however, leaving no sort of doubt as to the noise. In the Hardwicke Stakes, therefore, it was supposed that his old rival Minting would have a great chance against him; and for the first time for more than a year Ormonde started at reasonable odds, 5 to 4 on, 7 to 4 being taken about Minting. They carried even weights, 9 st. 10 lb. each; but, hampered as he was by his infirmity, Ormonde held his own, only winning by a neck, it is true; but Tom Cannon, who rode him, has told me that he could have increased the distance had it been necessary, the race not having been quite so close a

thing as it appeared to spectators. His final appearance was made at the Newmarket July Meeting, over the last six furlongs of the Bunbury mile, for the Imperial Gold Cup, and this time, though the verdict was in his favour, he had to be driven in order to shake off Whitefriar, who was in receipt of only 4 lb. So ended the turf career of what is regarded by many as the best horse that ever ran, though, of course, there is no possibility of getting a line between him and St. Simon. The Duke of Westminster sold him for 17,000 guineas, and he stayed for some time in South America; subsequently he was brought back to England, and again sold to an American, to whose establishment in California he was taken.

It was a sad drop from 1886 to 1887, from Ormonde to Merry Hampton, the latter colt carrying off the Derby on his first appearance on any racecourse, and beating The Baron, a moderate animal, on whom odds were laid; but happily the two-year-olds for this season were more promising, one in particular seeming likely to rival the deeds of Ormonde himself. This was Friar's Balsam. The colt made his first appearance at Ascot in the New Stakes, for which a horse of the Duke of Portland's called Ayrshire, and a mare of the late Lord Calthorpe's called Seabreeze, both of whom were highly esteemed, went to the post; but Friar's Balsam won with the most consummate ease, following up his success by a career of six uninterrupted victories, in the Hurstbourne Stakes at Stockbridge, the July Stakes at Newmarket, the Richmond Stakes at Goodwood, the Molecomb Stakes at the same meeting, the Middle Park and Dewhurst Plates; all, it will be seen, except perhaps the Molecomb, races of the highest class, the seven wins crediting his owner, Sir Frederick Johnstone, with a total of £8,666. It was supposed that he could not be beaten for the Two Thousand Guineas next year, and he started a very hot favourite; but on the way to the post Tom Cannon, who rode him, discovered that something was wrong; in fact, a large abscess had formed in the colt's mouth and broke under the pressure of the bit. It was supposed that his boy, while dressing him some time before, had irritably jerked his mouth; but however it arose this misfortune had befallen him, and Friar's Balsam was for the time at any rate practically ruined. This cleared the way for Ayrshire, a son of the once little esteemed Hampton, who was thus enabled to make a great name for himself. He won the Two Thousand Guineas, the

Derby, and started first favourite for the St. Leger, which led to the contest which is always desired in the great Doncaster race, a fight between the winners of the Derby and the Oaks; and here the filly had the better of it. Both of these, it will be seen, figure in the list of horses that have won over £20,000 in stakes. Luck, of course, greatly aided Ayrshire in achieving this result. His weak point, doubtless, was that he was not a genuine stayer, but over a mile or a little more he was a really good horse, and it happened, fortunately for his owner, that this was a time when great stakes were to be won.



GLADIATEUR.

After the age of three years no horse ever won as much money as was won by Ayrshire, for at this time there was a £10,000 race at Kempton Park called the Royal Stakes, as well as the Eclipse at Sandown, and this latter, though nominally worth that sum, in reality credited the Duke of Portland with £11,160. Friar's Balsam, now a four-year-old, was supposed to have recovered his form sufficiently to give him a very good chance for the Kempton Park Royal Stakes (he having indeed beaten Minting in the Champion Stakes at Newmarket the previous autumn), in which, however, he did badly, finishing last of the seven competitors with the exception of The Baron. The Duke of Portland had another horse in this race besides Ayrshire, a colt called Melanion, who was believed to be better than his stable companion. One friend of the Duke had rather a disagreeable experience on this occasion, which is perhaps worth recording. He had invested £1,000 on Ayrshire at odds of 6 to 1; but hearing that Melanion was superior to the four-year-old, he gave the bookmaker with whom he had made the bet £100 to let him transfer it to Melanion, thus losing £1,100 instead of winning £6,000. Ayrshire won

by a length from his old opponent Seabreeze, reversing their performance in the valuable Lancashire Plate, another £10,000 race, which has since been dropped, as in



ACHIEVEMENT.

that the filly beat the colt by three-quarters of a length.

The Duke of Portland was in the heyday of his wonderful success, for whilst Ayrshire was doing great things, his colt Donovan, a son of Galopin, was carrying well-nigh all before him as a two-year-old. Donovan came out in the Brocklesby Stakes, and, as already remarked, was one of the few good animals who have won that race. Going on to Leicester he very appropriately secured the Portland Stakes, then worth £6,000; but on his third appearance he met with one of the three defeats which marked his career. Chittabob, a son of Robert the Devil and the Oaks winner Jenny Howlet, who had 13 lb. the best of the weights, won by four lengths, and there can be little doubt that Chittabob was a really good animal, though he suffered during his career from constant lameness in the shoulder, and so was very rarely in a condition to do himself anything like justice. Donovan resumed his victorious career in the New Stakes at Ascot, following it up by taking the Homebred Foal Stakes at the Bibury Club meeting, and next day won the Hurstbourne, thus carrying on the traditions of good two-year-old racing at Stockbridge. He only found one opponent, Prince Soltzkoff's Gold, in the July Stakes at Newmarket and beat him. Going on to Goodwood he won the Ham Stakes, and for the Prince of Wales' Stakes on the Thursday started favourite at 2 to 1 on. The going at Goodwood is generally excellent, but this year there had been torrents of rain, and the course was almost a morass, with a great pool of water standing at the end of the lawn; such a state of things had not been experienced within living memory, and

it may be that Donovan fell a victim to the consequences of the weather, for here he met with his second defeat, El Dorado winning by six lengths from Gold, with Donovan another six lengths behind. That the horse had not deteriorated in any way was made plain enough subsequently. He cantered away with the Buckenham, having there nothing to beat, however, and a similarly easy task was before him in the Hopeful Stakes; but the Middle Park Plate was, of course, a different matter. Here he met thirteen opponents, including Gold, and Donovan won comfortably, Gold not being in the first six; he ended the labours of the season by taking the Dewhurst Plate, having secured in all eleven races, worth £16,487, the largest sum ever won by a two-year-old.

Donovan wintered well and started next season brilliantly by winning the Prince of Wales' Stakes at the Leicester Spring Meeting, then worth £11,000. Nothing had ever seemed much more certain than that he would win the Two Thousand Guineas; but how Enthusiast beat him, or rather how Tom Cannon beat F. Barrett, has been described in the division of this article on "Jockeys." Of course, it was an accident, and Donovan never again knew defeat. In the Newmarket Stakes he beat Enthusiast and fifteen other horses without the least difficulty, Enthusiast, indeed, not being in the first four, and continued his victorious career by winning the Derby from Miguel, with El Dorado a bad third and Enthusiast eighth; the Princess of Wales' Stakes at Ascot with the full penalty—and with odds of 9 to 2 on him; the St. Leger with Miguel again second and El Dorado fourth; the Lancashire Plate with Chittabob second, beaten two lengths, and the French mare Alicante, a two-year-old, third; Seabreeze, winner the year before, as just mentioned, unplaced. The Royal Stakes at the Newmarket Second October Meeting was Donovan's last appearance carrying a silk jacket, but in his two seasons he had won for his owner the sum of £54,935, not counting what he secured by running second on the occasion of two of his three defeats, and until Isinglass topped this record. Donovan's winnings had been nearly £20,000 more than had ever been won by any other horse, Ayrshire coming third on the list with under £36,000. He was, of course, a very good horse indeed, though the disposition is not to rank him with Ormonde and St. Simon, and whether he or Isinglass was the better is a subject on which opinions are and always must be divided. At the stud he has not so far

proved notably successful, Velasquez having been by far his best son.

A two-year-old who it was fondly hoped by his friends would rival Donovan's achievements was running when the Duke of Portland's colt was a three-year-old. This was Surefoot, a son of Wisdom and of an unnamed daughter of Galopin and Miss Foot, the property of Mr. A. W. Merry, a son of the owner of Doncaster, Thormanby, MacGregor, Marie Stuart, and other famous animals. Surefoot came out in the Woodcote Stakes at Epsom, and won from a very speedy mare called Heresy in a style which evoked general admiration, but at Ascot he just failed by a head to beat one of the Duke of Portland's St. Simon fillies named Semolina, though in the New Stakes he had things all his own way, and won the only other race for which he ran, the Findon Stakes at Goodwood, with odds of 100 to 6 on him. St. Simon fillies soon began to make great names for themselves, and as regards speed there are many impartial judges who believe that no horse ever went faster than Signorina, who was now a two-year-old. She was the property of an Italian gentleman, the Chevalier Ginistrelli, who had raced in England with a persistence which was very little rewarded for a number of years. His colours had been registered for something like a quarter of a century, but the Turf world in general knew very little of them until he had sent his mare, Star of Portici, to St. Simon, and Signorina was the result. The owner, an enthusiast, but not a rich man, gave her an excellent chance by entering her liberally, and she abundantly repaid him. As a two-year-old she ran eight times and won all her

had been tried a good horse before the Whitsuntide Plate at Manchester, and with 6 lb. the best of the weights, carefully handled, moreover, by Tom Cannon, he ran Signorina to a head; but that was the only time she really came



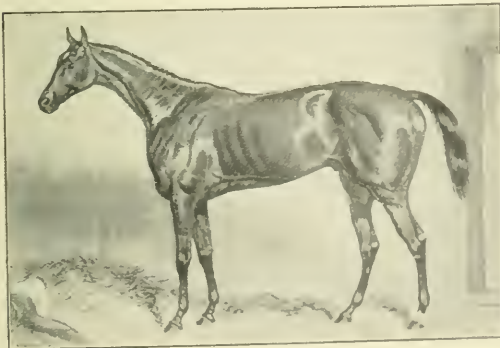
ST. SIMON.

near to defeat. One has to beware of the critics, and it might, for instance, be pointed out that Signorina only beat Orwell a head at Sandown, to which, however, it may be remarked that she was giving Orwell 15 lb., including sex allowance, and that the head might have been extended. The stable over which Ryan presided hoped to wipe out the defeat of Martagon by the victory of Alloway at Kempton, but Signorina gave him 7 lb. and no chance; and later on she did something much more noteworthy. Her relative, the Duke of Portland's Memoir (St. Simon—Quiver) subsequent winner of Oaks and St. Leger amongst other races, had been tried a really good filly, and at Derby Signorina was set to give her no less than 16 lb.; but the result was never in doubt, and the seal was set on her fame in the Middle Park Plate. There she met Le Nord, a horse of brilliant speed, Semolina (better than Memoir as a two-year-old) was in the field, as were her old opponents Martagon and Alloway, both in receipt of 7 lb., and she ran right away from the lot of them. The race was won in the first two hundred yards; she "squandered her field" as the phrase goes, and came in at her ease. What she did for Signor Ginistrelli is best shown by his position in the list of winning owners.

| 1886. | 1887. | 1888. | 1889. |
|-------|-------|-------|---------|
| £ | £ | £ | £ |
| 2517 | | | 11,8073 |

Of this Signorina won all but £162.

It is the custom of writers on turf affairs to waste much time and ink during the winter and spring in weighing up the form of the two-year-old fillies (as well as of the colts), and in endeavouring to deduce from



BLUE GOWN.

racers, beating, moreover—and a test of high success is not how much or how often an animal wins, but what horses of reputation he defeats—notable opponents. Martagon, who won fame as the sire of Champ de Mars, Cap Martin, and Wool Winder

it the probable winner of the Oaks. As a matter of fact, two-year-old fillies lose their form as often as they retain it; and after her extraordinary succession of victories in her first season, Signorina, as a three-year-old, ran five times and won only a single race worth £200, her one victory having been



ORMONDE.

in a match with a filly (Susiana) who displayed an amazing aptitude for running second, as in the nine races she ran that year she was second on eight occasions. How Memoir must have come on to beat Signorina in the Oaks, or how Signorina must have gone off to be beaten, is obvious. Next year in four attempts she again won a single race; but it was a valuable one, the Lancashire Plate of £8,971, which raised her total to the sum that gives her admission to the select list of winners of over £20,000; but it was generally agreed that she owed her success here to the unsatisfactory performance of G. Barrett, who rode Orme. Like so many other horses that did great things on the turf, she was for a long time a failure in the paddocks. Of her daughter Signorinetta I shall speak presently.

Another of the Duke of Portland's St. Simon fillies, Memoir, did not very greatly distinguish herself this year, though she won three of the six races in which she took part, events of no great importance, however, three of them being worth only just over £1,300; but she was a filly who made great improvement with time. There was another very good two-year-old also this year, belonging to the Duchess of Montrose, who raced under the name of "Mr. Manton," in Riviera, a daughter of St. Simon and Marguerite, who won ten races in thirteen attempts, worth altogether £12,237, and that she would have made a

great name for herself is probable, in spite of the fact of her having failed in the Oaks, but she had the misfortune to break her back while at exercise on Newmarket Heath. She had met Signorina at Manchester and ran unplaced to the flying filly.

Surefoot, to return to him after the digression necessitated by the mention of Signorina, came out and won the Two Thousand in brilliant fashion. He started the hottest favourite for the Derby that had ever been known up to that date, odds of 95 to 40 being laid on him; but he could not stay for one thing, and he was an extremely bad-tempered horse for another. Coming round Tattenham Corner he devoted himself to savaging his opponents, and only got fourth to Sainfoin, who has been already described as an indifferent Derby winner. Surefoot's penalty and the distance stopped him in the Prince of Wales' Stakes, and that beautiful horse Amphion easily beat him in the Hardwicke Stakes, where also Sainfoin had four lengths the best of him. Surefoot had by this time lost much of his character, but over a mile he had extraordinary speed, and carried off the Prince of Wales' Stakes at Leicester, a race worth £7,750, beating Memoir by two lengths. He was also to have one other success of a very surprising character during his career, in the Eclipse Stakes. Common, a horse that was probably a good deal overrated in his day, was supposed to be a "certainty" for the Eclipse; odds were laid on him, and Surefoot was going so badly as they turned into the straight, that 20 to 1 was offered against him by the ring. The mile and a quarter round the turns was, however, just within his compass, and, coming up the hill with an amazing flash of speed—speed being what Common lacked—he secured this valuable prize. He was a comparative failure at the stud.

Had the Leicester race been over a mile and a half instead of a mile, Surefoot's chance of beating Memoir would have been remote. She did not win the One Thousand Guineas for the reason that the Duke of Portland had declared to win with her stable companion Semolina, having a natural preference for an animal he had bred over one he had bought, for Memoir was purchased by auction at a Royal stud at Bushey Park for 1,500 guineas, little more than a quarter of the sum which was paid two years after for her sister La Flèche. In the Oaks, however, no declaration was made, it being obvious that Memoir was the better of the pair, and she won this race, following it up with the St. Leger, a success which may or may not have been affected

by a scrimmage which took place at the bend—a rare event in the great race at Doncaster. She was a good mare; but if she is so rated, Amphion must be accepted as a very good horse, in spite of the fact that he never took part in any of the classic races, for which his owner, General Byrne, had not entered him. Amphion was trained for his first races at Stockbridge on ground leased from Tom Cannon, and a more charming horse has rarely been seen. It was not often that such animals as he ran at the Croydon meetings, where "class" was seldom well represented, and it is a somewhat curious fact that he and L'Abbesse de Jouarre, who won the Oaks, should have made their first appearance there in the same race. Amphion's total of winnings gives him a place in the list, but he cannot be rated as a stayer in view of the ease with which Sheen beat him over the last two miles of the Cesarewitch course, giving him a couple of pounds, moreover, when there is no doubt Amphion was very well and greatly fancied by his friends. Common, who never ran as a two-year-old, carried off the three classic races next season, but failed as just described in the Eclipse Stakes.

Whilst he was running, another colt from Kingsclere, and a filly from the same stable, were distinguishing themselves. These were Orme and La Flèche. Perhaps some tendency existed to overrate Orme, it being natural to make much of a son of Ormonde, but he was a very good colt, as his two-year-old success sufficiently proved. That he would win the Derby was generally assumed. In the spring of 1892, however, a sensation was created by the report that Orme had been poisoned. Possibly this may have been so, for John Porter, who must know more about it than any one else, maintains the fact in his "Kingsclere"; but it is a strange circumstance that Orme's symptoms, which led to the supposition of poisoning, were that season found in several other stables where horses were attacked with a similar complaint, though in other cases no suspicion of a malicious origin ever gained the slightest ground. Orme, however, could not run for the Two Thousand Guineas or for the Derby, for which race it seemed that a fourth filly was to be added to the list of winners, in La Flèche. Fillies are, however, notoriously uncertain in the summer, and she was beaten by Sir Hugo, a most unexpected result, for that she was a vast deal the better of the two subsequent running, both in the St. Leger and in the Lancashire Plate, most unmistakably

demonstrated. Orme was sufficiently recovered by July to take part in the Eclipse Stakes, which he won, his victory producing a great burst of enthusiasm; but in the St. Leger La Flèche—who had meantime narrowly escaped defeat in the Oaks from a moderate mare called The Smew, thus strengthening the supposition that she was



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not herself at Epsom—won with considerable ease, Orme never looking in the least dangerous from start to finish. There was an Orme party and a La Flèche party, between whom feeling ran very high, each eulogising the animal of its choice and endeavouring to depreciate the performances of the other. The truth appears to be that over a mile the colt would have beaten the filly; but Orme apparently did not stay, and in contests of a longer distance the filly would have had probably little difficulty in defeating the colt. She ran in all sorts of races, some of which are mentioned in the chapter on "Handicaps." She was sold for 12,600 guineas to Sir Tatton Sykes, and became the dam of John o' Gaunt, by Isinglass, whose stud career is now regarded as rich in promise. Already it includes a winner of the St. Leger in Swynford.

La Flèche and Orme were three-year-olds when a two-year-old named Isinglass was gradually making a reputation which was somewhat grudgingly accorded him. Racegoers were curiously slow to recognise the merit of Isinglass, who, however, did everything that was asked of him as a two-year-old. He was one of those horses of whom it is said that they would "make a race with a donkey"; he did what was necessary, but wasted no exertion. That index of public opinion, the ring, continually showed that Isinglass was not properly appreciated; however, he won the New Stakes at Ascot, the Middle Park Plate, and went into

winter quarters with an unbeaten certificate. Next year he came out for the Two Thousand Guineas, which he won easily enough; he won the Derby, the St. Leger, and again throughout the season did everything that he was asked to do. That he could beat Ladas in the Prince of Wales' Stakes at the Newmarket July Meeting was, next year, deemed incredible by the supporters of Lord Rosebery's colt, but there was no sort of doubt about the result when it came to racing, and, in fact, Isinglass only once met with defeat—in the Lancashire Plate, when he failed to give weight to Raeburn; this being generally attributed to the fact that he was a horse who hated to make his own running, and his little jockey, T. Loates, could not persuade him to go on in front. It is no disparagement of Loates, in the face of the colt's succession of victories in which that jockey always rode him, to say that a stronger, longer-legged horseman would have shown Isinglass off to much better advantage than he was able to do. The result of his career, which ended with a victory in the Ascot Cup, was that Isinglass won in stakes the largest sum ever gained by a single horse, £57,185, the produce of eleven victories in the twelve races in which he took part. Details are here tabulated:—

| | | |
|-------|-------------------------------------|--------|
| | £ | |
| 1892. | Two-Year-Old Plate | 196 |
| .. | New Stakes, Ascot | 2,006 |
| .. | Middle Park Plate | 2,375 |
| 1893. | Two Thousand Guineas | 4,250 |
| .. | Newmarket Stakes | 3,795 |
| .. | The Derby | 5,525 |
| .. | The St. Leger | 5,300 |
| 1894. | Princess of Wales' Stakes | 10,911 |
| .. | Eclipse Stakes | 9,285 |
| .. | Jockey Club Stakes | 11,302 |
| 1895. | Gold Cup, Ascot | 2,250 |
| | ----- | |
| | £57,185 | |

These figures do not accord with those generally given, but they are copied from a MS. given to the present writer by the owner of Isinglass.

It was very bad luck for Mr. C. D. Rose, the owner of Ravensbury, that his colt should have been born in the same year as Col. McCalmont's well-nigh invincible animal, as Ravensbury was constantly meeting him, and invariably running second except when he was third. Supposing that Isinglass had been out of the way, that his dam had not been bought for the nineteen sovereigns that were given for her, and that Isinglass had never existed, Ravensbury would have made a great name for himself. Isinglass had fine speed and was also a genuine stayer. Not a few critics place him only behind Ormonde and St. Simon in the list of famous horses. Whilst,

as just noted, the tendency always was to underrate Isinglass, there was a disposition to magnify the merits of Ladas, who misses a place in the list of winners of £20,000. The scene of enthusiasm which broke out at Epsom when he won the Derby, Lord Rosebery, his owner, being Prime Minister at the time, will not soon be forgotten. There is no reason to assume that Lord Rosebery ever rated him as really in the very first class, for it is known that during the two-year-old career of Velasquez his owner considered that the son of Donovan and Vista was the best animal he had ever owned. Ladas failed in the St. Leger, which was most unexpectedly won by Throstle, who was considered by her stable to be at least 21 lb. inferior to Match Box, whom she beat on the Doncaster Town Moor. Throstle was an exceedingly wayward animal. Her friends had hopes that she would beat Isinglass in the Jockey Club Stakes after her St. Leger victory, but their hopes would probably have been vain, even had she not bolted, as she did, in the course of the race. She gave her running truly enough at Sandown shortly afterwards in the Select Stakes, but never had the remotest chance with Best Man. Her owner, it is true, did not read the race in this way, and when the horses returned to the paddock remarked to Webb, who had ridden Best Man, "Three hundred yards further and we should have beaten you!" "Not if we had gone round the course three times more, Sir Frederick!" was Webb's reply. Next year Lord Rosebery won the Derby and St. Leger again with Sir Visto, about whom there is no more to be said than that his owner was marvellously lucky.

The two-year-olds of 1895, however, were a very different class from the three-year-olds, Mr. Leopold de Rothschild's St. Frusquin and the Prince of Wales' Persimmon being far in advance of all the rest. Which was the better of the two will always remain a disputed point, for when St. Frusquin beat Persimmon in the Middle Park Plate, the Prince of Wales' colt was not at his best. In the Derby next year Persimmon beat St. Frusquin by a neck. The two met shortly afterwards in the Princess of Wales' Stakes at Newmarket, when St. Frusquin had the better of it, though it is true that he carried 3 lb. less than his rival. The general impression of the Turf world as to the relative merits of the pair was, however, unmistakably shown by the St. Leger betting. St. Frusquin was here greatly preferred to the other; but unfortunately Mr. Leopold de Rothschild's colt gave way and

was never able to run again after his success in the Eclipse, a piece of extraordinary good luck for the Prince of Wales, who thus found a most dangerous opponent removed from his path.

Whilst these things were happening Velasquez, carrying, it will be gathered from what has been said, the extreme confidence of his owner—one of the shrewdest and soundest judges known on the turf for a very great many years past—had cantered home for the New Stakes at Ascot, where he had only to beat Monterey, a son of Goldfinch and so a grandson of Ormonde. He sustained his reputation in the Prince of Wales' Stakes at Goodwood, and with odds of 100 to 9 on him beat a solitary opponent for the Champion Stakes at Doncaster. It was natural, therefore, that he should have started a very strong favourite for the Middle Park Plate, where odds of 5 to 1 were freely laid on him; but here he met with his first defeat, from Galtee More (Kendal—Morganette), a colt that had won three races out of four previously to this, without, however, making any great impression. Mornington Cannon, who rode Galtee More, said after the Middle Park, however, that when the two met again Galtee More would always beat the other, for whom excuses were made on the ground that he could not act in the very heavy going at Newmarket that autumn; but the jockey was right, and Galtee More, as history records, beat Velasquez in the Two Thousand and Derby, winning also the St. Leger, but failing to justify the confidence of his friends in the Cambridgeshire. In spite of his heavy weight he was supposed by ardent enthusiasts to be invincible, and could only finish tenth.

The Derby of 1808 ended in one of the greatest surprises known in its history. The Two Thousand Guineas had been won by Mr. Wallace Johnstone's Disraeli, a son of Galopin, the race being somewhat peculiar, for a dead set was made against the winner, who, after having been backed at 9 to 2, was driven to 100 to 7. It chanced that I was intimately connected with the stable in which Disraeli was trained by the late John Dawson, but the colt's career has always been a mystery to me. He was ridden at Newmarket by Sam Loates, and at one time no more than 6 to 4 was on offer against him for the Derby, the second favourite being the late Duke of Devonshire's Dieudonné, who, it was generally believed, would fail to stay the course. The belief was correct, and it mightily amazed the racing world in general to see Mr. Larnach's Jeddah win, starting at 100 to 1.

Something had been thought of him in the Spring, when he won the Craven Stakes; afterwards he ran badly, and though he has had some success at the stud, must be put down as a moderate specimen of a Derby winner.

There were to be vastly better things next year. Flying Fox, a bay son of Orme and Vampire, had won the New Stakes at Ascot, the Stockbridge Foal Stakes, and the Criterion, failing by a head to give 5 lb. to St. Gris in the Imperial Produce Stakes at Kempton, and failing also by a length and a half to give 3 lb. to Caiman in the Middle Park Plate; but he



(Photograph by Sport & General.
PERSIMMON.

was recognised as an exceptionally good colt, and as a three-year-old carried all before him, easily winning the half-dozen races for which he was started, these being the Two Thousand Guineas, the Derby, the Princess of Wales's Stakes, the Eclipse Stakes, the St. Leger, and the Jockey Club Stakes, the six yielding a comfortable total of £37,415. His races as a two-year-old were worth £2,675, and when sold at auction after the death of his owner, the late Duke of Westminster, he made the highest price ever paid for a horse, 37,500 guineas.

King Edward VII., then Prince of Wales, was to resume his successes in the year 1900, and that to some extent unexpectedly. Persimmon's younger brother, Diamond Jubilee, had been well tried as a two-year-old, and on his first appearance, in the Coventry Stakes, started an even-money favourite, to be beaten into fourth place. Faith in him was, however, only slightly diminished, and he was again favourite for the July Stakes at Newmarket; but Watts, admirable jockey as he was, could do nothing with him; Diamond Jubilee behaved

like a mad horse at the post, and finished last of the half-dozen starters. For the Prince of Wales's Stakes at Goodwood he was again favourite, and again beaten, and in the Boscawen, an even-money favourite once more, he only got home by a head from Mr. Wallace Johnstone's Paigle. He was second for the Middle Park Plate, as also for the Dewhurst, so that as a winner by the barest margin of one race out of six it seemed rash to predict any great career for him. Diamond Jubilee was a colt with an extraordinary temper, and appeared to take a violent dislike to Mornington Cannon, who was then riding for the Egerton House stable, a circumstance the more inexplicable for the reason that his methods as a horseman were always persuasive rather than coercive. So it was, however, and the apparently dangerous experiment was made of putting up the colt's stable boy, Herbert Jones, for whom the wayward creature went quite kindly, thereby making his own reputation and his jockey's. He won the Two Thousand Guineas by four lengths, the Newmarket Stakes, the Derby—starting favourite at 6 to 4—failed to give 17 lb. more than weight for sex to Merry Gal in the Princess of Wales's Stakes, but won the Eclipse and the St. Leger, being beaten, however, in the Jockey Club Stakes. The five races he had won were worth £27,985 10s., placing His Royal Highness at the head of the list of winning owners. Diamond Jubilee stood at Sandringham for some years, and produced many winners. He was subsequently sold to go to Argentina for 30,000 guineas.

The Derby next year was carried off by a son of Diamond Jubilee's elder brother, Florizel II., Volodyovski by name, bred by a lady known as "Mr. Theobalds," and leased to Mr. W. C. Whitney, an American owner who came to race in England. There is not much to be said about Volodyovski, who was by no means a brilliant specimen of a Derby winner. It is strange that when beaten a neck in the St. Leger it should have been by another son of Florizel II., Mr. Leopold de Rothschild's Doricles.

Ard Patrick, who won the Derby of 1902, the property of Mr. J. Gubbins, who had previously taken the great race with Galtee More, was an animal of considerably higher class than his predecessor. As a two-year-old he did not appear until he ran for the Imperial Produce Stakes at Kempton Park, but had been so well tried by Sam Darling of Beckhampton that he started at even money, and won. He carried off the Clearwell Stakes, and on his third outing, as a

two-year-old, was beaten a neck in the Dewhurst Plate by Game Chick. In the Two Thousand Guineas next year he was third to the famous mare Sceptre, which seemed to settle the question between the two; at Kempton he failed to give 21 lb. to a rival, and, after winning the Newmarket Stakes from Fowling Piece, was disqualified on an objection for bumping; but he won the Derby, for which Sceptre, an even-money favourite, could only get fourth; and he also won the Prince of Wales's Stakes at Ascot, though only after the disqualification of Cupbearer. It is remarkable that Mornington Cannon, who rode Ard Patrick in the Newmarket Stakes, should have been disqualified, and that he should have been disqualified again when he rode Cupbearer, this time to Ard Patrick's advantage. The colt's only other essay as a three-year-old was in the Jockey Club Stakes, for which he was third. Next year, however, he was to make a great name for himself by winning the Eclipse Stakes, after one of the most exciting struggles ever seen. The issue was between him and Sceptre, the filly being greatly preferred in the market, and there are those who maintain that she ought to have won. Madden, on Ard Patrick, rode an extraordinarily brilliant race; Sceptre's jockey did not shine, and the colt had a neck the better of a desperate finish.

Neither was favourite for the race, that position being occupied by Rock Sand, one of the luckiest animals ever known. That he had no pretensions to rank in the first class is distinctly proved by what happened to him in this race, as by what happened subsequently in the Jockey Club Stakes, when Sceptre gave him several pounds more than weight for age and beat him in a canter; as, furthermore, by his failure in the Coronation Cup next year, when he was third to Zinfandel and Sceptre. Nevertheless, Rock Sand contrived to win all the three classic races of 1903, and altogether £45,618 in stakes. He was sold at the end of his career for 25,000 guineas. Apparently he suffered from rheumatism, and used to go down to the post in a curious way, as if unable to stretch himself out. He was admittedly a different animal when extended in a race.

Luck was probably on the side of Mr. Leopold de Rothschild's St. Amant, or so it was staunchly held by admirers of Sir John Thursby's colt, John o' Gaunt, a son of Isinglass and La Flèche, who maintained that he was the best of his year. In the Two Thousand Guineas, ridden by Mr. George Thursby, he was practically left

at the post, nevertheless contriving to finish second to St. Amant, with thirteen behind him. It was expected that the Derby would end differently, especially as John o' Gaunt, though beaten a head in the Newmarket Stakes by Henry the First—due to the fact that Mr. Thursby, thinking he had won, allowed himself to be caught—there beat St. Amant by four lengths, Mr. Leopold de Rothschild's colt starting a strong favourite at 9 to 4 on. But this Derby was run in a really terrific thunderstorm. St. Amant was a shifty animal; in order that his attention might not be distracted he was decked with blinkers and a hood, and the storm affected him very much less than the others. According to the evidence of Mr. George Thursby, John o' Gaunt would not gallop; he was too greatly alarmed; nevertheless he finished second, the favourite having been the French-bred *Gouvernant*, another victim of the weather, who his friends likewise declared ought to have won. St. Amant ran seven times subsequently that year without success, and it was a triumph of training when Tom Cannon, the famous jockey, formerly of Danebury, got him to the post sound and well enough to win the Jockey Club Stakes at Newmarket in 1905.

It is a curious fact that several recent Derbies seem to have fallen to other than the best horses. Lord Rosebery's *Cicero* won in 1905 by three parts of a length from M. Edmond Blanc's *Jardy*, a son of *Flying Fox*, *Jardy* suffering severely from fever at the time. It was not decided to start him till shortly before the race, in which it was obvious that he could not do himself anything like justice. Major Eustace Loder's *Spearmint* in 1906 was doubtless the best in a field which, for some reason or other, was strangely underrated. The three-year-olds, of whose merits as a rule an extravagant opinion is formed, were this year set down as moderate, perhaps because *Spearmint* was able to win after having been regarded as a second string, the three-year-old in Mr. Gilpin's stable from whom most was hoped having been the late Sir Daniel Cooper's *Flair*, who, after winning the One Thousand Guineas was unable to stand further preparation. *Spearmint* was doubtless a good animal; he beat *Picton*, ridden by Mr. George Thursby—whose fate it has been to be second for great races without winning them—and *Picton*, too, had proved himself an animal of high class. Behind them were *Troutbeck*, winner of the St. Leger; *Radium*, winner of the Goodwood, Doncaster, and Jockey Club Cups; *Beppo*, winner of the Jockey Club Stakes; *Sancy* and *Lally*, who ran almost a dead heat in

the Eclipse Stakes; *The White Knight*, winner of two Ascot Cups; *Plum Tree*, winner of the Goodwood Cup; *Black Arrow*, a horse of the highest merit when at its best; and others who were prominent in notable events. In 1907 it was generally supposed that Colonel E. W. Baird's *Wool Winder* was very unlucky to be beaten for the Derby by Mr. Croker's



GALTFE MORE.

Orby, and in 1908 there was a surprise which even exceeded that occasioned by *Jeddah*. The three-year-olds were considered to be much below the average, and several of the starters at Epsom seemed out of place in a Derby field; one of these was the Chevalier Giniastrelli's *Signorinetta*, a daughter of his famous mare *Signorina*, and there has rarely been a greater surprise on a racecourse than was experienced when she came out a hundred yards from home and rather easily won her race from the Duke of Portland's *Primer*. In this Derby probably Mr. Barclay Walker's *Llangwn* was the best horse, but *Maher*, who rode, had been unable to ride him in his work. Had he been better acquainted with the colt's capacity, the result would very likely have been different—*Llangwn* would have won.

The Derby of 1909 will be ever memorable as having fallen to the reigning monarch. The favourite was the American-bred *Sir Martin*, who fell before *Tattenham Corner* was rounded, seriously interfering with the chances of several others. Subsequent events showed that the best three-year-old of 1909 was undoubtedly Mr. Fairie's *Bayardo*, but he was a victim

of this accident, and could only get fifth, King Edward's Minoru, one of half-a-dozen colts leased from Colonel Hall Walker, M.P., beating Mr. Raphael's Louviers by a short head, with Lord Michelliam's William the Fourth half a length behind, only just in front of Lord Carnarvon's Valens. The Derby of 1910 went to Lemberg, a half-brother to Bayardo, but not a colt of equal merit.

In writing of famous horses I have confined myself largely to the Derby, a discussion of which has brought in, directly or indirectly, most of those who come into the category. Perhaps Sceptre has been treated inadequately, and Pretty Polly should undoubtedly have a prominent place. Sceptre, bred by the late Duke of Westminster, was purchased by Mr. Sievier for 10,000 guineas, far the highest price ever paid for a yearling, and undoubtedly proved one of the cheapest mares ever bought. She was first seen in the Woodcote Stakes and cantered home by four lengths; she won the July Stakes with equal ease, but when not herself failed in the Champagne. As a three-year-old she came out for the Lincolnshire Handicap, in which, however, she was beaten a short head by the late Colonel McCalmont's good horse, St. Maclou; but she proceeded to carry off the Two Thousand and the One Thousand Guineas, the Oaks, the St. James's Palace Stakes, the Nassau Stakes, and the St. Leger. As a four-year-old, this daughter of Persimmon and Ornament was out seven times, and won five, failing again in the Lincolnshire Handicap, but winning the Hardwicke Stakes, the Jockey Club Stakes, the Duke of York Stakes, the Champion, and the Limekiln Stakes. She was kept in training when past her best. Sir William Bass purchased her for 25,000 guineas.

Discussions have been rife as to whether Sceptre or Pretty Polly was the better animal, the balance of opinion being in favour of Major Eustace Loder's daughter of Gallinule and Admiration, for the reason that whereas Sceptre was beaten on several occasions, Pretty Polly only once knew defeat in England. In her first season Pretty Polly won nine races, valued at £13,502, without a failure, her first appearance having been sensational. Soon after the fall of the flag for the British Dominion Two-year-old Race at Sandown she was so far in advance an idea prevailed that she must have got off by herself, and photographers who were trying to take the finish of the race could only obtain a picture of Pretty Polly, the others being too far behind to come into

the plate. As a three-year-old she ran seven times without a failure, accumulating a further sum of £18,440, her victories including the One Thousand Guineas, the Oaks, the Coronation, Nassau, and Park Hill Stakes, and the St. Leger. She ran four times as a four-year-old, adding £3,420 more to her record. Thus far she had never failed, and as a five-year-old she won two more races worth £1,935, unexpectedly meeting defeat in the Gold Cup, with odds of 11 to 4 on her. After a rough crossing to France, she was beaten in the Prix du Conseil Municipal, this and the Gold Cup being the only interruptions to her triumphant career. Amongst others whom it would have been a pleasure to dwell upon, were space unlimited, are Cyllene and William the Third, both of whom won the Ascot Cup with extraordinary ease, and Zinfandel, another Ascot Cup winner, and doubtless Persimmon's best son, in my opinion, at least, a decidedly better horse than the St. Leger winner, Your Majesty.

BETTING.—That the Jockey Club take no cognisance of bets is in the nature of a polite fiction, for disputed bets are settled by the Committee of Tattersall's, who meet the first Monday in almost every month at Tattersall's, and on the Wednesdays of race meetings at Newmarket, and report defaulters who have failed to comply with their orders to the Stewards of the Jockey Club, with the result that men so reported are automatically warned off the turf. The Committee is representative of backers and of bookmakers. The members are Colonel Fludyer, chairman; the Earl of Suffolk and Berks, the Earl of Wolverton, Sir John Robinson, Messrs. J. H. Lock, Major Laing, Alfred E. T. Watson, Wingrove Smith, J. George, and Henry Slowburn. Mr. H. A. Ruston, a Newmarket solicitor, is secretary.

SPEED AND STAYING.—Speed is the first requisite of the racehorse, his value depending largely upon the distance of ground over which he can maintain his best pace—that is to say, whether or not he is a stayer. A good definition of a stayer is much needed, and for want of a better he may perhaps be described as a horse who can keep on galloping for a long way when fully extended. Many racehorses have a flash of speed with which to finish a race—"one effort in them," as the phrase runs, and it is among the first essentials of jockeyship to know precisely when this effort should be demanded. There are not a few horses that cannot "get" even five furlongs,

WINNERS OF THE DERBY, 1899-1904.



FLYING FOX, 1899.



ARD PATRICK, 1902.



DIAMOND JUBILEE, 1900.



ROCK SAND, 1903.



VOLODYOVSKI, 1904.



Photographs by Sport & General.
ST. AMANT, 1904.

and among these very much depends upon the selection of the course, whether it is easy, as down the hill at Epsom (if the animal has good shoulders and can come down hill), at Derby and elsewhere, or severe as at Ascot, on the Rowley Mile, the Bunbury Mile, or where the winning post is at the top of an ascent. A really speedy horse that does not stay will beat bad animals over long distances, when running far beyond his course, in fact, because they fail to extend him. He is cantering while they are galloping hard; going on well within himself he does not tire, and so can keep with them at no exertion, reserving his speed; but put the same horse in his own class, among worthy rivals, so that he is kept at or near full stretch, and he is exhausted by a very much shorter course—as is natural. A “stayer” is a somewhat vague term, as regards the question of distance, but one generally understands by the expression a horse that can last with animals of his own class for at least a mile and a half. The combination of great speed and staying power is occasionally found, but it is exceedingly rare.

THE COST OF RACING.—The cost of racing may, of course, be anything. It may result in an annual profit or loss of many thousands of pounds, according to the scale on which it is followed and the luck which befalls an owner. The word “luck” is not carelessly employed; for much, very much, as judgment may achieve, the element of luck supervenes and practically governs well-nigh everything. When the Duke of Westminster was mating his mares in 1882, it was surely to a great extent luck or chance that made him send Lily Agnes to Bend Or, with the result that Ormonde was born to show himself invincible, and to become the sire of Orme and Goldfinch. Chance had much to do with the fact that the Duke of Portland became possessed of St. Simon; an accident prevented the purchase of the colt after Prince Batthyany's death, before he was sold to his present owner; and, similarly, it was luck which induced the Duke, who seldom buys at an auction, to go to Bushey the day Memoir was put up, thereby securing an Oaks and Leger winner. Major Eustace Loder was amazingly lucky to obtain a Derby and Grand Prix winner in Spearmint for 300 guineas. Without examining the matter too closely, it must be acknowledged that luck enormously influences victory or defeat. But, returning to the cost of racing, there are certain inevitable expenses, and some light may be thrown on the subject by a

little consideration of them. A thoroughbred horse may cost from five guineas up to thousands of times that sum—at meetings towards the end of the season runners in selling races have been knocked down for the small amount named, and Flying Fox was sold to M. Edmond Blanc at the dispersal of the late Duke of Westminster's stud for 37,500 guineas. Horses, therefore, go at all prices. Often, moreover, the dearest prove worthless, and the cheapest gallop their way to glory.

When an animal has been acquired, the questions of training and running have to be settled. The usual fee per horse is 50s. a week, though some trainers have of late years raised this to three guineas, and in certain cases the trainer also has a salary, or a percentage on the stakes won by the horses in his charge. After the weekly payment the matter of entries arises; and this is a very important one. A specially well-bred, good-looking animal will be, as a rule, freely engaged in weight-for-age races, and the cost here may be anything from a minor forfeit of a sovereign to a hard-and-fast sum—“p.p.” as it is called, meaning “play or pay”—of 200 guineas. The sum last named is the price of entrance, for example, to the Prince of Wales's Stake at Goodwood. It is not at all an unusual thing for a young horse to have a thousand pounds' worth of engagements made for him; and if he is no good for racing, as so often happens, the money is lost at once. Having shown inability to win important stakes, an animal may be entered for handicaps, and, being beaten in them, so add to the total of loss. In order to run he must be ridden, and here the payment of jockey comes in. The set fee is three guineas for a losing mount on the flat, five guineas for a win; but, in addition to this, special terms have to be made in order to secure the services of particularly accomplished horsemen, either by agreement for a sum per mount, or in the way of a retainer for first, second, or, in the case of riders who are much sought after, even a third call on the jockey's services. The writer of this article was once commissioned by a friend to offer as much as 4,000 guineas a year for first call on a popular jockey, with an intimation that another thousand would not be refused. It will be perceived that when an owner is anxious that the fullest justice shall be done to his horses, the jockey's payment is an important item. Travelling is another expense. Most of the leading owners have their own vans on the railway, which is not only a convenience, as the van is always ready when wanted, but also to a great

WINNERS OF THE DERBY, 1905-1910.



CICERO, 1905.



SIGNORINETTA, 1908.



SPEARMINT, 1906.



MINORU, 1903.



ORBY, 1907.



Photograph by Sport & General.
LEMBERG, 1910.

extent a safeguard against disease, as in a public horse-box an animal affected by some infectious ailment may have left mischief behind for the next user. Stabling at the place where the meeting is being held is a further detail, though of late the managers of a few courses, in order to attract horses to run, have offered stabling and forage free. There are some few additional expenses. Insurance, for instance, with some company, such as the National Live Stock Insurance Company, who specialise in this kind of business. For every horse trained at Newmarket a Heath Tax of seven guineas is charged; owners almost invariably provide their horses with distinctive clothing—some have two suits, one for general use on the training ground, the other, which frequently reproduces or suggests the colours, for use on the racecourse. Caps and jackets have also to be bought for the jockeys; there are saddlers' bills, and, not seldom, accounts for veterinary attendance. If an owner breeds his own animals, there is the cost of paddocks, of men to look after the mares, and fees for the services of sires, which may be anything downwards from 500 guineas—the primary cost of a possible St. Simon foal. As for the rewards, the Duke of Portland in 1889 headed the list of winning owners with £73,858. From the winning totals entries and forfeits have to be deducted. If an owner bets, the cost of racing may naturally be reduced or enhanced; as a general rule he will probably, at any rate in the long run, find himself a loser by taking the odds.

HANDICAPS.—From one point of view the handicap is an altogether absurd institution, for the result is simply and solely to show how far wrong the handicapper is in his estimate of the ability of the horses he weights. The winner comes in two lengths ahead of his field, and thereby demonstrates either that the adjuster of the weights regarded him as perhaps a 7-lb. worse animal than he is, or else that he accepted the second as a 7-lb. better. A horse wins by a neck. The handicapper is shown to be only a pound or so wrong; but that is all the race has proved. Handicaps, however, are practically indispensable, for the reason that it takes more than the general scale of penalties and allowances to give the moderate animal a chance, and if racing were confined to the comparatively few good horses, the sport would be enormously circumscribed. Selling handicaps—dealt with in a later division of this article, under the head of "Selling Races"—are, of course, infinitely more preposterous, for here a horse carrying 9 st. may give a 2 st. beating to a horse carrying 6 st., yet both are entered to be sold for the same price and supposed to be worth the same amount. Such races merely serve the purpose of filling cards and providing opportunity for betting; they assuredly tend little

to accomplish the professed object of the Turf—the improvement of the thoroughbred. The principal handicaps, nevertheless, have frequently an interest of their own—on certain occasions, when really good horses are called upon to perform very difficult tasks, and succeed in accomplishing them in handsome fashion, a very great and special interest. The handicap, indeed, is of value as serving to show what good horses can do; for those that have most to carry are often called upon to give more weight away to moderate, useful, or even to horses of no small proved capacity, than would be the case in any other variety of contest—more, that is, than penalties and allowances would provide.

Horses may thus make reputations in handicaps, and of late years the old distinction between the weight-for-age and the handicap horse has been well-nigh obliterated, one reason for this doubtless being that handicaps are often worth so much that there are very few owners who do not enter the best animals they possess. Ormonde, St. Simon, Donovan, Isinglass, Persimmon, Flying Fox, Pretty Polly, Bayardo, and some others who might be named, are among the rare exceptions. The late Duke of Westminster was a typical owner who raced habitually for the most distinguished prizes the turf offers; but he did not hesitate to enter his Derby winner Bend Or in handicaps, the sire of Ormonde having won the City and Suburban the spring after his Epsom triumph, and having failed the same autumn in the Cambridgeshire. Here Bend Or, 4 years old, carrying 9 st. 8 lb., ran unplaced to Foxhall, 3 years old, 9 st. The two thus met at weight-for-age, and the younger colt, who had never taken part in a "classic" race, very easily beat the classic winner. To Lucy Glitters, who was second to Thebais for the Oaks and a good third to Iroquois for the St. Leger—beaten less than two lengths—Foxhall gave no less than 2 st. 7 lb. In the face of this, what ground can there be for disparaging Foxhall as a "handicap horse"? St. Gatien, a Derby winner, or dead-heater, which is much the same thing, gained lustre by his success in the Cesarewitch as a three-year-old with 8 st. 10 lb. Melton failed in the Cambridgeshire, but carried 9 st. 3 lb. home, as a four-year-old, in the Liverpool Autumn Cup. La Flèche, beaten for the Derby by a horse subsequently proved to be much her inferior, but winner of the One Thousand, Oaks, and St. Leger, ran in handicaps, won the Cambridgeshire as a three-year-old with 8 st. 10 lb., and the Liverpool Autumn Cup next year with 9 st. 6 lb. Memoir, an Oaks and Leger winner, ran in handicaps. Throstle won the St. Leger, beating Ladas and Matchbox, for which latter the Austrian Government paid 18,000 guineas. Soon afterwards Throstle met Best Man, a "handicap horse," and he beat her easily. Isonomy was a "handicap horse," but it would be difficult to say how much superior he was to the Derby winner of that year, Sefton.

The Lincolnshire Handicap is always the first of the season, and is invariably run during the week which includes the 25th of March, unless that week is the week next before Easter Sunday. A few three-year-olds occasionally take part in it—Clarence won in 1892 and Wolf's Crag in 1893—but are rarely successful, even in these days of early maturity. The class of competitors is generally rather moderate or useful than very good, yet Bendigo (1885, 5 years old, 8 st. 5 lb.) was a horse of class, and the reputations of Clorane (1896, 5 years, 9 st. 4 lb.) and Winkfield's Pride (1897, 4 years, 8 st. 9 lb.) were enhanced

Sceptre,
1902.



Key-
stone II,
1906.

Our
Lassie,
1903

(Photo
by
Clarence
Hailey.)



Glass
Doll,
1907.

Pretty
Polly,
1904.



Perol,
1909.

Cherry
Lass,
1905.



Rae-
drop,
1910.

1908. Signorinetta (see p. 411).

F F

by their victories. The next really important handicap is the City and Suburban at the Epsom Spring Meeting, and here class is often well represented. Sefton, who *did* win the Derby—modest specimen as he was of the horses that have earned that fame—carried off the City and Suburban as a three-year-old in 1878 with 5 st. 8 lb.—it was not till afterwards that the minimum weight in handicaps was raised to 6 st. Master Kildare (5 years, 9 st. 2 lb.) won in 1880, and in course of time became notable as the sire of Melton; Bend Or, as already remarked, won with 9 st. in 1881. Bird of Freedom, who (albeit in a bad year) won the Ascot Cup, preceded that event by securing the City and Suburban in 1885 (3 years, 6 st. 9 lb.), and Buccaneer comes into the same category; he won at Epsom as a four-year-old, carrying 7 st. 10 lb. The previous season the race had fallen to an Oaks winner,

Sir Visto. Althorp, too, won the Ascot Cup the year after taking the Metropolitan, but until 1904, when Throwaway won, he was probably the worst horse that ever carried off that trophy, and had the luck to meet two extremely poor opponents. One no better than Throwaway, Bomba, won the Ascot Cup of 1909, however.

The Chester Cup, first run in 1824, was for many years one of the most important handicaps of the year. Entries were made many months before the race, and betting on it was heavy and continuous throughout the winter. Alice Hawthorn, Leamington (twice), St. Albans, Tim Whiffler, Beeswing, Paul Jones—admirably called "The Steam Engine" by his friends—Knight of the Garter, and other good horses have won the Chester Cup. The day on which it was run used to be a holiday all round the district and along the borders of North Wales; but for some reason



[Photograph by Sport and General.

TATTENHAM CORNER. CLOSING ON TO THE RAILS ON THE STRAIGHT COURSE.

Rève d'Or (6 years, 7 st. 13 lb.). The Great Metropolitan is the companion race at the Epsom Spring, but, as is usually the case in long-distance handicaps except the Cesarewitch, good horses are the exception in Metropolitan fields. They have, moreover, much deteriorated during the last few years; indeed, a few extremely bad animals have won the Metropolitan. Previously some good, sound, honest stayers had been successful in this race. Dutch Skater, who did credit to himself at the stud, as the sire of the St. Leger winner Dutch Oven, won in 1872. There is an incident of some interest about the Metropolitan of the following year. Tom Cannon won on Mornington; his second son was born on the same day, and named after the horse in celebration of the victory. That Mornington Cannon's name is now written large in Turf history need scarcely be stated, he having headed the annual list of winning jockeys on six occasions. Hampton, a horse who grew from little things to great, won in 1875, as a three-year-old, carrying 6 st. 3 lb., a creditable performance with the low minimum which then ruled. New Holland, a slow, muddling horse belonging to Prince Soltykoff, managed to get home in 1876, and 1879 was memorable for the victory of a good honest animal in the American Parole. Chippendale, who afterwards won the Cesarewitch, and on two other occasions came very near to victory, was successful in 1880, and the Duke of Hamilton carried off the prize in 1882 with Fiddler, a horse who afterwards gained a reputation by beating Foxhall for the Alexandra Plate at Ascot. But this was one of those instances in which horses win fame which they scarcely deserve, for after his severe exertions on the previous day in the Ascot Cup, Foxhall was too stiff and sore to do himself justice. In 1883 Lord Rosebery won with Vista, who subsequently distinguished herself by becoming the dam of a Derby winner, albeit an extremely bad one, in

or other the race diminished in interest, and the number of starters fell off. When Joe Miller won in 1852 no fewer than forty-three animals went to the post, and it is said that they had to be started in two rows; of late years, however, the fields have not seldom failed to reach double figures; Prudhomme in 1882 and Merry Prince in 1885 met only six opponents, and Biserta in 1883 had only five. Eastern Emperor, who carried the Duke of Beaufort's colours, must be reckoned as a good horse, for previously to winning the Chester Cup in 1886 he had carried off the Royal Hunt Cup at Ascot, thus showing himself to be possessed of both speed and stamina. Next year Carlton, who ran in the colours of the Duke of Beaufort's son, the late Lord Edward Somerset, won the race before making a great name for himself by his success in the Manchester November Handicap with the heavy weight of 9 st. 12 lb. Tyrant, who won in 1890, was also a good horse, the Chester Cup being one of a skilfully planned succession of victories. The race is never likely to be all it once was, for the reason that whereas it was formerly one of the few notable races of the season, there are now so many rich stakes. One that speedily became famous is the Kempton Park Jubilee Handicap, always run in the same week as the Chester Cup. As the name implies, this was started in 1887, and few races in the *Calendar* have ever so speedily made their way to popularity. Good fields invariably go to the post, and some notable horses have carried heavy weights to victory. In the first year of the race it was won by Bendigo with 9 st. 7 lb. on his back, and the fame of this achievement was surpassed next season when Minting won in a field of nineteen with 10 st. Amphion, one of the handsomest horses the contemporary Turf has seen, sustained the character of the Jubilee in 1889 by his victory with 7 st. 1 lb. in the saddle, a heavy weight in view

Wild-
fowler,
1898.



Wild
fowler
1898.



Doricles,
1901.



Yon
Majesty,
1901.



Challa-
combe,
1905.



Bayado,
1905.



Trout-
beck,
1906.



Swan
1906.



1899. Flying Fox (see p. 429).

1900. Diamond Jubilee (see p. 420).

1904. Pretty Polly (see p. 433).

1902. Sceptre (see p. 433).

1903. Rock Sand (see p. 409).

F F 2

of the fact that he was only a three-year-old and the race was run at the beginning of May. Next year, however, The Imp, a moderate animal who afterwards belonged to the Prince of Wales, lowered the class of the list of winners; but it was sustained again by Enclid, 3 years, 7 st. 4 lb.; Orvieto, 5 years, 9 st. 5 lb.; Avington, 4 years, 8 st. 1 lb.; and Victor Wild, an extremely good horse over this course, who won in 1805 as a five-year-old with 8 st. 4 lb., repeated his victory in the ensuing season with 9 st. 7 lb., and was only beaten a length in 1807 with 9 st. 9 lb. Ypsilanti, who won in 1903 and 1904, had been bought out of a selling race, as had Victor Wild. It is very strange that these dual winners should have had this humble experience.

The Manchester Cup is noteworthy for the fact that Isonomy in 1880 made a great stir in the Turf world by his success in a field of twenty-one, carrying the huge weight of 9 st. 12 lb. The performance had been deemed well-nigh impossible until it was accomplished by that good horse. To go into the history of this race, however, it may be said that Isonomy was very lucky to win; a colt called The Abbot, who was only just beaten, could not have lost but that his jockey rode with a most total disregard of the orders that had been given him; nevertheless, the latter was in receipt of a great amount of weight from Isonomy, whose performance would still have been memorable even had he just been beaten. But there is naturally a glamour about success. Between defeat and victory there exists in many cases a difference really of a very few inches—a pound or two, if it be calculated in weight; a little luck in the course of the race would have turned the scale; but the horse that is just beaten is apt to seem a very inferior animal to the horse that just wins. It was supposed that the gallant little Bard would have taken this Cup in 1886, but the lightly-weighted Riversdale, with 6 st. 1 lb. to carry, just had the best of him, though this defeat scarcely diminished the prestige of The Bard, who carried 8 st. 4 lb. over this mile and three-quarters. Carlton, a good sound stayer, as he showed in the Chester Cup and the Manchester November Handicap, won here in 1887 with the respectable burden of 8 st. 9 lb., and L'Abbesse de Jouarre, the year after her Oaks victory, was successful with 8 st. 6 lb. La Roche, another Oaks winner, Zinfandel, winner of one Ascot Cup, and a horse who, but for bad luck, would assuredly have had two to his credit, Bachelor's Button, also an Ascot Cup winner, and Polar Star, who had been the best two-year-old of his season, give distinction to the list of winners.

Like so many other long distance races, the Ascot Stakes has fallen off of late years. The stake was originated in 1839 and won by a three-year-old mare called Marchioness, who carried the indefinite light weight described as a "feather." There was at this time no minimum, and indeed in the following year the Stakes was won by Darkness, with only 5 st. 4 lb. on her back. That good stayer, Musket, who has done such admirable service at the stud in Australia, won in 1870 with 8 st. 12 lb., but it is to be remarked that, in consequence of the non-acceptance of the top weights, his original impost was raised many pounds. The late Sir Joseph Hawley in 1870 won with Rosicrucian, who three years previously had been regarded as good enough to win the Derby, in which he was beaten by his stable companion, Blue Gown. The remark, "horses for courses," has already been noted, and it is remarkable how often there seems justification for it. Thus Pageant won the

Chester Cup twice, as did Dalby and Dare Devil. Ivanhoff was twice successful in the Manchester Cup, Shancrotha won in 1893, and was not beaten—he ran a dead-heat—in 1894. Vampyre, as just remarked, twice carried off the Ascot Stakes; Teviotdale did so in 1885 and 1881, and Lord Lorne in 1880 and 1890. Previously to the success of Dan Dancer in 1888, he had been jumping hurdles, as had Billow before she won in 1892, and, it may be added, Prudhomme, before he won the Chester Cup. There is generally supposed to be some derogation in character when a horse runs over hurdles, though to this rule, if it be one, there are some notable exceptions, Hampton himself having been a hurdle jumper before he gained fame for himself and fortune for his owner. Class was found again in the Ascot Stakes in 1895, when Ravensbury carried off the race with 9 st. 9 lb. It went to France by the aid of Arlequin in 1896, and of Masqué in 1897. Of late years the class has further decreased.

Of all handicaps throughout the year, perhaps the Cambridgeshire is universally regarded as the most important; but the Royal Hunt Cup at Ascot runs it close. This race was originated in 1843, has always attracted large fields and usually brought out horses of good class. It does not seem to be diminishing in interest. See Saw, who won in 1860, was in all respects a creditable example of the English thoroughbred, though the same cannot be said for Judge, successful in the following year. Judge had been bought for a very few sovereigns, but his light weight enabled him to get home before animals of better class. That extraordinary speedy horse Lowlander, by the way, was also a hurdle-racer, and won the Hunt Cup in 1874. There was a sensational race in 1881, when the five-year-old Peter, with 9 st. 3 lb. on his back, stopped to kick and was left far behind after the field had gone some way. That Archer should have persuaded him to gallop, and that he should subsequently have won with his heavy weight, assuredly stamps him as a remarkable animal. Such an event is unprecedented under the circumstances. The distance is only a mile; to be accurate, it is short of that measurement by 74 yards; considering the speed at which horses gallop, and that the pace is always good in this race, it will be readily understood how very little time there is to lose on the journey. Morion, three years old, 7 st. 9 lb., showed what a good horse he was by winning in 1890. No animal of his age had successfully carried so heavy a weight before, though his record was broken two years later when Suspender, also three years old, won with 7 st. 10 lb. in a field of twenty-five. Suspender was never beaten, and there is no saying how good he may have been; unfortunately it could not be ascertained in public, for he fell one of the many victims of the hard ground at Ascot, and was never able to run again after his victory in the Hunt Cup. That good miler, Victor Wild, gained one of his many victories here in 1891, and notwithstanding that he did not win in 1896, he ran an extraordinarily good race, being only just beaten by Knight of the Thistle, a fairly good four-year-old in receipt of no less than 2 st. 7 lb. from the winner of 1901. The Wokingham Stakes, run over six furlongs, is a species of minor edition of the Hunt Cup, and, as good animals are nearly always found in the field, success here adds much to a horse's reputation, except, of course, that if an animal does not fairly "get a mile" his character as a racehorse, having regard to the assumed aim and object of racing, does not rank high. Lally, also winner of the Eclipse Stakes, took the Hunt

WINNERS OF THE ONE THOUSAND GUINEAS, 1900-1910.



Wini-freda, 1900.



Witch Elm, 1902.



Aida, 1901.



Rhodora, 1903.



Quint-essence, 1903.

[Photo. by W. Rouch.]



Electra, 1904.



Flair, 1906.



Sceptre, 1902.

1902. Sceptre (see p. 433).

1904. Pretty Polly (see p. 433).

1905. Cherry Lass (see p. 440).

Cup in 1907 with 8 st., and Dark Ronald, let in with 7 st. 2 lb. in 1909, took advantage of the undue leniency.

At Goodwood there are two noteworthy handicaps: the Stakes—now called the Plate—first run in 1823 over a distance of $2\frac{1}{2}$ miles, and therefore a test of staying, and the Stewards' Cup, run over the T.Y.C., which, as elsewhere noted, is here six furlongs. The same remark that has been made about the Metropolitan and the Ascot Stakes applies to Goodwood. Horses of class and character are rarely found in the Plate; and what has been said about "horses for courses" also comes in here, as Stumps and Orelia both won twice. This, by the way, is still more remarkable in the Chesterfield Cup at the same meeting, for Coomassie won it in 1876 and 1877, Victor Emmanuel in 1880 and 1881, and Vibration in 1882 and 1883. Hampton won the Stakes in 1876, and that he too liked the course is demonstrated by the fact

the idea being that she would fade out before a couple of miles had been covered. Her jockey was only told to jump off at the best pace he could and come along all the way; and he did this so effectually that she was never headed. The fly-man met us after the races with a somewhat reproachful look, evidently feeling that he had been put off a good thing, and the kindly Duke felt the man's disappointment much more than the loss of his own money, though an extra sovereign consoled the would-be backer of Winter Cherry.

The late Alec Taylor was about this time extraordinarily successful in the preparation of horses for long-distance races. In four successive years from 1886 his stable carried off the Goodwood Stakes, with Winter Cherry, Carlton, Stourhead, and Ingram; he won the Metropolitan with The Cob in 1887, with Parlington in 1890, and with Ragimunde in 1891. The Northampton



CLOSING ON TO THE RAILS.

[*Photograph by Sport and General.*]

of his having carried off the Cup in the following year. Bay Archer, who did excellent service to the stud in France, won in 1879, and that good mare Corrie Roy was not stopped in 1883 by her 9 st., a weight that was also carried successfully by Carlton in 1887. How little competition there has been for long-distance races of late years is made evident by the fact that in 1885 the race was void for lack of entries; and the next year it resulted rather curiously, for the Duke of Beaufort's Winter Cherry, who had only been started to make running for Sir Kenneth (belonging to the late Duke of Devonshire, then Lord Hartington), carried off the prize. An anecdote may here be interpolated to show how Turf "certainties" are upset and how totally unexpected results occur. The present writer chanced to drive up to the course in a fly with the Duke of Beaufort. As we were getting out of the carriage the fly-man obviously had something to say. An opportunity being afforded him, he begged me to tell him whether the Duke had any fancy for his mare, which the fly-man, for some mysterious reason, said he thought was sure to win. The Duke overheard the question, and with characteristic kindness said, "No, my man, don't waste your money on her; she has no chance whatever." Walking to the stand he remarked to me, "I am only starting my mare to make running for Hartington; Sir Kenneth, he thinks, cannot be beaten. I have backed him and should advise you to do the same." It was never supposed that Winter Cherry could possibly win,

Stakes fell to the Manton-trained Claymore in 1889. Eastern Emperor and Carlton won the Chester Cup in 1886 and 1887 respectively; Ragimunde won the Cesarewitch in 1891, and The Cob should have done so in 1886; Carlton won the Doncaster Cup in 1887, as did Claymore in 1889; and four times in five years from 1886 the stable carried off the Manchester November Handicap, with Stourhead, Carlton, Claymore, and Parlington.

Returning to the Stewards' Cup at Goodwood, there is comparatively little to be said in comparison with the interest which the contest annually awakens. It is, indeed, rather as a medium of speculation than as a great race that the Stewards' Cup has to be considered. Some notably speedy horses have won—Oxonian, Trapist, Herald, Peter, Sweetbread, Dog Rose, and Rocketter. Another horse who went a great pace ought to have won in 1888. This was Bismarck, whose jockey, however, after he had passed the distance, turned round to grin derisively at his followers, whom he supposed he had easily beaten, when his horse seized the opportunity of swerving and running right across the course, leaving a half-bred five-year-old mare from Danebury, Tib by name, to carry her light burden of 6 st. 7 lb. first past the post by a short head. After Goodwood, what is called the "Sussex fortnight" is completed at Brighton and Lewes. The Brighton Stakes dates from 1824. The race used to be over two miles; it was afterwards reduced to a mile and a half, and subsequently to a mile, the usual

WINNERS OF THE TWO THOUSAND GUINEAS, 1901-1910.



HANDICAPPER, 1901.



SLIEVE GALLION, 1907.



VEDAS, 1905.



NORMAN III., 1908.



GORGOS, 1906.



NEIL GOW, 1910.

(Photographs by Sport and General.)

1902. Sceptre (see p. 433). 1903. Rock Sand (see p. 429). 1904. St. Amant (see p. 42). 1909. Minoru (see p. 411).

difficulty having been found of getting good fields for a long-distance contest. The Brighton Cup has been reduced in the same way. Some good horses have won this latter, including Caller Ou, Dollar, Ely, Speculum, Albert Victor, Lilian, Marie Stuart, Isonomy, and Border Minstrel, who was allowed to walk over. Fields for the previous dozen years had not averaged four in number, and the distance was consequently lessened to a mile. Brag, a speedy horse belonging to Mr. Leopold de Rothschild, carried 8 st. 10 lb. in 1885 in the exceptionally short time of 1 min. 39 sec. The Baron, who had started an odds-on favourite for the Derby (he had consistently shown himself a bad horse), succeeded here in beating three opponents in 1889. The race is now fairly holding its own. It is contested by three-year-olds only. The story of reduced distance has to be told about the Lewes Handicap, though only half a mile has been taken off the length of this course, and it is now a mile and a half instead of two miles. Lord Hartington's Rylstone carried out the principle of "horses for courses" in notable fashion by winning three times running the only handicap that has ever fallen in three consecutive years to the same horse. For the rest, there is nothing particular to be said about

in the following year at Epsom. Goldseeker started for the City and Suburban, and there can perhaps be little harm at this time of day in saying that those connected with him had neither hope nor desire of victory, though it must be distinctly understood that in saying this no sort of implication is made on the integrity of those concerned. They thought the race would do him good, and help towards preparing him for the Jubilee Handicap at Kempton Park, for which they had backed him very heavily. Tom Cannon, junior, had the mount at Epsom, and was put up without any instructions as to how he was to ride; he jumped off, and was never headed from start to finish, backward in condition as the colt was. The effect of this was to earn for him a substantial penalty for the event at Kempton Park. He had not been backed for a shilling at Epsom, and his penalty cost him the other race, for which he had been backed heavily, and so good had his chance been esteemed that he started first favourite in spite of the additional 14 lb. L'Abbesse de Jouarre, the Oaks winner, won the Portland Plate with 9 st. in 1890, and the very speedy horse, Greyleg, one of the few greys that have run of late years, was successful in 1894. Whiston, who went wrong in



FINISH OF THE DERBY.

(Photograph by Sport and General.)

the race, which brings out average handicap horses. Much the same may be written of the Great Yorkshire Handicap, one of the features of the Doncaster Meeting. It has fallen to good and bad animals in turn. The Portland Plate at Doncaster is one of the most popular of short races, the distance being 5 furlongs 152 yards, and as the field is nearly always numerous, success here is a genuine test of speed. Oxonian, Lollipop, Hackthorpe, are three horses that have carried off this stake, which in 1881 was secured by Mowerina, who was presently to win fame as the dam of Donovan. This was one of the races won by Goldseeker, with whom a succession of victories had been very cleverly planned. The horse, it may be incidentally remarked, injured his friends by winning once too often. This occurred

his wind and speedily sank to plating, won in 1895, and Grig, a mare belonging to Mr. Leopold de Rothschild, who galloped at a great pace, was successful the year afterwards. Eager, Dieu-donné, Nabot, and Santry were other winners of reputation.

Of the Great Eastern Handicap and the New-market October Handicap there is nothing special to be said except that they are popular races; but the Cesarewitch is one of the great contests of the year. Class is better represented in this race than in any other of the long-distance handicaps, and the field is almost invariably good. It is run over a severe course of two and a quarter miles, and though a moderate animal has occasionally got home with a light weight, it usually takes a really good horse to win the Cesarewitch.

The race dates from 1839, and several interesting chapters might be compiled about it. The success of Prioress in 1857, after a dead-heat with two other animals, El Hakim and Queen Bess, was one of the first victories gained by American horses in England. She was brought to this country by the late Mr. Ten Broeck, a keen sportsman who met with varying fortune on the Turf. 1866 was a very sensational year. The race fell

stayer, Chippendale, without a word; he won in 1879 with 7 st. 5 lb., ran well next year with 9 st. 4 lb., and was second both in 1881 and 1882 with 8 st. 12 lb. In 1880 the Cesarewitch was memorable for the victory of Robert the Devil, who carried the great weight for a three-year-old of 8 st. 6 lb. It had been supposed by many that no horse of this age could win with so heavy a burden; but there was never any doubt as to



PULLING UP AFTER THE DERBY.

to the Marquis of Hasting's Lecturer, and the owner won a large fortune. The horse was trained at Danebury by the late John Day, and did so well in a trial with Ackworth and others that Day could not believe that the result was true. After a short interval the gallop was repeated, with precisely the same result, and it then became apparent that the colt, a three-year-old, not by any means leniently weighted with 7 st. 3 lb., could scarcely fail. In Admiral Rous's original handicap Lecturer had been "thrown in" with 6 st. 3 lb., but the Admiral accepted advice and made the alteration without altering the result. John Day's brother, William, who had taken the race in 1860 with Dulcibella, and knew well what was required to win the Cesarewitch, believed he had a mare, Proserpine, who could not be beaten; but when the two brothers compared notes on arrival at Newmarket, William was convinced that he could have no possible chance, and that the money he had invested on his own horse was as good as lost. He had time, however, to secure himself, the Marquis of Hastings having very generously let him stand £25 at the odds of 40 to 1 which he had at first been able to obtain about his horse. A terrible scare arose in the Danebury camp shortly before the race when it was remembered that Lord Hastings had struck out all animals entered in his name; but by an extraordinary piece of good luck Lecturer chanced to have been entered for the Cesarewitch in the name of a friend, Mr. Peter Wilkinson, so that he was able to run, and he won at his ease. 1876 was notable for the fact that Rosebery, who won this race, afterwards carried off the Cambridgeshire, the first horse that had ever secured the two.

One cannot pass the name of that good honest

the result after the flag had fallen. Another American, Foxhall, won with 7 st. 12 lb., he being a three-year-old, in 1881, and followed Rosebery's example in carrying off the Cambridgeshire. The success of Corrie Roy in 1882 is worthy of note from the fact that she never had what is called "an orthodox Cesarewitch preparation." There is a generally well-founded idea among trainers that no horse can win the Cesarewitch who has not previously been galloped on several occasions over the full distance; but there are exceptions to every rule, and Corrie Roy's trainer well understood that such treatment would not suit her; her gallops were seldom much over a mile, but she won decisively. Robert the Devil's exploit was surpassed in 1884 by St. Gatien, who won with 8 st. 10 lb. on his three-year-old back; in the following year none of the English horses could hold their own against Plaisanterie, who came from France and had things all her own way. It may be noted that her son Childwick—a 6,000-guinea yearling—repeated his dam's success nine years later. Stone Clink won in 1880 by a piece of good fortune. A game, sturdy little horse called The Cob, belonging to the Duke of Beaufort, and noteworthy for the fact that his dam, The Roe, was twenty-four years old when he was born, had been prepared for the race by Alec Taylor, who, with every justification for the opinion, believed that he could not be beaten. Like many other good horses, The Cob was very lazy, and before the race it was repeatedly impressed upon his jockey that he must ride quite past the post. "If you drop your hands on him he will stop directly," his rider was told again and again by both the Duke and his trainer. The Cob led his field a rare gallop Across the Flat, and had practically won the race; but the

jockey, believing that victory was secure, dropped his hands as he had been so earnestly cautioned not to do, the result being that The Cob stopped, and Stone Clink caught and beat him. The French carried off the race again in 1888 with Ténébreuse, and in 1890 Sheen beat all records by winning with 9 st. 2 lb. in the saddle, though, of course, having regard to the scale of weight-for-age, the success of a five-year-old with this burden was less remarkable than the victories of Robert the Devil and St. Gatien, it being estimated that over this distance in the month of October a five-year-old is a stone better than a three. How greatly owners may be mistaken about their horses is proved by the fact that Red Eyes, who ran a dead-heat with Cypria in 1803, had been given away to his trainer, Joseph Cannon, as worthless, after having been beaten in selling races.

Chaleureux, who won in 1808, has obtained distinction as the sire of the Derby and Oaks winner Signorinetta. In 1903 Grey Tick's victory chiefly served to show the excellence of Zinfandel. Grey Tick, aged, carried 6 st. 9 lb.; Zinfandel, a three-year-old, 8 st. 4 lb. Weight for age is 14 lb., so the colt was giving no less a weight than 37 lb. The ground was very damp that year, and Zinfandel floundered badly in a boggy place; but Mornington Cannon, who rode, declared that his mount had more than he expected left in when he made his effort, and, indeed, if he had ventured on bolder tactics, and sent the horse out to win his race earlier, he would doubtless have been successful. Hammerkop, who won as a five-year-old in 1905 with 8 st. 9 lb., is a good staying mare, for at the time of writing the present tense must be used. Demure in 1907 demonstrated the excellence of The White Knight. Both four-year-olds, he was beaten less than a length, giving her 45 lb.

The Cambridgeshire, run at the Houghton Meeting, was also originated in 1830, and, as has been already remarked, is generally considered the most interesting and important handicap of the season. Until the year 1887 the Cambridgeshire was run up the hill to the finish at the Criterion Course post at the "top of the town," and accounts of the race used always to contain a description of what was happening at the "Red Post," a post painted red which used to stand about the distance; but from 1888 the course has been altered, and the race is now run over a distance of 2,000 yards, finishing at the Rowley Mile stand. The story of Catch-'em-alive's victory in 1863 has been so often told that it need not be here repeated. The scales were tampered with, and it seemed that the winner must be disqualified until the malicious attempt was fortunately detected. French owners have been specially keen to win the Cambridgeshire, and succeeded in 1873 with Montargis, in the following year with Peut-être, with Jongleur in 1877, with Plaisanterie in 1885 (the third animal that has carried off both this and the Cesarewitch), and with Alicante in 1890. La Merveille and La Flèche, who won in 1879 and 1892, were English-bred horses in spite of their French names. In 1878 Isonomy, undoubtedly the best three-year-old of his year, and might have won the Derby had his owner pleased—for Sefton could have had no sort of chance with him—was specially kept for the Cambridgeshire and won the race with 7 st. 1 lb. on his back. Foxhall's penalty raised his weight to 9 st., which it was supposed by not a few practical judges he could not possibly carry, especially as he had a field of notable excellence to beat, and his achievement was con-

sequently a great one. 1882 is remarkable for the fact that the race had to be postponed in consequence of a terrific storm. Fog and frost occasionally lead to postponements, but for wind and rain to do so is an altogether exceptional occurrence. The horses had gone to the post when the Stewards decided that the race could not possibly be run, and Mr. Arthur Coventry, the present starter, offered to go down on his back to convey this intimation. The crowd, meantime, knowing nothing of this, waited for the field to come in sight, the delay being made exciting by the circumstance that several flies and carriages were blown over, their wheels revolving at a tremendous pace in the hurricane that was blowing. After a time the first of the horses that had been taken to the post returned a long way ahead of everything else, the jockey's colours indistinguishable in consequence of the saturation they had received. It appeared that something had won very easily indeed, but no one could say what, and when the others appeared at wide intervals an idea prevailed that this was the most extraordinary race ever seen; but presently it became known that it had not been a race at all. Hackness won the next day, when there were no fewer than thirteen races. Bendigo's success in 1883 was altogether unexpected. The horse's throat had been dressed and he was really not fit to run, but 6 st. 10 lb. was a burden under which he could not be beaten, though he gave his opponents every chance, as towards the finish he swerved right across the course, from one side to the other; and it was only by a head that he succumbed to Florence (four years, 9 st. 1 lb.) next year.

The Cambridgeshire of 1886 was perhaps the most sensational on record. Possibly the true story of it will some day be told, but the time has not arrived to tell it yet. Carlton was favourite, and his party at Manton had the most implicit belief in him. St. Mirin was trained in the same stable, the two had been tried together, and of the superiority of Carlton there seemed to be no possibility of question; but Archer, who was to ride St. Mirin, notwithstanding the trial, maintained that he was sure to beat the other, and for reasons that have never yet been explained he did so. The Derby winner Melton ran in this race, and, in spite of the heavy weight he carried, was going so well when they neared the Red Post that Archer began to race with him, making his effort sooner than he otherwise would have done. This no doubt took much of the steel out of St. Mirin, who, however, seemed to have the victory assured when the despised Sailor Prince suddenly challenged him, a desperate finish ensued, and Archer, weakened by wasting in order to ride the weight, was beaten a head. Three-year-olds had a run of luck from 1887, when Gloriation won, which has only been interrupted by the success of the four-year-old Veracity in 1888 and of Molly Morgan (four years, 6 st. 7 lb.) in 1893. La Flèche's performance of winning with 8 st. 10 lb. on her back in 1892 was a notable one; considering sex allowance, it was more than equal to that of Foxhall, as he only won a short head, and the gallant mare cantered home with her ears pricked. That good horse Best Man was a strong favourite in 1895 in spite of the 9 st. he had to carry, but he could only get second to Marco (7 st. 9 lb.), who was probably the best of the three-year-olds of his season. The handicapper in 1896 committed a grave error in letting in so good a colt as Winkfield's Pride with so little as 6 st. 10 lb., and of course the horse had no difficulty in winning.

The struggle in 1897 was peculiarly exciting, for the first four were separated by heads, Comfrey just winning from Sloan on St. Cloud II. In 1898 there was an unfortunate start. No doubt King Edward ought to have won with Nunsuch, but she was hopelessly left. Two days later, in the Old Cambridgeshire, the ease with which she beat Georgic, who had brought off a 40 to 1 chance, justifies the "ought." Hackler's Pride was to establish a record by winning twice; in 1903 as a three-year-old with 6 st. 10 lb., next year with 8 st. 10 lb. Land League barely failed to do the same thing in 1907-1908. In the latter year he was beaten a neck by Marcovil, who had

been very infirm, and was generally believed to be too backward to come into the consideration at all.

are frequent items on race cards during the last three months of the season, for by the Rules of Racing no "Nursery" can be run before the 1st of September.

SELLING RACES.—Selling races are the lowest forms of contest recognised by the rules of racing; and selling handicaps, the lowest of all, are, on the face of them, manifestly ridiculous. "Winner to be sold for 50 sovs." is the notification in the conditions of the smallest, the selling price being raised on occasions to much larger sums, though perhaps £100 is the most



FINISH OF THE PRINCE OF WALES' STAKES.

[Photograph by Sport and General.]

been very infirm, and was generally believed to be too backward to come into the consideration at all.

The Liverpool Autumn Cup and the Manchester November Handicap are other races which may be mentioned; nor should the Newbury Cups be omitted. No meeting ever more rapidly established itself on a firm foundation. Sterling, the sire of Isonomy, won at Manchester with 9 st. 4 lb. in 1873, a great achievement, especially considering that the minimum weight at this time was 5 st. 7 lb. Master Kildare, the sire of Melton, won in 1879, and Melton, following in his sire's footsteps, was successful seven years later. Lady Rosebery, who had a great partiality for this course, won in 1888 and again in 1890, being successful also the following year in the Spring Cup, another instance of "horses for courses"; and in 1893 La Flèche ended her Turf career, with the exception of one essay a little later at Manchester, by a brilliant success with 9 st. 6 lb. Belphebe won both these races in 1878; Carlton's Manchester performance with 9 st. 12 lb. in 1887 has already been mentioned, and Ravensbury, who would have had such a brilliant career on the Turf if he had lived in almost any other year except that which made him so unfortunately the constant opponent of Isinglass, won with 9 st. 4 lb. in 1894.

"Nurseries," it should here be added, are handicaps for two-year-olds exclusively, and they

common, and no prize can be less than £100 under Jockey Club Rules. Weights range from 9 st. to 6 st.; and it is manifest that if one horse can give another 3 st. and a beating—a beating which may tend to prove that he could have given much more—and if the winner is only worth £50 the defeated lightweight must be worth a great deal less; or, on the other hand, if the bottom weight wins, and the top weight, giving the 3 st., is only just defeated, receives, let us say, a 3 lb. or 4 lb. beating, he or she must be worth a great deal more than the winner. No one can fail to see the cogency of this argument; and the man of logical mind who did not understand the exigencies of racing would at once say that there was no denying the common sense of the cry for the abolition of, at any rate, the selling handicap. But the exigencies of racing are not governed by logical considerations. The point is how a man can get rid of a very bad horse; and the selling handicap supplies the nearest approach to an answer. An owner tries a two-year-old to be very bad—a youngster of which, very likely, he may have formed high hopes, based on his breeding, make, and shape, action, and apparent capacity to gallop. He fulfils an engagement, and runs wretchedly. "First time out; ran green," is the excuse; and he is started again. Again he is badly beaten; but the owner, perhaps, lays the flattering unction to his soul that the winner is something out of the common, has extraordinary

speed, chopped his field, that his own horse did not get off, was shut in, or in some way the victim of accident. Once more he tries his luck in moderate company; and the truth, which has in fact been perfectly plain all the while, has to be recognised: he is a very bad horse. "We shall have to put him into a selling race," is the verdict, and in such a contest he figures. If beaten, he descends still further to the selling handicap, and should he fail even here his future becomes indefinite. If he is believed to "look like jumping," he may be claimed and tried at hurdles; if not, someone may pick him up at auction for a hunter, a hack, or a cab—one may be dragged down Piccadilly by an animal whose name not long before has figured largely among the entries for great stakes. The decadence of a promising but deceptive two-year-old has here been traced; but horses come to run in selling races later in life.

best to make the backers lay long odds on it. It wins; but the stake is paltry; in order to make money by betting, a very great risk has to be undergone, and the danger is not yet over. The winner of a selling race has, of course, to be sold by auction; the owner receives no more than the entered selling price, probably £100, possibly £50 (the lowest sum recognised), and the surplus is divided between the race fund and the owner of the second horse. If the owner of the winner, who has effected his *coup*, wants to retain his animal, he may very likely have to give a great deal of money for it, as the circumstances of the race, the confidence with which it has been backed, and the ease with which it won, have left no doubt about its value. Buying in is, therefore, an exceedingly expensive business. An actual example will best demonstrate the case. An American importation, named Banquet II., won a



NEWMARKET. AT THE BUSHES.

Possibly, for some mysterious reason, they have lost their form; perhaps they show a more or less pronounced tendency to go wrong in the wind; it may be that a leg has gone and been patched up, or else shows signs of going. For some cause or other it appears urgently desirable to get rid of them while they retain a scrap of form and reputation; and the doubtful animal is put into a selling race. Some screw must be loose or he would not be there, is the natural deduction; but many who want to bet will reply that he has never run in such company before, and at any rate ought to beat *this* lot. Thus one object of latter-day sport, the making up of a race which may lead to an exciting struggle (and possibly to a brilliant display of horsemanship) is fulfilled.

It will at once be seen how readily such a system might be turned to a source of very possible profit by what are called "astute practitioners." Place a really smart horse in a selling plate, a horse that could win in good company, he will only have platers—the term is one of reproach—to beat, he is sure to win, and his friends may bet, as the phrase goes, "till the cows come home." The plan has often been carried out with profitable results—supposing that two or three other owners are not playing the same game at the time—but there are dangers attached to the experiment. In the first place "the ring" are very ready to estimate the situation of affairs, to refuse to bet against the good thing, or at

selling plate at Newmarket, worth £100; he was entered to be sold for another £100 (so far as memory serves—the record of the race in *Ruff's Guide* omits the selling price), and he was bought in for 1,510 guineas—£1,575 10s. The deficit, therefore, £1,375, had to be won by betting, which in this particular case would have involved a risk of probably at least £1,000. The owner (Mr. Croker, the "Boss of Tammany") received £100 for the stake, and had to pay £1,475 to retain his horse. Banquet II., as was then made evident, was regarded by his owner as worth at least some £1,600; but let us see what happened in this typical case. Notwithstanding his appearance as a "plater," the horse was entered for a £2,000 stake, and beaten; he ran again in a race of character, and again suffered defeat, after which another *coup* was attempted in a selling race. This time it miscarried. The horse was beaten a length by an outsider and promptly "claimed."

This is another risk run by owners who wish to gamble on selling platers. A rule of racing says that "all other horses starting" [other than the winner, that is] "may be claimed for the selling price plus the value of the stake or plate by the owners of horses running in the race or their authorised agents." Claims may be made by owners according to the places their representatives obtain; thus the owner of the third has priority of claim for the horse that ran second. In this case Banquet was entered to be sold for

£200; the stake was worth another £200, so that he was claimed for £400, just a quarter of what has been shown to be his owner's estimate of his worth; and, of course, the money betted on him, doubtless a heavy amount, or the gamble would not have been remunerative, was also lost. It will be seen from this example how dangerous a game it is. The owner of the exploited plater must bet heavily in order to be able to afford to buy in his horse if he wins; and if he is beaten he is very likely to lose the animal, for a ridiculously inadequate sum, as well as his bets. It happens on occasions that an owner loses money by winning a selling race. His horse runs better than he has expected it would do, and he thinks he would like to keep it. He has not backed it, and so, entered to be sold for £100, he may have to bid, say, £500, to retain it, which means that he must pay £400 for division between the owner of the second and the race fund—£500, less the £100 entered selling price. He is consequently £300 out of pocket, plus the jockey's winning fee of five guineas and incidental expenses. These gambles are not healthy; they are not in accordance with the true spirit of the sport, and by way of preventing them a rule was some time since instituted in France that horses might be claimed for the entered selling price *plus* the value of the stake, before a race was run. The owner who had intended to "have a dash" on a useful horse that was put in to meet inferior class animals might thus be very awkwardly circumvented.

It is inevitable that mistakes should be made, and at times horses rise from the ranks of the selling platers and greatly distinguish themselves. Their owners have lost patience with them after a disappointment, it may be; or they improve in an unexpected way, possibly by shaking off some ailment which has affected them, and has not been recognised by their first trainer; or it may be that he has misunderstood their constitution or capacity, so that in more appreciative hands they do better. If space permitted, a string of examples might be given, but the case of Victor Wild may be quoted as a remarkable one. He belonged to Golding, a most capable trainer, who made as few mistakes as any one, but who, however, doubtless for some reason that seemed good at the time, put him in a wretched little £100 selling race, the Brockhurst Plate, at the now extinct Portsmouth Park Meeting. He won a couple of lengths from the best of four wretches who followed him, and, entered to be sold for £100, fetched 330 guineas—less than a twentieth part of his value. He next ran in a Nursery Handicap with a selling clause, met opponents of the most moderate character, and won comfortably, actually receiving weight from some of them. This time he was bought in for 640 guineas, and gradually started the career in the course of which he often so memorably distinguished himself. Hampton, who won great fame as a sire, also figured in selling races. Thus a "plater" may become a famous horse; but he will be an exception to the rule, for the course of the plater is almost invariably down hill by more or less rapid stages.

RACECOURSES.—By general consent the best meeting of the year is held at Ascot. The sport here is consistently good, and it is the one place where no selling race is found in the programme. There are only five handicaps during the four days over which the meeting extends, and one of these, the Royal Hunt Cup, perhaps ranks after the Cesarewitch and Cambridgeshire, though the Kempton Park Jubilee has a great vogue. The

Ascot Stakes and the Wokingham are also events of importance, but the former is over two miles, and nowadays for all long-distance races except the Cesarewitch, the class of runners is usually no better than moderate. The Ascot Cup stands out by itself as the great race of its kind. A few years since it was generally understood that a race for a Cup was invariably, like the Cup at the "Royal Meeting," as it is called, over a long distance of ground, but in this respect things have altered on many courses and Cups are often run for at distances of less than a mile. Nearly all the stakes at Ascot are of considerable value. The Cup is now worth as a rule not far short of £4,000; the Coronation Stakes for three-year-old fillies often amounts to over £3,000, and the St. James's Palace and Hardwicke Stakes are also reckoned in thousands. The Hardwicke, it may be remarked, was named after the penultimate Earl, who revised the Ascot programme during his tenancy of the Mastership of the Buckhounds. The Ascot course is circular, and only some sixty-six yards short of two miles round. The ground rises and falls, with a finish uphill, which is a severe test of a horse's ability, and some of the best jockeys who ride and have ridden there say that races are not seldom lost because riders do not appreciate the severity of the finish, and so make their effort too soon. The great drawback to Ascot, as a rule, is the hardness of the going. The meeting always takes place about the middle of June, when the sun has usually baked the course, and scarcely a year passes in which some good animals do not permanently injure themselves by running here. Of late, however, owing to the great care that is taken there has been an improvement.

But to a great many devotees of the sport there is no place which approaches Newmarket. The whole of Newmarket is practically given up to the horse. Most of the training here is done on what is called the "Bury Side," an expanse of ground including the famous Limekilns, on which the going is always good. Even when it is hard on other parts of the Heath, if one passes through the belt of trees which separates the Limekilns from the Bury Hill, horses can be freely galloped at almost all times, though elsewhere they have to do their work on the tan tracks which have been laid down, and are utilised by trainers who desire to avoid the jar which would be caused by the hard ground. What is called the "Race Course Side" is also busy in the morning, however. Most of the races take place on some portion of the Rowley Mile, though not all of them finish at what may be called the principal winning post, opposite to the stand. There are three other winning posts on this portion of the course. First comes the Abingdon Mile. This post is situated at the bottom of a descent, so that the course is suitable for speedy horses with little staying power, as they have not to climb up the rise to the Rowley Mile post. The next post is the finish of the Ditch Mile, and the last is the T.Y.C., capitals which stand for "Two Year Old Course." Every course, it may be remarked, has its T.Y.C. extending to something from 5 to 6 furlongs; thus the T.Y.C. at Newmarket (that is to say, on the Rowley Mile course) is 5 furlongs 140 yards; at Ascot it is 5 furlongs 136 yards; at Doncaster the "Red House in" does duty for a T.Y.C., and is 5 furlongs 152 yards; at Epsom and Goodwood it is 6 furlongs exactly.

The Cambridgeshire used to finish at the Criterion Course winning post, commonly called "the Top of the Town," but in 1888 the course which had been in use since this handicap was

first established in 1839, was altered. The Cambridgeshire now finishes at the Rowley Mile stand, and is run over 9 furlongs. The hill from the Rowley Mile stand to the winning post at the "Top of the Town" is a severe one, and forms a useful test of a horse's staying powers. Here it was that the old Beacon course, about which one often reads in old racing histories, came to an end. This course was 4 miles 1 furlong 177 yards in length. The three Spring and three Autumn meetings are held on the Rowley Mile Course, and are called the Craven, the First Spring, the Second Spring; the First October, which usually



UNSADDLING IN THE ENCLOSURE, EPSOM.

takes place at the end of September, the Second October, and the Houghton. The two Summer Meetings, the First and Second July, are held on another course, familiarly described as "Behind the Ditch." The course runs parallel to the famous "ditch" which was erected—for it is an embankment as well as a ditch proper—in time immemorial for military purposes, and may still be traced through several counties. Here there are two winning posts: one opposite the stand at the top of the Bunbury hill, the other, the new T.Y.C., which is 5 furlongs 142 yards, at the bottom of the rise, so that it is not nearly so severe. How trying this hill is to horses is shown by the frequency with which they fail to carry a penalty up it.

There can scarcely be a better proof of a horse's merit than success in a race "A.F.," assuming, of course, that the field is made up of good animals. "A.F." are initials that signify "Across the Flat," and the course consists of the Rowley Mile together with 2 furlongs beyond it at the start. It is quite straight, with ascents and descents just enough to try a horse's action; for though it is in no part very steep, if an animal cannot come down a hill, a consequence of bad

shoulders or of his being what is called "upright" in front, the descent into the Abingdon Mile Bottom is sufficient to make him falter. A straight course is more arduous than one with turns, in rounding which an animal must be slightly eased. The breadth of the Newmarket courses is a great advantage, as horses have plenty of room, and with moderate luck and judgment a jockey should never be shut in, though not long since in a match one of the horses was disqualified for bumping. Before the stands were erected, a great many visitors to Newmarket did their racing on horseback; a few gentlemen and trainers have their hacks there at present, but the custom is declining. When races finish, as they do on some days, at several of the different winning posts, a good deal of exercise is involved in getting about, and a hack is a great convenience. The Round Course is now little more than a name. It extended over 3 miles 4 furlongs 138 yards; the "Ditch In," 2 miles 118 yards from the running gap (a cutting through the "ditch") to the end of the Beacon Course, is also seldom used, but one or two races are still run over the Two Middle Miles, a course in reality 17 yards short of its nominal distance.

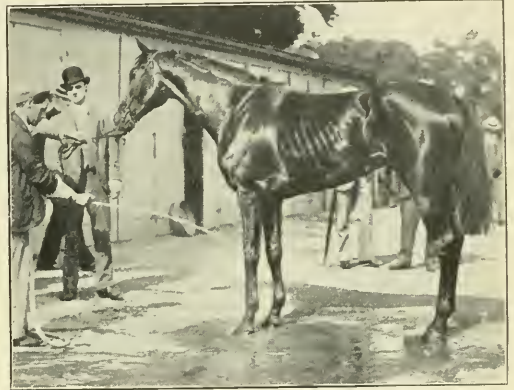
The Epsom Course is one of the worst in the country by reason of the very awkward turn at Tattenham Corner. This was not long since to some extent modified, but it is still extremely dangerous, and on rounding it the jockey finds himself at the top of a steep hill, dashing down which must be something of a trial to the nerves if they are not of the best. The Derby Course is much in the form of a horseshoe, the first part of it being on the ascent, and though, certainly, riders do not seem to ease at all in coming round the corner, it is evident that they must do so, because the Derby time is invariably rather slow. The Bell stands at the bottom of the hill; from there to the winning post is a slight rise, but its distance is short, and thus horses that cannot come down hill have naturally a bad chance at Epsom, though it may be noted that to judge from a horse's formation whether he can come down hill or not is apt to lead the observer into error. Those who remember Bay Middleton declare that he was as upright as a walking stick, but he came down the hill in perfect style when he won the Derby.

Goodwood, one of the best and most picturesque courses in the country, is some five miles from Chichester on the borders of the Duke of Richmond's park. The swelling Downs with the Solent beyond make a beautiful view from the stands, and though the meeting is held on the last days of July or the first days of August, the going never seems to be hard. The courses are very varied in character, the long-distance races being run round a hill called "the Clump." Doncaster is a circular course nearly flat, 1 mile 7 furlongs 92 yards round; there is a turn into the straight—for when a course is spoken of as circular it must not be understood that it bears anything like a close resemblance to a circle—but it is a long way from home. In Memoir's St. Leger there was a scrimmage at this point, T. Loates on St. Serf having been knocked quite out of his saddle, to which he was restored by Tom Cannon. The nearest approach to a really circular course is at Chester on the Roodee, by the side of the River Dee; the course, indeed, has been derisively spoken of as a "soup plate." It is only about 50 yards more than a mile round, and so is very much on the turn and unsuitable for long-striding horses.

A familiar phrase on the turf is "horses for

courses," and that there is a good deal in the expression often seems to be proved. Thus the Brighton Course is very like Epsom, and horses that win at one meeting often win at the other, a circumstance, however, which may no doubt partially be explained by the fact that these courses down a long hill are easy, so that a speedy animal who cannot stay has a specially good chance. York has an oval flat course on the famous Knavesmire about a mile from the city. One of the most popular of the "open courses," as opposed to gate-money meetings, used to be held at Stockbridge, the headquarters of the Bibury Club, one of the oldest established racing clubs in the country, members of which are *ipso facto* gentlemen riders, the only other English racing clubs which confer this distinction being the Jockey Club, Croxton Park, Southdown, and Ludlow. Besides races for gentlemen riders, Stockbridge, situated on the Downs near the historical training establishment of Danebury, always provided excellent two-year-old sport. The place was specially popular with the leading patrons of the turf, and it was seldom that good horses did not go to the post for the Hurstbourne Stakes. Stockbridge, indeed, was recognised as having a charm of its own, and sincere regret was felt when, for reasons connected with the lease, the Bibury Club was driven to Salisbury. It was at Danebury that the Marquis of Hastings and the Duke of Beaufort had their horses under the charge of John Day, father-in-law of the late tenant, Tom Cannon, during a very sensational period of turf history. The Southdown Club meeting is held at Lewes, where the course on the top of a range of hills near the capital of Sussex has some resemblance to Stockbridge. Of the racing clubs which have lately come into existence, Sandown Park was the first. This is a pear-shaped course rather more than a mile and a half in circumference, and is, on the whole, tolerably easy; for though there is a stiffish hill at the finish, horses in a race of six furlongs or more have to come round turns which necessitate a certain amount of easing. There is also a new T.Y.C. here, quite straight, running through the middle of the park, the awkward point about which is that if races are viewed from the stand it is impossible to judge with anything approaching accuracy what has won until the judge has confirmed impressions—or perhaps in most cases destroyed them—by hoisting the number. Kempton Park also had a trying turn, by reason of which many calculations were apt to be upset. It has lately been improved. When horses are heavily weighted their jockeys are not seldom greatly perplexed as to the best method of proceeding. Unless they race for the turn, so as to get a good place there, they are in considerable danger of being shut in; and on a horse that carries a heavy burden it is usually good policy to wait. Gatwick is on the lines of Sandown and Kempton, and like them is well managed. The drawback to the place lies in the nature of the soil; the clay forms deep and holding mud in very wet weather, and in very dry weather becomes extremely hard. Credit for good management must also be extended to Hurst Park and Lingfield. The former is at Moulsey Hurst, where once the old Hampton Races, the great Cockney carnival, used to be held. Great pains have been taken with the ground, and the going here is almost always good. Lingfield, too, is in all respects a pleasant and picturesque meeting, though the stands are, as on so many other courses, placed so that it is difficult for a majority of their occupants to obtain a good view of the

sport. There is also a racing club at Derby and a very good flat oval course with moderately easy turns rather more than a mile and a quarter round. The racing here is notably popular with all classes. Manchester and Liverpool (the latter, to be strictly accurate, at Aintree, some five miles from the city) are leading homes of racing. Newcastle is served by Gosforth Park, and Birmingham has lately started a course marked by special advantages. There is here a straight mile and a quarter, straight actually, not only nominally, and an excellent view of the sport can be had from the stands, the architects having understood at what angle to the running ground they should be built. Leicester has a fairly good course, and the meeting has lately attained a degree of popularity which was for some time denied it. There is here, however, a



WASHING DOWN AFTER A RACE.

rather steep descent into a hollow, and a trying ascent out of it before the level run in is reached. Newbury, already mentioned, is admirably equipped in every way, and deserves its popularity. It was here that the powers of his late Majesty's Minors were first really revealed. The season always opens at Lincoln, and one of the last meetings is also held there. The course is (nominally) circular, 1 mile 6 furlongs 6 yards.

ALFRED E. T. WATSON.

RULES ON BETTING.

(AS REVISED BY TATTERSALLS' COMMITTEE ON THE 2ND DAY OF JANUARY, 1911.)

1.—Tattersalls' Committee have authority to settle all questions relating to bets, to adjudicate on all cases of default, and at *their discretion*, to report defaulters and persons guilty of any malpractice to the Jockey Club.

2.—In all bets there must be a possibility to win when the bet is made.

3.—No betting first past the post will be recognised by the Committee.

4.—All bets are p.p.—play or pay—with the following exceptions: 1. When the nominator dies before the decision of the race. 2. When the race is postponed for a future week, or the conditions are altered after the bets are made. 3. Bets on matches. 4. Bets made after the runners' numbers are officially placed in the number board about a horse that is not subsequently under the Starter's orders.

5.—If no objection is lodged within seven days of the race, exclusive of the day on which the race was run, bets go to the horse placed first by the Judge, and the settling, except in cases of fraud, shall not be disturbed. If an objection is made within the said time, bets go with stakes. For the purpose of this rule Sunday is a *dies non*.

6.—Bets made on one horse against another, or that one horse beats another, are determined if either of them *should win*. Bets made between horses 1, 2, 3, are determined by the places assigned by the Judge. Unless agreed by the parties it is not indispensable that both horses should start.

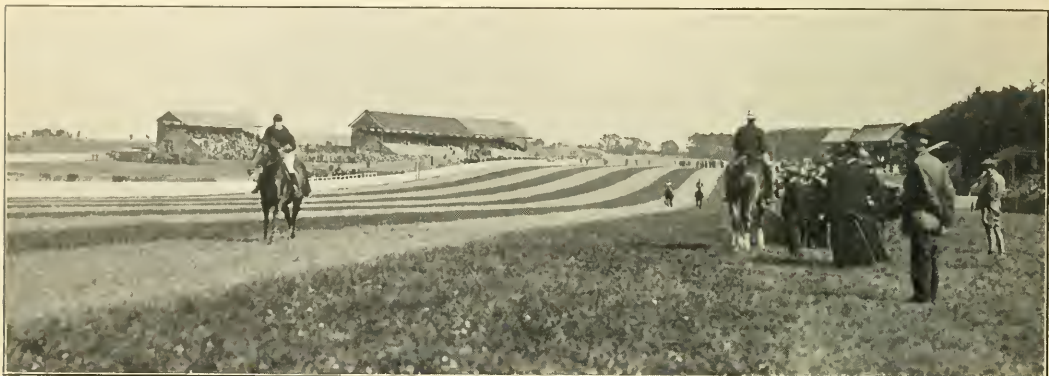
7.—In the event of a dead-heat, and in "double events" if *either* is decided in the backer's favour

13.—Bets made on horses winning any number of races within the year shall be understood to mean between the 1st of January and the 31st of December.

14.—Money given to have a bet laid shall not be returned, though the race be not run.

15.—In the event of a race being ordered to be run over again, starting price bets shall be regulated by the *price current* at the time the race was first run. Bets in favour of any horse which started on the first but did not go to the post on the second occasion are lost.

16.—No bet can be declared off except by mutual consent, but on any allegation of fraud or corrupt practice, the Committee may investigate the case and may declare the bet void. Either



JULY COURSE, NEWMARKET.

[Photograph by Sport and General.

and the other results in a dead-heat, the money betted must be put together and equally divided, except in the event of a dead-heat in a match; in which case bets are void. In "double-events" if both horses backed run dead-heats the money betted must be put together and divided in the proportion of one-fourth to the backer and three-fourths to the layer.

8.—If a bet is made on one of the horses that runs a dead-heat against a beaten horse, and the owners agree to divide, the backer of the horse that ran the dead-heat wins half his bet. If odds are laid on one horse against another 1, 2, 3, and they run a dead-heat for any of such places, the money betted must be put together and equally divided.

9.—If odds are laid without mentioning the horse, the bet must be determined by the state of the odds at the time it was made. Bets made after a race that a horse will be disqualified, stand, even if no objection be made.

10.—Any bet made from signal or indication when the race has been determined shall be considered fraudulent and void.

11.—All bets on matches and private sweepstakes depending between any two horses shall be void if those horses subsequently became the property of the same person or of his avowed confederate.

12.—Double and treble event bets are not determined until the second or the last event has been run, as the case may be.

of the bettors may demand stakes to be made on proving to the satisfaction of the Committee, or any two of them, that he has just cause for doing so, and, if ordered, the bets must be covered or sufficient security given within the time specified in such order, in default whereof the bets will be off.

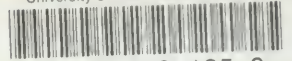
17.—The Committee will not necessarily enforce the settlement of a compromised account. Before giving a decision they may require the books of the debtor and a statement of his accounts to be submitted to them; and they may order the account to be settled if they think a reasonable offer is made, and on such terms as they may decide.

18.—If a debtor does not satisfy the claims of his creditors within twelve calendar months, he shall not be entitled to receive any debts which may be due to him; but if he does so within such time inclusive of the day when the money was won, the Committee will support his just claims to receive payment from his debtors.

19.—If any extraordinary occasion should arise, or in cases of notorious and palpable fraud, any of the before-mentioned rules may be suspended by the Committee.

The Committee of Tattersall's consists of Colonel Fludyer, chairman; the Earl of Suffolk and Berkshire, Lord Wolverton, Captain Laing, Sir John Robinson, Messrs. J. H. Locke, Alfred E. T. Watson, J. Wingrove Smith, J. George, and Henry Slowburn.

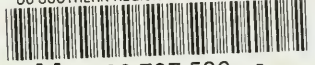
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