NATURE NOTES

Nature Notes

THE MAGAZINE OF

THE SELBORNE SOCIETY,

With which is incorporated "The Field Club."

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London:

JOHN BALE, SONS & DANIELSSON, LTD.,

OXFORD HOUSE,

83-91, GREAT TITCHFIELD STREET, OXFORD STREET, W.

—

1908.

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Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 217. JANUARY, 1908. Vol. XIX.

AUTOMATIC AND INDUCED MOVEMENTS IN THE ORGANS AND PARTS OF PLANTS.

MOST persons, be they young or old, are attracted by motion, either in sentient animals or merely in machinery; and those who make it their business to organise exhibitions soon learn that the great attraction is machinery in motion, while it is clear that horse-racing, motor-car racing, cricket and football are attractive to the multitude because of the active motion inseparable from them.

The object of this paper will be to call the attention of gardeners, and any who take pleasure in the thousands of living plants which are scattered so lavishly about our paths, to their life-history, which is quite a sealed book to the great majority, though it is intensely interesting and fascinating when once entered upon as a study.

The first portion, dealing with the lower forms of plant life, will need the aid of a microscope to observe minutely, but this need be no hindrance now that a good instrument can be purchased for a few pounds, while those dealt with in the second part can be seen and studied without any extraneous aid to vision, though a simple pocket lens is often a great help.

The period of greatest activity in animals is early youth, and we shall find that in many plants, particularly those belonging to the lowest great division of the vegetable kingdom, this is also true.

The presence or absence of movement used to be considered as the most decisive difference between plants and animals, and consequently most of the minute organisms that were seen in hurried activity in a drop of pond water were described as animals and so named by the earlier users of the microscope. This conclusion was very excusable considering the power and penetration of the microscopes then in use, and it was not till the perfecting of the achromatic compound microscope that

observers were able to study and determine even the simplest facts in the life-history of minute living things which are found everywhere, from the profoundest depths of the ocean to the untrodden pinnacles of the highest mountains.

The first observers, Ehrenberg in Germany and Pritchard and others in England, hardly suspected that the slimy substance filling the cells of plants like the honey in the honeycomb was in reality the basis of the plant's life, and that at times, under certain determined circumstances, this substance was launched freely into the watery medium in which the parent lived, and became endowed with free motion. At other times this substance, which has been named "protoplasm," assumes a globular or ovoid shape, and by means of a "cilium" or eyelash-like appendage, or, in some cases, many cilia, is propelled with greater or less activity through the water into which it has been launched. Eventually motion is arrested and the plant-germ settles down to develop into a perfect specimen of its kind. Among the most striking phenomena observed in connection with these living protoplasts is without question this temporary locomotion of such protoplasts as have quitted the cell-cavities in which they were formed and are wandering about in liquid media, their number as well as the variety of their forms being extremely great. The average rate of motion has been estimated at from 7 to 8 mm. a minute.

Creeping masses of protoplasmic jelly sometimes move in the direction of incident light, at others they avoid light and hide in obscure places, wriggling through the interstices of heaps of bark or into the hollows of rotted tree-trunks, or they may creep up the stems of living plants, or glide in a viscid condition over the brown earth or rocks.

Vaucheria clavata is a very common form of fresh-water algæ, which makes its appearance first in green water, in puddles and water-filled ruts in our country lanes, and has a most interesting life-history which may be observed and studied by the possessor of any ordinary compound microscope. Let the would-be observer place a drop of this green water on an ordinary glass slide and cover it with a thin glass cover, or, what is better, use the little instrument called an animalcule cage, for the purpose, and place it on the stage of the microscope under a quarter-inch power. A wondrous revelation will then meet the eye: what seem like points of green light are seen moving about with great velocity through the liquid, revolving and threading their way with a constant, even progress, and, if the power of the lens be increased and the light regulated by the diaphragm, each globule of living green jelly will be found to be furnished with moving cilia which are protruded all round through the walls of the enveloping pellicle. These, by their active vibration, cause it to move freely in any direction with considerable rapidity.

Other forms of protruded protoplasm have only a kind of

snail-like or creeping motion. "Red snow," the sudden appearance of which in the mountainous districts of Europe and Asia was believed to foretell disaster, the microscope reveals to be really of simple algal origin. It first appears as a simple spheroid, which soon by division and fission produces other similar cells at its sides. These soon become detached, and as soon as the daughter-cell so produced is free, it displays at the narrow extremity two rotating cilia, by means of which it moves about in the snow-water with considerable velocity. How long this motile stage lasts has not been determined.

The singular confervoid alga *Oscillatoria*, which derives its generic name from its attractive movements when floating in water, has from a very early period engaged the attention of students of minute forms of plant life, and Loudon remarks that the oscillation of the filaments seems almost of an animal nature, though it is found to be frequently purely mechanical, arising simply from the elasticity of the filament. Professor Agardh declares, however, that *Oscillatoria curviceps* has actually the motion of an animal, namely, of a creeping not oscillating nature. Anton Kerner says they stretch themselves and then contract again, coil up and then straighten out like snakes, and —most characteristic of all—make periodic oscillations in the water. Modern belief is that infinitesimally fine filaments of protoplasm penetrate the cell-wall and act like propellers in a ship and so cause the motion.

The entrancingly interesting microscopic plant *Volvox globator* is a globe of living jelly, which moves about in the water with a regular motion, propelled by synchronous strokes, like a galley manned by several oarsmen, as soon as the crew of this fairy vessel begin to manipulate their propellers. The effect is exceedingly graceful and has justly filled observers of all periods with astonishment. No one, indeed, seeing a Volvox sphere rolling along can fail to be impressed and delighted. The very remarkable "fructification" that takes place in *Chara vulgaris* was first noticed by Mr. Varley in 1833. He says the ripe "globule" (now known to be an antheridium) spontaneously opens, the filaments expand and separate into clusters; these tube-like filaments are divided into numerous compartments in which are produced the most extraordinary objects ever observed of vegetable origin. At first they seem agitated and moving in their cells, where they are coiled up in their confined spaces, every cell holding one. Then they gradually escape from their cells, and the whole field of the microscope soon appears filled with life. They are generally spirals of two or three coils, and never become straight, though their agitated motion alters their shape in some degree; . . . they swim about freely for a time, but gradually getting slower and slower, in about an hour become quite motionless. These moving antherozoids have also been observed in *Sphagnum* (Bog-moss), and by Unger were classed as infusoria. Somewhat similar are the movements of the spores

of the *Equisetum*. They are produced in a spike at the apex of the fertile fronds, and this appears to be filled with a blue-green dust. Shake a little of this out upon a glass slide and place it upon the stage of the microscope, when the minute spores will appear like fairy blue pills, each embraced by its four minute thread-like "elaters," which move the spore about over the field of view like so many tiny spiders. Breathe on them and they at once cease to move, but when they become dry again their singular motion is resumed.

Many more microscopical plants exhibit free motion in the water in which they live, but we will now turn our attention to higher orders of the vegetable kingdom, many of which present to our view spontaneous motions in some of their organs. The most wonderful among these is *Desmodium gyrans*, which has been popularly named the Telegraph plant. It belongs to the *Leguminosæ*, and has pinnate foliage, the terminal leaflet being large and well developed, while the lateral ones are small. It is a native of Bengal, found near the sacred river Ganges, its native name being Buram Chandali, "active or living plant." It was known to the great Linnæus, who calls it a wonderful plant, on account of its voluntary motion, this not resulting from any touch or irritation or movement of the air, as in *Mimosa*, the sensitive plant, *Oxalis*, the sensitive Wood-sorrel, and *Dionæa*, the Venus's fly-trap; nor is it evanescent, as in *Amorpha* (the false Indigo), which only displays motion in its very young foliage, as noted by Humboldt. As soon as the young plants raised from seed have acquired their proper ternate leaves, they begin to be in motion, this way and that, the movement not ceasing during the whole course of their vegetation, nor are they observant of any time, order, or direction, one leaflet frequently revolving, while the others on the same petiole are quiescent. At times a few leaflets only are in motion, then almost all of them will be moving at once. The whole plant is seldom agitated, and that only during the first year. It continues to move during the second season of its growth in the stove, and is not at rest even in the winter.

Schwartz states that the motion is irregular, and that at times it ceases entirely; that on a very hot day the leaf is immobile, being agitated only in the evening, and then slowly. In our climate in general it only makes a faint and feeble attempt towards noon of exhibiting this extraordinary faculty. The motion does not depend upon any external cause that we can trace, nor are we able to excite it by any art we possess. It is not excited by the sun's action, for the plant is fond of shade, and the leaves revolve well on rainy days, while during the night, or if exposed to too much wind or sun, they are quiet.

"Perhaps," writes Linnæus, "there may be some part in vegetables where the cause of motion resides?" Though we cannot fathom this mystery, yet one thing is almost clear, and that is that motion of any kind in a minute plant, or organ of

a plant, is always for some settled purpose connected with its existence, and this will be very apparent as we ascend the scale of plant life.

We may observe in many common plants some curious and varied movements in the stamens at the period of fecundation. In the Mulberry, the Nettle and the Pellitory, for instance, the filaments of the anthers are bent backwards on themselves under the pressure of the floral envelope, but as soon as the minute flowers open these filaments unroll or straighten themselves out and the pollen, in the form of fine dust, is projected for a distance of a yard or more around, due in a great measure to the simple elasticity of these organs. In the Rue, at the moment of fecundation, each of the ten stamens bends over the stigma, deposits its pollen there and resumes its original position. A very similar phenomenon is exhibited by the common Nettle, and on a warm still day, by intently listening near a bed of nettles, the ear may detect the bursting of the minute pollen sacs and the eye observe the dust-like clouds caused by the little pollen-grains set free. A closely allied plant. the Wall-pellitory, common on old walls and ruin heaps, is very curious in its inflorescence and fructification. If the minute flowers be examined as soon as they expand, it will be found that the filaments of the anthers are all bent inwards, but as soon as the warmth of the sun has brought the pollen in the anthers to a fit condition to be disengaged from them, they instantly fly back as though by a spring, and discharge simultaneously their dust-like pollen. This motion may be induced by simply inserting a needle-point into the centre of one of the minute green flowers, when a mimic artillery discharge will take place. A common denizen of our stoves, known as *Pilea muscosa*, gets its popular name of Artillery-plant from precisely the same phenomena being displayed by it.

Another common wall plant, *Linaria cymbalaria*, exhibits motion, but of such a slow kind as to be only studied in its effects. It raises its stems. Its habit is to grow from the fissures and crevices of old walls, and after flowering and forming its minute fruits, it appears to endeavour to hide them by turning aside, dragging them into any convenient crevice in the wall, and then, when fully ripe, the pods burst and the scattered seeds are sown in the *débris* of the decaying stone.

A somewhat similar movement takes place in the well-known submerged aquatic plant, *Vallisneria spiralis*, the flower-stalk of which, bearing the female flower, twines itself tightly into a spiral screw and draws the flower, which previously it had borne on the surface of the water, down to the bottom, but not till the stigmas have been covered with the pollen-dust from the floating male flowers, these in their turn having at the critical moment of expanding been disengaged from their creeping stems at the bottom of the lake. These are all cases of unconscious movement for the definite object of fertilisation, might one not say of instinct ?

There is another kind of movement for the purpose of maturing and finally sowing the seed, or placing it in such a condition that it may germinate, incidentally alluded to in describing the action of the creeping stem of the Wall Toad-flax, which can be studied in the Cyclamen and the Violet as well. In the first, when the fruit is maturing, the peduncle assumes a closely spiral form, which, as the base of it is attached still to the corm, brings it down close upon, frequently into, the soft humus which overlays the surface of the soil in which it is rooted. Presently, by the sudden bursting open of the seed-vessel, the pearl-like seeds are scattered around and some are planted. The Violet also shortens and thickens its stalk, and by this means brings its matured seed-pod close to the soil, which when it is ripe bursts, scattering some but sowing a great many of its seeds. The Pansy and cultivated *Viola* both behave somewhat in this way, but the action is not spontaneous, but must be brought about by artificial means, and so will be taken in the second section of this article.

Perhaps the most interesting of all plant motions may be observed in the action of all climbing plants, and these can be watched and studied without the aid of a microscope. Some plants climb by simply embracing spirally any adjacent object, others by tendrils, which are modified leaves, a patent example being the leaf of the fine climbing Groundsel, *Mutisia decurrens*, where the leaves each terminate by a wiry climbing midrib extended beyond the apex of the leaf. Others, to continue, are what is termed epiphytal, climbing by aerial roots, as the Ivy in temperate climes and the Vanilla and many more in the Tropics. A third class by the combination of these three methods.

The only British Cucumber, *Bryonia dioica*, common in our hedgerows, affords an easily accessible example. This may be best studied thus: Any hot summer day go out into the country and cut three or four of the stronger-growing shoots of this plant, about 18 in. long, and place them in a vase of tepid water. Next, arrange a sheet of white paper by pinning it to the wall, first ruling upon it some parallel lines from top to bottom, and then in front of it stand the vessel containing the bryony shoots, so that they may be in the full sunlight. Now take up a position opposite and sit quietly watching what takes place. As soon as the Bryony has recovered itself and drunk up some of the water, the long bifurcated tendrils will be seen to rise from their bent position and become somewhat rigid; in a moment more they will move up and down and from side to side, with a jerky motion, and if they are then furnished with some thin sticks they will presently become attached to them and be at rest. This motion is also exhibited by the Cucumber, Melon, and Gourd, and may be easily watched in a cucumber-pit on a warm day, especially if the air is moist, by fixing up the ruled sheet of paper in such a position that the tendril under observation is between it and the spectator. Sometimes the tendril moves in a

circle, at other times in an ellipse. Dutrochet, a keen French observer, noted the motion of a young growing Pea in a pot, placed in a room lighted on one side only. The leaves, he observed, soon inclined themselves towards the sky, directing their petioles now to the light and again to the darker part of the chamber. The tendrils, which are merely the prolongation of the midrib of the leaves, were first nearly straight, now curved and arched, then waving from side to side, and presenting many irregular motions. He used fixed indicators as slender rods, firmly planted in the soil, and was thus enabled to note exactly the form and duration of the movements. He found that the rachis of the Pea's compound leaf participated in the movement of revolution, or was even the chief agent in it. The tendril, during the period of revolution, constantly directed itself towards the floor of the room, as though shunning the light, while when a revolution would bring it near the light it seemed to hesitate and then to retire in the opposite direction. Dutrochet asks, What can be the cause of this revolving movement? It is not revealed to the eye, and must therefore be some vital and internal exciting cause, to which light contributes nothing, but, on the contrary, acts against it, and when very vivid seems to stop it.

Before concluding this part of the subject, the wonderful phenomena connected with the germination of Fern spores, as described by Herr Suminski and M. Thuret, will be related. To follow the germination of a spore under the microscope, we find first that the elastic and coloured shell of the spore is ruptured, and through the opening thus formed is protruded a sort of tube, which soon lengthens itself by the addition of further cells at its extremity. From this at last results a small foliaceous, somewhat heart-shaped or pyriform, leaf-like body. Its dimensions in *Pteris serrulata* are $\frac{1}{8}$ inch by $\frac{1}{16}$ inch. This is called the prothallium, and in the upper lobe of this will appear in due time a minute rootlet, then the antherid, and lastly the archegonium. The antherids are small, cellular, teat-like bodies, formed of three cellules superimposed on each other; these are the antherid cells. The central one is embraced by a second ring-like cellule, which is filled with a greyish, granular matter; by degrees small spherical bodies are seen, which are the antherozoids. As these develop themselves the central cavity increases in volume and presses strongly upon the walls of the peripheric cellule. Presently the force is so great that the antherid is suddenly burst and the antherozoids are expelled at the same time. When first set free they appear as little grey spherical cells, whose contents are very indistinct. These are immobile, but after some minutes they begin to unroll themselves suddenly and dart about in the ambient liquid with inconceivable rapidity. They turn themselves about with a gyratory motion, which is sometimes continued without interruption for over two hours.

According to M. de Bary, in the third mode of the germina-

tion of the spores of *Peronospera*, they divide themselves into a certain number of polyhedric portions, which in a short time begin to issue, one after another, by a round opening, thus constituting oval zoospores furnished with two unequal cilia, the shorter of these moving forward in advance of the corpuscle, the other dragging after it. The movement of these small bodies lasts for about half an hour, describing a circle, and getting slower and slower until they enter into a state of perfect repose. When it has become fixed the zoospore takes a regular spherical form, giving birth on one side to a slender and curved thread, which in water rapidly increases in length. Professor Anton Kerner says the spores of the potato-fungus are borne on delicate hyphal threads which are protruded through the stomata of the host plant. These threads bifurcate and the point of each branch swells up into a spore. These threads are highly hygroscopic, and even breathing on them produces a rapid motion and alteration in the twisting, so that on any change in the condition of their environment the branches, with their hanging spores, are whirled hither and thither, and the spores, which are only slightly attached, are scattered in all directions.

The so-called insectivorous plants exhibit very remarkable movements in the capture of their prey, such as *Pinguicula*, in which, when an insect alights on its foliage, there is seen a gradual involution of its leaf-margin, but it is so gradual that it takes some hours before the animal is enfolded, or, in the case of large insects, pushed into the middle of the leaf. The leaves of the Sundews are especially noticeable, being characterised by the movements performed by the tentacular hairs in response to a stimulus by nitrogenous matter. These movements are executed most conspicuously by the longest tentacles, which stand out radially from the edges of the leaf. First the tentacle bearing the gland originally irritated, with the animal's body attached to it, bends inward, performing a movement similar to that of the hand of a watch, passing through an angle of 45° in two or three minutes, and an angle of 90° in ten minutes. The other tentacles follow in succession, and in the course of one to three hours all the tentacles converge on the body in question, while, after this ceases to struggle, they straighten themselves and resume their original position.

Dionæa muscipula has rounded leaves which are furnished with sensitive hairs on their upper surface. When touched by an intruding insect, the two halves of the blade, hitherto at right angles, approach one another till their sharp marginal teeth are interlocked, and the body touching the leaf is enclosed, this movement taking place in from ten to thirty seconds, and the act is best compared to the shutting of a half-opened book. They finally become flat, and even so that the intervening insect, if soft, is crushed to pieces. Dragon-flies, if caught upon the upper surface of the leaf, cause the lobes to slam together.

The stimulus acting upon the sensitive filaments of the leaf

of the Fly-trap is liberated in the form of a rapid motion of the lobes, the stimulus proceeding in much greater rapidity in *Dionæa* than in *Drosera*, while, as demonstrated by the late Sir J. Burdon-Sanderson, an electrical current is found to accompany this phenomenon.

Another observer in a recent magazine article argues that, because the protoplasm has been proved to be continuous through the cell-walls in plants, and in chemical constitution resembles the nerve and brain matter in animals, therefore plants must in a small degree feel.

To once more quote the great Darwin, *Ceropegia Gardneri* was allowed to grow out about thirty inches, which it did in horizontal fashion from the summit of its support in one long shoot; this huge shoot of a pot plant, placed on the study table of the famous scientist, swept round a great circle in an average period of six hours, the tip of the shoot thus moving round the circumference of a circle, 16 ft. or more, at the pace of 32 in. per hour. To use his own words: "The weather being hot, the plant was allowed to stand on my study table, and it was an interesting spectacle to watch the long shoot sweeping the great circle night and day in search of some object around which to twine."

The Scarlet-runner Bean slowly revolves round the upright stick placed for its support, but its motion is too gradual to follow, but can easily be followed in result. An explanation of spiral climbing is that the greatest growth always lies to the outside, and progresses spirally, thus naturally giving a spiral motion to the whole shoot. It is argued that threads of protoplasm, having unbroken continuity in what are termed the pulvini in the sensitive plants, represent the nerves in animal structure, and this is very probable as, chemically and histologically, nerve matter and protoplasm are alike.

"The homogeneous masses of combined amœba-like jelly ejected from the spores of the lower microscopical fungi are termed a plasmodium. This is capable of a slow snail-like motion, as well as of coalescing with other adjoining plasmodia, and also of absorbing other amœba-like spore-contents, possessing the power of creeping about by extending arm-like processes from its margin, and by the vital material from the mass repeatedly pressing into the arms or processes. Although our fields are at all times saturated and traversed by the spore-contents or plasmodia of this destructive fungus, *Plasmodiophora* has not hitherto appeared in our printed lists or handbooks." (Worthington G. Smith).

Allusion has already been made to *Vallisneria spiralis*, the flower-stalks of which, bearing stigmatic or female flowers, are borne on long slender peduncles, which are thread-like and spirally twisted; this enables them to extend as the tide rises and so always to keep the flowers floating on the surface of the water. The male flowers are borne on very short pedicels, close

to the bottom of the stream, quite away from the stigma-bearing flowers. Each of these is enclosed in a semi-transparent spathe, and as soon as the pollen is ripe the flowers detach themselves, and, ascending through the water, appear like seed pearls. As soon as they are floating among the female flowers, the little bladders burst open and the pollen contained in the anthers is placed in exactly the right position to fertilise the female flowers. When this is effected the spiral stalk again assumes its closely spiral form, and the impregnated ovary is brought down into the mud at the bottom of the stream in order to ripen the seed.

A similar movement takes place in the stalk of the common white Water-lily. The flowers of this float on the surface of the pond among the foliage, and when the stigmas have been pollinated by the visits of various Libellulidæ and other insects, the vase-like ovary is drawn down to the bottom of the water, and in about a month or six weeks bursts, and the seeds, which are all contained in a bladder-like vesicle containing air, rise to the surface and are distributed by the action of currents and the wind. The filmy air-vesicles soon decay, and the seeds sink to the bottom and are sown in the soft mud and ooze.

The glorious *Victoria regia* has the same method of perfecting its seed, but, unlike our native water-lilies, is an annual, so the seeds remain dormant till the next summer, then producing their gigantic leaves. These are furnished with a raised gunwale, which so assists their floating power that one has been known to support a child seated in a rush chair on its punt-like deck.

(*To be continued.*)

A DUEL TO THE DEATH.

A CURIOUS instance of ferocity in birds was witnessed by a friend and self when returning from a day's tramp in the bush recently. Late in the afternoon we were proceeding along a timbered ridge near the South Esk River, when our ears were assailed by the shrieking notes of a bird, which at first we took to be those of a garrulous Honey-eater, but louder and more continuous than usual. As the noise went on we scanned the horizontal limb of a gum-tree under which we were passing, and from which apparently the notes proceeded, but could see nothing. After listening a minute or two the sound seemed to come from near the foot of the tree, and my companion went over to a clump of fern which grew against the butt, and, after glancing down, called to me. I joined him, and this is what we saw: Two Grey Butcher-birds on the ground amid the bracken, locked in deadly conflict, and quite unable to rise: one was stretched on his back with the beak partly open, and was calling loudly for mercy; the other was lying upon him with the hooked point of the long, cruel

beak driven in just behind the base of his shrieking brother's mandible, his left foot clasping the other's wing-joint, while his right foot was clutching the cheek of the lower bird near the point where the beak was driven in. My friend raised them in his hands, and they could offer no resistance, so firmly were they interlocked. While thus held I took a short stick and pushed back the point of the beak until the hook was clear of the bone in the head behind which it was driven, thus enabling it to be withdrawn. It was only after several attempts that this clearance was effected, and then the stick had to be employed to unclasp the talons from the wing-joint into which they were driven. So deadly was the grip of both claw and bill that there is no doubt both birds would have perished miserably had we not been fortunate enough to discover them in time. After separation they showed their gratitude by biting fiercely at my friend's fingers; on being liberated the first one immediately made towards the creek, to slake the burning thirst engendered by the heat of conflict; the other was carried some distance and then allowed to escape among the trees. Both were in splendid plumage, and probably this season's birds.

A somewhat similar incident was witnessed when we were on a caravan tour round the east coast of Tasmania several summers ago. While on the road near Gould's Country we were attracted by the novel spectacle of an animated ball of brown and greyish feathers rolling amid the grass by the wayside. My friend stepped quietly up to the object and raised it in his hands, when it proved to be nothing less than a couple of hen Superb Warblers, engaged in such stress of battle and squeaking so fiercely that we were neither seen nor heard until they lay in our hands. They were allowed to fly after giving them time to cool down, and when they left were, no doubt, sadder and wiser birds!

Launceston, Tasmania,
June 15, 1907.

H. Stuart Dove.

SELBORNIANA.

Purley Beeches.—The preservation of this valuable little bit of ancient woodland having been secured, it was recently formally dedicated in perpetuity for the use of the public by the Mayor of Croydon, Dr. H. Keatley Moore.

The National Trust.—We have received the Report of the Council to August 21 last, when the Trust was reconstituted, which report deals with a number of interesting topics, to some of which we hope to refer on a future occasion. Whilst the presentation of a beautiful portion of Wandle Park, Wimbledon, is recorded, funds are asked for to complete the purchases of Coleridge's cottage at Nether Stowey, the Grey Wethers on

Marlborough Downs, and Ludshott Common and Waggoners Wells, Hindhead. It is deplorable to read that want of means compels the Trust from time to time to decline the guardianship of important ancient monuments.

Our Hedgerows.—Our attention has been called to the proposal that a deputation of motorists shall wait on the Government to suggest the general cutting down of hedgerows in order that it may be possible to see anything coming along a side-road towards a crossing or turning. Naturally Devonshire people are up in arms, though, considering that their lanes are generally bounded by high banks as well as hedgerows, we doubt if they have much to fear. How will the Kentish hop-growers relish the proposal to abolish their wind-screens? We doubt if local authorities can at present compel the cutting down of hedgerows, as distinguished from the clearing them back if they overhang the roadway; and we doubt still more whether such a deputation as is suggested could secure special legislation for this purpose, but it is well for us to be prepared to resist any such vandalism.

Journalistic Hypocrisy.—Another correspondent writes as to the advertisements of birds' eggs and skins which appear in *The Country-side*, while in the same number of that journal the editor recommends that the Wild Birds' Protection Acts "should be made operative against dealers, taxidermists, and collectors."

Wild Herbs.—The suggestion reaches us that, as some pot-herbs, such as Marjoram, Thyme, Mint, &c., are somewhat difficult to cultivate in or near smoky towns, their wild allies, which sometimes flourish at no great distance, should be substituted for them. Our correspondent enquires as to any culinary experiments in this direction.

No Aigrettes for the Kaiserin.—We were glad to read, in the account of the recent purchase of bonnets for his wife by our visitor the Emperor William, that none were selected which were adorned by "aigrettes."

Bird-Protection Orders.—We have received from the Home Office a Protection Order, dated December 7, 1907, for Cambridgeshire, repealing that of May 18 last, adding the Great Bustard to the Schedule, protecting it, the Bittern, the Goldfinch, the Kingfisher and the Owls throughout the year, and prohibiting the taking of any eggs in Wicken Sedge Fen for three years. We have also received an Order dated December 9, for the County Borough of Bath, adding a number of species to the Schedule, protecting others during the whole year, and prohibiting the killing or capture of wild birds on Sundays.

Nature on the Stage.—We are continually having the beauties of Nature put before us in picture galleries and in

illustrated papers by means of word-painting and photographs galore. It is not often, however, that they are brought home to us on the stage. In his recent setting of "As You Like It," Mr. Oscar Asche has brought out to the full the capabilities of scene-painting in this respect. To begin with, "As You Like It" probably appeals to Nature-lovers more than any other of Shakespeare's plays. The greater number of the scenes are laid in the forest of Arden, and the banished Duke's speech, in which he says that he

> "Finds tongues in trees, books in the running brooks,
> Sermons in stones, and good in everything,"

appeals strongly to those who love the country and draw delight from it. It is true that Shakespeare's ideas with regard to the geographical distribution of plants and animals are a little at fault when he introduces palm-trees and a lioness, but no one is likely to be led astray. To return to the setting which Mr. Oscar Asche has given to the play, it is most picturesque and the scenery is truly delightful. The representation of a wealth of bluebells in a copse of silver birches is as pretty a scene as anyone could well wish for. The forest itself in its way is just as pleasing, and the surroundings of Ganymede's cottage, which is embosomed in fir-trees, are also particularly attractive. Not long ago, in a review of Mrs. Aria's book on costume, we alluded to the drawings of Percy Anderson, and when we point out that the many old-world costumes introduced into the play were designed by him, it will show that there is another point of interest about it. If we have dwelt all this time on the frame, as it were, it is not because we do not admire the picture, for the same success attends the actors as is attained by the scenery.

REVIEWS AND EXCHANGES.

Two Legs and other Stories. By Carl Ewald. Translated from the Danish by A. Teixera de Mattos, and illustrated by Augusta Guest. 8¼ in. + 5½ in. Pp. 213. Methuen & Co. Price 6s.

We are much indebted to Mr. de Mattos for introducing us to a new magician. Allegories are kittle cattle, and, perhaps, scientific allegories are the most difficult of all allegories to render realistic as well as accurate; but here we have a volume of stories to place by the side of Mrs. Gatty's "Parables from Nature." Can we say anything more laudatory?

The Moths of the British Isles. By Richard South. First Series, comprising the Families Sphingidæ to Noctuidæ. With accurately coloured Figures of every Species and many Varieties, also Drawings of Eggs, Caterpillars, Chrysalids and Food-plants. 6½ in. + 4½ in. Pp. 343. Warne & Co. Price 7s. 6d. net.

While Mr. South's name is a guarantee for the accuracy of this pocket guide, the small price at which the volume is published—though rather more than that of the earlier (and smaller) volumes in the excellent Wayside and Woodland Series—hardly leads one to expect so perfect a production in format, typography,

and profuse colour-illustration as this. There are nearly 700 coloured figures, mostly of the perfect insects, besides uncoloured plates of the larvæ, pupæ and food-plants, the reproduction of which is very good. We cannot help thinking the word "complete" on the cover somewhat misleading, the careless purchaser, thinking, perhaps, of a valuable present for a young entomologist, being apt to overlook the words "Series I." on the back, which imply the expenditure of another 7s. 6d. and the filling of two coat-pockets in the field.

ELEPHANT HAWK-MOTH.
Egg, natural size and enlarged; caterpillar and chrysalis.
From "The Moths of the British Isles" (by kind permission of Messrs. F. Warne and Co.).

In the Land of the Beautiful Trout. By Arthur Tysilio Johnson. 7 in. × 4½ in. Pp. 169. T. N. Foulis. Price 2s. 6d. net.

"I love any discourse of rivers and fishing," says Izaak Walton, and many a brother of the angle will assuredly take pleasure in whiling away an evening or two, after the day's fishing, with Mr. Johnson's essays. The head and tail pieces and general get-up of his little pocket volume are delightful.

Trees and their Life-Histories. By Percy Groom. Illustrated from Photographs by Henry Irving. 12 in. × 8½ in. Pp. 407. Messrs. Cassell and Co. Price 25s. net.

The lover of trees cannot now complain of the want of books to help him in his study, whatever the length of his purse. The list of trees selected for treat-

Bark of Beech.
From "Trees and their Life-Histories" (by kind permission of Messrs. Cassel & Co.).

ment in this sumptuous table-book (it is too heavy to hold in the hand) is practically the same as in the present writer's "Familiar Trees," reissued a few weeks back by the same publishers, *i.e.*, British species and others, commonly cultivated; but here they are treated in systematic sequence and illustrated by a number of photographs of structural details. The volume contains over 500 illustrations, many of them occupying whole pages, and therefore incapable of reproduction here. Mr. Irving's unequalled series is now well known, and we wish that our

OPEN "CONES" OF ALDER.
From "Trees and their Life-Histories" (by kind permission of Messrs. Cassell & Co.).

space permitted us to print more than the two here given. Mr. Groom's text, though as accurate as his repute as a botanist would lead us to expect, and as little technical as possible, is somewhat meagre and purely made up of botanical description. In a future edition we should like to see the localities of the many fine specimen trees recorded.

Birds of the Loch and Mountain. By Seton P. Gordon. 9½ in. × 6¼ in. Pp. 181. Cassell and Co. Price 7s. 6d net.

The Home-Life of some Marsh-Birds. Photographed and described by Emma L. Turner and P. H. Bahr. With 32 Plates and many Text Illustrations. 8½ in. × 5½ in. Pp. 62. Witherby and Co. Price 2s. 6d. net.

These two fine pieces of work are complementary to one another. In the first, Mr. Gordon produces first-rate results in his photographs and descriptions from his unique opportunities of observation among the mountains of Scotland; while in the second, Miss Turner, a member of the Selborne Society, and Mr. Bahr give an equally good account of certain marsh species. While Mr. Gordon gives us many good pictures of snow-clad mountain and moor, the authors of the other volume devote special attention to nestling birds.

British Birds for December contains an excellent portrait of the late Howard Saunders.

Received :—*The American Botanist* for October, 1907 ; and *The Naturalist*, *The Irish Naturalist*, *The Animals' Friend*, *The Agricultural Economist*, and *The Estate Magazine* for December.

Some other reviews are again held over.

BLACK-HEADED GULLS FEEDING.

From "Birds of the Loch and Mountain" (by kind permission of Messrs. Cassell & Co.).

NATURAL HISTORY NOTES.

584. **Foxes.**—In his calendar of observations Gilbert White says that the "Fox (*Canis vulpes*) smells rank on February 7." It is merely a case of taking greater pains, *more canino*, at the commencement of the breeding season to cause their existence to be known to each other. The odour of the excreta of foxes is very powerful; and yet the surface of their bodies does not give forth, when in a cleanly state of Nature, a stronger odour than many other animals. It is probable that the scent of a hunted deer is stronger than that of a hunted fox, as far as that actually given out by their feet is concerned. The odour of many animals becomes greater, and the organs that produce it are often enlarged, during the breeding season. "At this period the glands on the sides of the face of the male elephant emit a secretion having a strong musky odour. . . . Besides the general odour permeating the whole body of certain ruminants in the breeding season, many deer, antelopes, sheep, and goats possess odoriferous glands in various situations, more especially in their faces, . . . and there can be no doubt that they stand in close relation to the reproductive functions." ("Descent of Man.") Darwin does not include foxes, or animals closely allied to them, amongst those with increased odour at certain seasons.

If the bodies of predatory animals, which live by stealth and cunning, gave forth a strong odour, their presence would be betrayed, and the difficulty of obtaining food increased.

White's remark, however, leads to the supposition that the bodies of foxes give forth a strong odour, and that at certain times of the year their bodies "smell rank" in a degree they do not at other times. In talking over this matter with an old Master of Foxhounds, whose opinion I value, he thought that the scent of the fox was equally strong at all seasons, and that if it were more so at the time of year that White suggests, a hunted fox would stand little or no chance of escaping from its pursuers. In short, it amounts to this: a fox is not more likely, from the scent that he emits, to be caught by hounds in February than in December.

EDMUND THOS. DAUBENY.

585. **Edible Fungi.**—In the autumn I pointed out to a friend some Fairy Ring Champignons (*Agaricus oreades*), and explained to him their characteristics, which are easy to learn and not make mistakes about. I picked a quantity and asked him to take them to his cook and give them a trial. He ventured and found them excellent. After this he bought a book on fungi, and has eaten many kinds. When dining with him, I found *Boletus edulis*, served up on toast, a dainty dish. *A. deliciosus*, *A. procerus*, Blewitts (*A. personatus*), *Coprinus comatus*, and several others have been on his table. *Coprinus comatus*, which deliquesces into ink when old, was pronounced to be the best and most toothsome of them all. It requires very little discrimination to become acquainted with the above-named, and those who will take the trouble to learn can easily provide themselves with many a delicious dish from what the public in general look upon as poisonous toadstools.

South-acre, Swaffham. EDMUND THOS. DAUBENY.

ASTRONOMICAL NOTES FOR JANUARY, 1908.

Venus is a brilliant evening star, setting on the 1st at 6.11 p.m. and on the 31st at 7.45 p.m. Near the moon on the 5th, and an interesting picture will be presented if the weather is clear.

Mars is also an evening star, setting at about 10.45 p.m. during the month. Will be in same region as the moon on the evening of the 8th. On about the 20th a line drawn from Alpha Andromedæ to Gamma Pegasi will cut through Mars.

Jupiter will be a splendid object, rising on the 1st at 6.38 p.m. and on the 31st at 4.24 p.m. His position is a few degrees east of the cluster of stars in Cancer. Near moon on the 19th and in opposition to the sun on the 29th.

Saturn is an evening star setting on the 1st at 10.31 p.m. and on the 31st at 8.50 p.m.

The minor planet Vesta will be less than 1 degree N. of the moon on the morning of the 17th at 3 a.m.

There will be an *Eclipse of the Sun* on the 3rd, but it will be invisible.

Meteors will be numerous on the night following the 3rd.

W. F. D.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

New Members.—*Central Society.*—The following members stand for election: Miss Butler; J. H. de Jersey, Esq.; Mrs. Almeric Fitzroy; Miss M. Moon; Mrs. F. Pierce.

Ealing Branch.—Herbert J. Baker, Esq.; Lt.-Col. A. G. Bartley, M.A.; D. O. C. Finigan, M.D.; Cyril E. A. Goddard, Esq.; Miss E. Graham Robertson; George E. Massee, Esq.; Gen. T. W. Mercer; Mrs. Mercer; Col. A. Le Mesurier; Samuel J. Muir, Esq.; Miss Florence Norton; Joseph G. Nicholls, Esq.; Victor J. Prout, Esq.; Walter H. Read, Esq.; Col. R. K. Ridgway, V.C., C.B.; Miss Saunders; Miss Helen Saunders; John D. Smelt, Esq.; Otto Stapf, Esq., Ph.D., F.L.S.: H. Sugden, Esq.; George A. Wade, Esq., B.A.; Ridley M. Webster, Esq.; Dudley Wright, Esq.

Subscriptions.—The Council has pleasure in acknowledging subscriptions of greater value than 5s. from the following members.—Ernest Beck, Esq., £1 1s.; Samuel Gardner, Esq., 10s. 6d.

Library.—The Honorary Librarian will attend at 20, Hanover Square, from 6 p.m. to 6.30 p.m. on the evenings of January 20 and February 17 for the purpose of issuing books to members.

NEWS FROM THE BRANCHES.

Birmingham and Midland.—On Friday evening, November 22, a lecture entitled "A short Chapter of Plant Life; The Liverworts," was delivered by Mr. T. H. Russell, F.L.S., at "Westbourne," Edgbaston. The lecture dealt with this small class of plants, of which some 260 British species are known, coming next below the mosses in the botanical scale. The name of the class originated in the fact that, in the earlier days of medical science, some of its members were used in the treatment of affections of the liver, a course suggested by certain resemblances between the structure of that organ and of the particular plants in question. The lecturer pointed out the broad distinction between the leafy and the frondose hepatics, traced their development from the spore, and gave a number of details relating to the methods of fertilisation and liberation of the spores. The lecture was illustrated by some fifty lantern slides, all of which have been photographed from original black-and-white drawings made by the help of the microscope, from specimens in the lecturer's collection.

Mr. John Humphreys, F.L.S., presided, and at the close proposed a cordial vote of thanks to Mr. Russell for his lecture.

EXCURSIONS.

Saturday, November 2.—On this day the Annual Fungus Foray of the Essex Field Club was held, and once again the members of the Selborne Society received a courteous invitation to take part in the meeting. Several members joined the first party, which started from the headquarters at Theydon Bois in the morning, and quite a number were present in the afternoon. Mr. Massee, of Kew, acted as referee, and a large number of interesting species of fungi was collected. The yellow fly agaric was represented by a single specimen, but this was the second one which had been found in this country. Some very large and handsome specimens of the parasol mushroom were brought from a field adjoining the Forest by Miss Kate Skinner. The clumps of yellow Clavaria that were

found were exceedingly fine, and a number of examples of the Stinkhorn were collected, including one in the early stages when it takes an egg-like form, but these were discreetly kept outside the meeting-room. Considerable interest was taken in those poisonous toadstools which, by the careless, are sometimes mistaken for the mushroom. After tea Mr. Massee gave a discourse, in which he dealt among other things with fungi which are injurious to crops. As usual, his remarks were exceedingly interesting, and interspersed with that humour for which Mr. Massee is well known. Some members of the Selborne Society collected additional specimens of the large parasol mushroom, which is exceedingly good to eat, with a view to supping off them, but in this case the fungi proved rather tough.

Saturday, December 7.—The Autumn Meeting of the South Eastern Union of Scientific Societies on this date took the form of a visit to the rooms of the Royal Society at Burlington House. About a hundred members attended ; but, owing to the delay in the publication of NATURE NOTES, the Selborne Society was only represented by a few members. Professor Sylvanus P. Thompson, D.Sc., F.R.S., F.R.A.S., received the guests, and, after afternoon tea, addressed them in the Council Chamber, giving a very interesting account of the foundation and history of the Royal Society. The members then viewed the fine collection of portraits of notable men of science and the many interesting relics preserved in the upper rooms.

Next season it is hoped that it will be possible to arrange another visit to these rooms, so that those Selbornians who were perforce disappointed on this occasion may have an opportunity to enjoy the same.

FORTHCOMING EVENTS.

Saturday, January 11.—Visit to the Egyptian Galleries at the British Museum, Bloomsbury. The party will be conducted through the department by a member of the staff, who will point out the most important objects in the collections. Assemble in the Entrance Hall at 2.15 for 2.30 p.m.

Monday, January 20.—General Purposes Committee at 5.30.

Saturday, January 25.—Bethnal Branch of the Victoria and Albert Museum, Bethnal Green. Assemble inside the entrance at 2.30. Mr. T. A. Lehfeldt (Assistant Keeper in Charge) has kindly undertaken to conduct a party over the Economic (Food and Animal Products) Collections. Trains run frequently from Liverpool Street Station.

Tuesday, January 28.—Council Meeting at 5.30.

All communications with regard to Excursions should be addressed to Mr. H. H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

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1. All communications for NATURE NOTES must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for NATURE NOTES (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. BOULGER, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. JOHN BALE, SONS AND DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership, should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, WILFRED MARK WEBB, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 218. FEBRUARY, 1908. Vol. XIX.

AUTOMATIC AND INDUCED MOVEMENTS IN THE ORGANS AND PARTS OF PLANTS.

(*Continued from p.* 10.)

Part II. Induced Motion.

BUT perhaps, as it can be observed by the unaided eye, motion caused by touch or irritation of some kind, as in the Sensitive-plant, has the greater interest for the casual observer. Ever since the sensitive Mimosa was introduced to our gardens from Brazil in 1648, the plant has been cultivated, more from its singular and almost unique motion than from any intrinsic beauty, though its light pinnate foliage and its pink bottle-brush-like inflorescence are elegant. *M. sensitiva*, or *pudica*, for it is known under both names, takes its generic name from a Greek word signifying a buffoon or clown, because the leaves seem to play with the hand that touches them.

M. pudica, however, as its name signifies, is a humble plant of quite low, almost repent habit, whereas *sensitiva* under ordinary culture grows to 20 inches high, while another, *M. glauca Spegazzinniana*,[1] is stated to grow under favourable conditions to 7 feet in one year, this bearing globe-shaped masses of apetalous staminate flowers, followed by close clusters of rough, dark purple, curved pods, bearing many seeds. The foliage is bipinnate, and the whole plant is armed with sharp spines, those on the ripe wood being formidable curved thorns, while those on the foliage are acicular, and proceed from the midrib of the leaves, between the pairs of pinnæ. The leaves of this are sensitive, but not so easily excited as those of *M. sensitiva*.

Many explanations have been offered to account for the phenomena; but, if we accept the theory that the continuous protoplasm of plants is in reality their nerves, the explanation

[1] [Now referred to the genus *Leucæna*.—Ed. *N.N.*]

is easy, or, as a recent magazine article puts it, "the state induced by the stimulation of protoplasm, which is what we call sensation, cannot be essentially different in vegetable protoplasm from what it is in animal, since the protoplasm itself, the physical basis of life in both plant and animal, is not different. In isolated plant-cells, indeed, it may amount to such a concentration of the condition of stimulation as to be called sensation"; and this is but a paraphrase of what Professor A. Kerner has advanced in his *Natural History of Plants*.

This article, however, does not attempt to explain the phenomena, but simply to call attention to and enlist interest in them. Other explanations have been offered, such as vaguely-suggested electrical currents, and when we know more of this form of force it may be possible to detect it with some ultra-sensitive electroscope, but till then let it pass. A most interesting example of spontaneous movement is exhibited by the pollinia of many British orchids, first noticed by a Scotch gardener, David Brown, quoted at length by Darwin in his masterly work on the fertilisation of orchids. This may be seen by anyone, as the common spotted orchis of our hedgerows shows it very plainly. One of the distinguishing characters of an orchid flower is that the pollen is massed together into two compact bundles, either round or ovate, and these are called pollinia. These masses are connected, by thread-like stalks, with round or saddle-shaped bodies placed at the base of the lip, as the chief part of the corolla is called, and are only loosely adherent to the flower. It happens, therefore, that when an insect in search of honey alights on the conveniently-placed labellum (lip), and advances its head in order to reach the honey secreted by the nectary of the flower, the pollinia are dislodged, and adhere to the insect's head or to the back of its thorax, when it flies away to visit another flower of the same kind. But if the adhering pollinia retained their first position they would not strike the viscid stigmatic surface of the second flower, and Nature provides that the minute stalks in a few seconds bend over and assume the exact posture to effect the desired object of depositing the pollen where it is required. A simple way of observing this is to take an ordinary lead pencil and to insert the point over the base of the labellum into the nectary of the flower, which should be a freshly expanded one. On withdrawing the pencil the two minute grey-blue pollinia will be seen adhering to it in a position almost at right angles to its axis; but if they kept so when the insect visited the next flower the pollen-masses would fail to strike the stigma, and so it is provided that in about five seconds the pedicels bend forward, and the pollinia assume the required place to exactly strike the stigmatic surface of the next flower the insect visits in search of honey.

Other British orchids exhibit the same interesting phenomena, as quoted by Darwin, but the bee-simulating kind, *Ophrys apifera*,

is self-fertilised, the pollinia, when mature, bending forward and depositing the pollen on the stigmatic spot of the flower. The movement of the pollinia is shown in many more of the British orchids, and is visible to the naked eye or with the help of a pocket lens, the cause being in most cases hygroscopical.

The Catasetums and some of the Odontoglots have somewhat complicated floral appendages, which assist largely in aiding insects in their fertilisation, and it is probable that even humming-birds visiting the flowers in search of nectar set moving the floral parts connected with the stamen and make it shed its pollen on their throats and heads, ready to impregnate the next flower visited. Other flowers have a sugar-tongs-like pair of anther-lobes which remain closed, retaining the pollen dust ; but as soon as any insect enters the flower they open apart, and allow the ripe pollen dust to sprinkle the insect. The pollen is, however, retained till the anther receives some sort of shock, causing the separation of the anther-valves. In *Dendrobium fimbriatum* there is what may be called an expulsive apparatus, the action of which is brought into play by any pressure on the lower extremity of the horn or central column, and the stimulus is at once transmitted to that part of the rostellum which forms the viscid disc, the slightest touch applied to the tip of one of the horns being instantly followed by the rupture of the tissue and by the consequent liberation of the pollen-masses. The viscid disc had, however, in turn sufficed to keep a curved elastic band, which serves to attach the disc to the pollinia, on the stretch and in its proper position, so that when the disc is set free the band flies up and straightens itself with a jerk, by which the viscid disc and pollinia are torn from their recesses, and are carried in an ample curve away from the column which till then served for their common base.

We have yet to record phenomena of motion which, being visible to the naked eye and the result of outside irritation, are by far the most interesting. Besides this, they may be seen and studied by possessors of small gardens with no glass. The Sensitive-plant can be raised from seed in a pot, stood in a warm sunny window, first soaking the seeds in warm water, and then only lightly covering them with light friable soil ; but though this is so very interesting, many quite common garden flowers exhibit motion in their stamens and pistils in response to a touch or some form of irritation.

The common barberry, and notably the fine acanthus-leaved species named *Berberis Beali*, well exhibits this form of irritability, for if a needle be passed down into the cup-shaped corolla between the anthers and the style, the anthers will at once bend forward towards the stigma with a sudden jerk, and throw their pollen away from it. The anthers of *Kalmia latifolia* are at first confined in little pits in the walls of the corolla, but when an insect visits the flower to rifle its honey, alighting on the corolla, the anthers are pulled from their

loculi and scatter their pollen. This can be artificially effected by pressing the finger or a pencil on the corolla. A startling example of sudden motion is shown by the flowers of the various Australian Stylidiums. One, *Stylidium graminifolium*, is a very free flowerer, and a neat and pretty greenhouse plant. In this and all the genus the stamens and style are united in one single column, and this is very elastic, and reposes at the side of the flower. When, however, this is touched with the point of a needle, it starts with a violent spurt from the side of the flower where it was resting to the other, and in this movement the anthers are torn from their filaments, and the pollen shed on the stigma.

The genus *Mimulus* furnishes examples of very interesting movements in the stigmas. All the species of the genus show it, even the popular Musk and the Cardinal Mimulus of Mexico, but the Californian half-shrubby *Diplacus glutinosus* clearly exhibits it. The stigma may be likened to the seed-leaves (cotyledons) of the common cress or lettuce, and when in repose one lobe is depressed and so displays its inner surface. Take a pin and touch this, and the lobe will straighten itself and assume an erect posture against its fellow lobe. On a bright, warm day, the normal position is soon regained and the experiment may be again and again repeated. The common yellow monkey-flower, as well as the many hybrid spotted large-flowering varieties, all present to view this trait of interesting motion, as do *Bignonia capreolata*, and freshly expanded flowers of *Tecoma jasminoides*. It may be that this form of stigma is without viscidity, and so Nature has provided other means of attaching the pollen-grains till they have performed their special mission.

In *Passiflora edulis* and other species the styles are at first erect, but when the pollen is mature and the anthers burst open they turn down and lower themselves towards the stamens, and then return to their former position in the flower as suddenly.

The hairs which clothe the styles of many of the Campanulas show a very unique motion: they fold back on themselves like a stocking, and in the act draw with them the pollen-grains, the shedding of which they thus determine. A neat little Australian sub-shrub, the *Leschenaultia*, has a cup-formed stigma, which is fringed with somewhat long hairs. At the moment of the anthers opening, part of the pollen is shed into the little cup thus formed, and it then closes together to grasp the grains, and the hairs join each other so as to prevent the waste of the fertilising grains.

Standing on a sunlit heath in early autumn, and looking over the mingled heather, bracken and gorse, most people have been startled by the little snaps and cracks they hear around them, due to the sudden bursting of the seed-pods of the furze or gorse, and the different wild vetches also show this on any bright,

dry day, suggesting discharges of fairy artillery. It is Nature's way of scattering the seed abroad.

The common Balsam has its name from this peculiarity—*Impatiens*—one species being called "*Noli-me-tangere*," or touch-me-not, as directly a fruit is touched it drops from its stem, and its sides curve inward, discharging the contained seeds. One of the Cucumber tribe, a native of South Europe, is familiar under the name of the Squirting Cucumber. Its fruits are like small short marrows, with prominent ribs, and when ripe a gentle touch detaches them from their stalks and the contents of the fruit are expelled, with the contained seeds, with great force from the orifice at the base so formed.

The only motion of its kind that has come to my notice is the bending inward of the lobes of the nectary in the base of the corolla of the North American Dog's-bane (*Apocynum androsæmifolium*) when irritated by the visit of an insect. Directly a fly dips its trunk down into the bottom of the flower in search of nectar, the lobes of the nectary join up and catch the intruder by the tip of his nose, as it were, retaining their hold until the insect has ceased to struggle. Whether the decaying insect is of any service in the economy of the plant is unknown.

Another exhibition of movement is alluded to in a footnote by Loudon in his *Encyclopædia*. Most boys have tried the experiment of dividing a piece of camphor into small pieces, and floating them on a saucer of tepid water. They will in a few seconds begin to move about over the surface as though animated. This is caused by the gradual solution of the camphor setting up a current in the water ; and the floating camphor is propelled in the opposite direction. The leaflets of *Schinus molle* are small, ovate and boat-like, emitting when bruised a strong odour of turpentine. If a few be floated on tepid water they move about on the surface in a manner which may be compared to a fleet of tiny ships manœuvring, or to persons dancing a minuet. This is doubtless due to the gradual solution of the essential oil contained in their cells, which is of a camphory nature, and as that is projected into the water it causes the leaf to move in an opposite direction.

THOMAS F. BUNYARD, R.H.S.

Since completing this paper I have only two observations to record, and those both of the induced category, and both in new plants.

Angelonia grandiflora, a scrophulariad which has been shown lately at the Royal Horticultural Society, is a plant with cordate, crenate, tomentose foliage, giving off its inflorescence at the points of short lateral growths, and these have a close resemblance to the Mexican climbing annual *Lophospermum*. The stigma has two equal lobes, and when the flower first expands these are adpressed, but on maturing one curves downwards, exposing the inner surface of each. On a close warm day, if

this be touched with a point of a needle it gradually approaches the other lobe and resumes its normal position, but there are degrees of sensibility—some stigmas responding to the stimulus of touch, and others seeming to ignore it. Another novelty is *Incarvillea Delavayii*, belonging to the *Bignoniaceæ*. This has a stigma similar to *Diplacus* and *Mimulus*, and on being irritated the stigmatic lobes at once close together, and as the surface of the stigma is not viscid, probably the motion is simply to retain the pollen-grains till they have burst and emitted their pollen-tubes.

THE SNAIL PLANT.

THE Snail Plant is a member of the group of Medics, which contain the unique Calvary Clover, the spring globular pods of which are so attractive because they can be made to represent a crown of thorns, and the leaves of which are spotted with "blood," as it were. The Snail Plant's general character is sufficiently displayed

Three different views of the seed-pods of the Snail Plant, which remarkably imitate snail-shells in size, colour and form.

in my drawing from life. There is a close relationship between the foliage of Medics and the Clovers, as will be noticed. The yellow leguminous flowers of the former, though, generally grow singly or in pairs and triplets, instead of being grouped

together to form heads, as in the case of the latter. Each blossom is succeeded by a little green pod which curls round upon itself as it grows larger. Twisted pods are quite the regular order with the Medics, but their ulterior form is not in

THE SNAIL PLANT (*Medicago scutellata*), the seed-vessels of which, both in shape, size and colour, marvellously mimic ordinary snails. The maturing pods are covered with minute hairs, some of which are shown magnified.

every case quite so strangely fashioned and worthy of notice as it is with the Snail Plant.

The colour, until maturity is reached, is green; and, of course, during the growing stage it can hardly be said to mimic

common snails, though the spiral appearance suggests them. Exceptionally fine hairs cover the pods meantime. These disappear towards the completion of the objects.

It is in their perfect condition, when their few seeds are ripe, that the striking resemblance to snail-shells is observable. Each pod is then exactly the colour of a well-travelled snail, and equals it in average size. The likeness must be regarded as wonderful, although when a pod is fingered and examined closely—pulled about, in fact—the deception may soon lose its effectiveness without the observer being any wiser concerning its true character.

Precisely what can be the full purpose of such mimicry it is not altogether possible to determine. It may be that while lying on the ground they so far deceive certain birds as to entice the latter to carry them off and crack them open, thereby spreading the seeds about. It is well known that the thrush deliberately bangs snail-shells against stone so that their contents become more accessible. But this is a mere passing thought. I have not intended to enter into any question which might engender controversial responses, but further enlightenment on the unusual subject is desirable from anyone who can speak with authority.—James Scott.

[Reproduced from *The Agricultural Economist*, by kind permission of the Agricultural and Horticultural Association.]

[*Medicago scutellata*, a South European species, is only one of a series the fruits of which more or less resemble snail-shells, as such names as *M. Helix* and *M. Murex* suggest.—Ed. *N.N.*]

SELBORNIANA.

Gilbert White and Oriel College.—Mr. Rashleigh Holt-White, the senior living representative of Gilbert White's family, writes to us as follows :—

"Will you allow me to express the great regret with which I have read in Major Mullens's recently published lecture, 'Gilbert White of Selborne,' a revival of what I can only call a deplorable invention regarding the naturalist, viz., 'the troubled aspect of his life in connection with his College,' and that 'he undoubtedly incurred considerable unpopularity' by refusing College livings, and again, 'this unpopularity was not diminished' by his coming up as Proctor in 1752?

"All of these statements, like Dr. Shadwell's monstrous one that White retained his Fellowship after his father's death by holding his tongue about his fortune, are purely gratuitous assumptions, unwarranted by any shadow of *evidence* whatever; and not only such, but they are not even reasonable presumptions from the known circumstances in White's time.

"I am the more disappointed in this case, because Major ullens has evidently seen my 'Life and Letters of Gilbert White," though there is indeed other evidence that he has not read it quite carefully. I have been an Oxford man, and a member of White's College for thirty-eight years, and may claim, after many years of careful investigation, to be some authority regarding his life, and I wish once more to reassert that there is not any reason to suppose that, though there certainly were parties and differences at Oriel, as in other Colleges, in his time, White was at any time unpopular with, or, as Major Mullens puts it, 'in trouble with' the College; and I challenge the production of any single *fact* which would evidence the contrary. Those who may wish to see the question examined at some little length may consult NATURE NOTES for October, 1901, where they will find that I have adduced several facts and occurrences which do afford a clear presumption that, both at the time of his Proctorship and in later years, the naturalist was a *grata persona* in his College.

"It is a pity that these fables should have grown up about the life of so good a man as Gilbert White, but Dr. Shadwell started them, and in his edition of the Selborne, Mr. Warde Fowler repeated and amplified the former's uninformed remarks, and I fear that the truth will never overtake—what is far from being the truth."

PHILISTINES AT HINDHEAD.—An interesting point has arisen in connection with the preservation of the common lands at Hindhead, Haslemere, which are vested in the National Trust for Places of Historic Interest or Natural Beauty. Under the authority of the Highway Act, the Hambledon Rural Council have for years dug stone from the commons for roads in the district. They have now received a request from the National Trust to discontinue the practice. The council have declined to accede to the request, the chairman saying that it would deprive the ratepayers of a valuable asset, representing something like £400 a year. The wishes of the locality had not been consulted before the Bill was introduced, and the clerk would take what steps were possible to secure a repeal of the Act so far as it related to stone digging.—*Standard.*

PROTECTING NATIVE FAUNA IN QUEENSLAND.—One of the recent Acts of the Queensland Legislature is "Native Animals Protection," which protects from November 1 to April 30 the "native bear" and opossum. The animals absolutely protected are the kangaroo, wombat, duck-mole or platypus, hedgehog or echidna, and flying squirrel or opossum mouse. The penalty for killing any of these creatures within the period named—the Queensland summer season—is any sum not exceeding £5. A like penalty will be inflicted for offering for sale the skins of the native bear or opossum in the close season, unless it can

be shown that the animal was not killed in the breeding season. "Possums" may not be poisoned: penalty not to exceed £10. This humane Act shows that Queensland has come into line with the countries of the Old World, and indeed it is necessary that something shall be done if the indigenous fauna of Australia is not to be utterly swept off the face of the country.

Referring to the animals scheduled in this Act, a few words may be of interest. The "native bear" is not a ferocious monster of the ursine family: it is one of the sloths, and is content to pass its innocent and vacuous life in a gum tree, in a fork of which it will station itself contentedly for hours, without moving. It has a warm coat, and on account of this the poor "native bear" is being ruthlessly and rapidly exterminated. The opossum was the commonest of the pouched animals of the Australian bush, and the lively little creature formed an important part of the aborigines' food. However, the combined attacks of "sportsmen," aborigines, and skin-collectors—the "possum" skin has considerable commercial value—have thinned its numbers. The tree kangaroo is rare, and is only found in the interior of the Colony—for many years its existence was doubted. That great marsupial, the plain kangaroo, is likewise becoming rare in many parts of Australia, and it is protected in some parts. The platypus, endowed by science with the queer name *Ornithorhynchus paradoxus*, has long been practically extinct. Owing to its physical peculiarities it was impossible that such an animal could survive the vigorous campaign carried on against it. It is interesting to note that in far-off Queensland educated public opinion is strong enough to cause the passing of such humane legislation.

The Californian Sea Elephant.—A correspondent, in sending us the following extract, suggests that the concluding sentence, if not "wrote sarcastic," seems rather like locking the stable-door after the horse is stolen:—

"For some years past it has been generally believed that the Californian sea-elephant, which Gill distinguished as *Macrophinus angustirostris*, had become extinct. No European museum contains a specimen of an adult male. There was one in the Museum of the Academy of Sciences in San Francisco, but that perished in the fire that ravaged the city after the earthquake last year, and no other is known in America. Recently Mr. Harris, one of the Hon. Walter Rothschild's collectors, received information that a few individuals survived on the lonely island of Guadalupe, off the coast of Lower California. Naturally he visited the spot, and he succeeded in obtaining six individuals from what is almost certainly the last haunt of this animal. These specimens, which have now reached England, are of great importance as filling a gap in the Tring collection and in other museums. The island lies a good way off the coast,

and probably the few sea-elephants that are left are too few to attract the sealers. It would, however, be satisfactory to know that the United States Government had placed these animals under the protection of the law."—*The Field*, December 7, 1907.

The "Osprey" Trade.—A writer in a recent issue of an Australian ornithological journal gives a revolting account of the havoc inflicted on a colony of plumed and white egrets by plume hunters. The visit was made in the height of the breeding season, and involved a journey by boat of about 12 miles, this being the only practicable mode of approach. On arrival, evidence of a recent raid was only too plainly visible. As the boat approached, large white patches were to be seen floating on the water or resting on the fallen trees in the neighbourhood of the heronry. These proved to be carcases of adult egrets, some fifty in number, about one-third, or perhaps more, of the entire colony. These birds had been ruthlessly shot while brooding their young, which latter, to the number of about a couple of hundred, had been remorselessly left to die a lingering death from hunger. Many had already succumbed at the time of the narrator's visit, having fallen from the nests into the water below, where they were, probably, soon drowned. Others from time to time fell from the nests to share the same fate, while others, again, perished from exhaustion as they sat in the nests. Perhaps the most pitiable sight of all was to watch those which had still sufficient strength to move and cry, attempting, and, needless to say, attempting in vain—to attract the attention of old birds flying heedlessly by with food in their beaks.—*The Field*, November 16, 1907.

Lichens from a Damp Country.—A special "exhibit" of Lichens, collected by R. Morton Middleton, F.L.S., F.Z.S., in Southern Chile, is now on view in the Botanical Gallery of the Natural History Museum, Cromwell Road, W., to illustrate the luxuriance and beauty of the members of this group in a damp climate.

A Lichen Exchange Club.—As a means of communication among collectors of British Lichens an Exchange Club has been started. Particulars can be obtained from Mr. A. R. Horwood, The Museum, Leicester.

NATURAL HISTORY NOTES.

586. Pond Life.—The tracks referred to by the Rev. F. M. Millard cannot have been made by water-snakes, because there are no water-snakes in this country, and although the grass-snake is fond of water, it is not likely that the tracks were made by one. If they were very narrow—say an inch wide or less—rats and water-voles would be out of the question, and newts and water-beetles are not given to swimming along the surface for any distance; nor are fish. It seems, therefore, that water-shrews are the probable culprits, and they certainly *are* in the habit, I believe, of swimming on, or just under, the surface. I cannot, however, speak from actual experience, as I have never seen a water-shrew.

Hale End, Chingford. C. NICHOLSON.

587. The Parental Instinct.—The excellent article upon "Automatic and Induced Movements in the Organs and Parts of Plants," published in the January number of NATURE NOTES, and therein connected mainly with the reproductive instincts (as you term them) in plants, leads me to offer an example of this remarkable instinct—for it is based upon reproduction—as shown in a pair of young bullfinches a year old, and brought up in captivity.

On July 23 last—somewhat late in the season—a nest of three young fledgling bullfinches was discovered in our wood, consisting of thick hornbeam undergrowth with dense hriar and bramble thickets, covering an area of over twenty acres and untouched for fifteen years—a veritable paradise for birds. These fledglings when found were only two or three days old. The next day one of their number was noticed dead upon the ground just under the nest, and the other two were taken, together with the nest, to the captive pair, and placed in their cage. The following day the infants were being attentively fed by their foster-parents, who from henceforth showed them the utmost devotion, and they now share the home as companion birds. The food placed at the disposal of the parents consisted of crushed biscuit and hemp-seed, together with seasonable seedy weeds, such as plantain, chickweed, &c., upon which ingredients the adopted family appeared to thrive remarkably well.

The interesting aspect of this up-bringing is the fact that the foster-parents had no previous experience of rearing a brood, for the parental instinct had not been previously excited or matured by nest-building, laying, sitting, or feeding. The manifestation of the parental instinct in this case shows it to be adaptive in character, and it was common to the pair.

Can such be looked upon as reflex action, stimulated by the presence of the nest and fledglings, or was it "instinct" in the ordinary scientific acceptation of the term? The duckling, immediately after emerging from the shell, will at once swim when placed in water, showing that the nervous mechanism for complicated associated movements is already there by long inheritance, needing only the presence of water to start the complex series of muscular co-ordinations.

I cannot but believe that instinct is innate, and that it is something more than reflex action, insomuch as it appears to be definitely associated with stimulation through the higher centres, and it is also complicated.

For the foster-parents there was an appeal at the proper season through sight, and possibly through emotions of affection, and the aid of the sense of taste—showing a relatively complex process, which was adaptive in character, the nervous mechanism being all laid down owing to its utility in "maintaining the race," and requiring in this instance only the presence of the helpless offspring to bring it out and manifest the parental care.

This little incident lends favour to the view that "instinct" is a "lapsed intelligence," and that it arose through intelligent accommodation, which in course of time became secondarily automatic, being transmitted by physical heredity. Much, of course could be said of "organic selection," but I fear that already this account has been unduly extended.

Claybury, ROBERT JONES, M.D.
January 1, 1908.

588. The Goldfinch.—In the new Eversley edition of "The Works of Tennyson," there are many interesting notes on birds and wild life. The redcap

is mentioned as a provincial name for goldfinch. Is it North Country? I have never heard it "down South." In one district among chalk downs and chalk streams in a southern county, the goldfinch is now, I believe, more common than the chaffinch. There is not a day in the year when one cannot make a certainty of seeing or hearing the goldfinch in this district, which I would rather not mention by name, lest it reach the ear of some bird-catcher. Many poets have described the goldfinch, but none so well, I think, as Mr. Ralph Hodgson in his little book "The Lost Blackbird." He speaks of the goldfinch on the yew tree :—

"The gold-winged exquisites that shine
Upon the yew in May."

Everybody who cares for our wild birds and their preservation should read this little book, "The Lost Blackbird and other Verses." No English poet or prose writer has ever described birds with so sure and exquisite a touch as Ralph Hodgson. Every bird in his few pages is a live bird.

December 21, 1907. GEORGE A. B. DEWAR.

589. Luminosity in Owls, &c.—Some most interesting letters have appeared in the *Times* from Sir T. Digby Pigott and others on this remarkable phenomenon. Two of these we quote *in extenso*. Sir T. Digby Pigott writes, from Sheringham, Norfolk, on December 24 :—

"With so many more important matters clamouring for a hearing, I am almost ashamed to ask you to find room again for my luminous owl. But if, before the fatal 29th shuts off all hope, you can find a corner for it, the following extract from a letter written by a Wells fisherman will, I think, interest many of your readers.

"That an unusual moving light has been noticed, and that almost as certainly it is conveyed by a bird, is, I think, now proved beyond question. Not only has it been seen again by my first correspondent, but also later by a policeman on his night round, and, as I learn this morning, since seen by the wife and daughter of the squire in one of whose coverts the bird has apparently its home.

"'On December 12 several of us fishermen [writes one of them] were standing on Wells-bar between 2 o'clock and 6. It was a very dark morning. About 4 we were all surprised to find something blowing about just like blue fire. Our mittens and the edges of our sou'-westers were soon full ; it hung to them like cobwebs, and some parts of it were very bright. I thought you would like to know about this, as it would be about the same time the luminous owl was seen, and I do not see why it should not hang on a bird's feathers as well as it did on us. There were about ten of us, so I do not think we were deceived in what we saw.'

"I may mention, perhaps, that the letter you were good enough to publish had been reprinted in more than one local paper.

"'In a curious book, entitled "A Wonderful History of All the Storms, Hurricanes, Earthquakes, &c." (8vo, London, 1704), occurs [writes the late Sir Henry Ellis, Principal Librarian of the British Museum] the following account of "flames that appear upon the haires of men and beasts : their cause." These are sometimes clammy exhalations scattered in the air in small parts, which, in the night, by the resistance of the cold, are kindled by cleaving to horses' ears and men's heads and shoulders, riding or walking ; and that they cleave to hair or garments it is by the same reason that dew cleaves to them, they being dry and attractive, and so more proper to receive them.'

"The

"'Wandering fires,
Compact of unctuous vapour, which the night
Condenses, and the cold environs round,'

may not, since Milton's days, have so completely disappeared from well-drained England as some of us had supposed."

"A Country Teacher," replying to a previous letter, writes on the same day :—

"Will you allow me to add a little to Sir Digby Pigott's account of the luminous owl, which was published in the *Times Weekly Edition* of December 20?

"I first observed this phenomenon in Shropshire, one evening in February, 1892, and when I mentioned it in school next day I found that several of the children knew of it, and said at once that it was a 'glim ullert' (u broad, as in 'full'). The derivation is obvious, and teachers in other parts of Shropshire have told me that their pupils knew both the term and the thing.

"A pair of these birds (*Strix flammea*) lived in the buildings at a farm about a hundred yards from the school, and I watched them carefully. I saw the luminosity several times, but it was not so bright as Sir Digby Pigott's correspondent observed, and usually lasted only for a short time, though I could see the birds flying about after the luminous gleam had ceased. I never saw both birds luminous at the same time, and I am unable to say whether the male or female, or both, possessed this power. I went to their lair in the barn several times while one was exhibiting its beautiful gleam, thinking to find out which of the pair possesssd the attraction, but invariably found both birds absent. I have seen both birds leave the barn in the evening, one luminous and the other showing no gleam.

"I thought the luminosity might be connected with the electrical condition of the atmosphere, but though it was usually brightest and lasted longest when the electrical potential of the atmosphere was highest, it was not always so. It sometimes happened that neither of the owls was luminous when the air was highly charged with electricity. Nor did the luminosity appear to be connected with the hygrometric state of the air; it appeared indifferently in moist or dry air.

"I could observe nothing to indicate that the luminosity was under the control of the owl. It appeared to come from its breast and the under-sides of its wings and body. It always appeared when the birds were in poor condition, and not at other times. I ascertained this by visiting their lair about midday, after a luminous exhibition on the previous evening. I visited them so often in this way that, after a time, they took very little notice of me.

"When the owl is flying low, *e.g.*, while searching the hedge-side in a country lane, this gleam is not visible; but as it rises suddenly to go over the hedge it exhibits it beautifully, and it is then rather trying to the nerves of horses and their drivers. I have often been startled in this way.

"I have never seen a heron luminous, though I have been told of it by gamekeepers, poachers, and others who have seen it. I once thought I perceived it in a heron I was watching, as it was fishing in the canal one summer evening, but the gleam came from a hedgehog, which was swimming across the canal, and was easily explainable—it was reflected light from the bubbles of air clinging to its spine and hair."

590. **A Duel to the Death.**—Mr. Stuart Dove's narrative reminds me of various Homeric contests I have witnessed. In an old garden at Boxmoor there is a large yew tree, and this is the shelter used by many birds. In stormy weather we used to hear "stormcocks" singing their hardest from the ample shade. One morning, in a path leading from the little lawn on which the yew tree grew, I found two young but fully-grown missel-thrushes, both dead, lying beak to beak: they had died in mortal combat. My son tells me he has found song thrushes dead in this garden; one dead, and the victor singing his pæan in the neighbourhood of the battlefield, doubtless edifying the mate his prowess had secured for him. Recently, in my present house, also at Boxmoor, two sparrows —great fighters—fell down a chimney into a bedroom. So engaged in their duel were they that the sudden descent passed almost unnoticed. They were, however, a little disconcerted by finding themselves in the immediate company of humans, and upon the windows being thrown widely open betook themselves outside to complete the discussion of their differences.

January, 1908. DUDLEY BUXTON.

591. **A Coot in Church.**—When lighting up my church for Evensong yesterday, the clerk was somewhat astonished to see the earliest member of the congregation walking up the aisle in the form of a coot (*Fulica atra*). He had, no doubt, wandered up from the lake (the nearest point of which is about half a mile distant), and, I can only suppose, came into the church for "warm-

ship" rather than worship. He was promptly captured and taken into the vestry, where he remained during the service, and was then set free to continue his wanderings.

S. Catherine's, Bear Wood, Berks. W. V. VICKERS.
January 6, 1908.

592. Swarming of Ants.—I fell into no error as to the *meaning* of Mr. Denning's remarks in No. 560, and I should not have commented on them had he used the word "flight" instead of "swarming." The latter has a definite meaning as applied to bees, and the former applied to ants could not be mistaken, as the occasion referred to is the only one on which they fly.

C. NICHOLSON.

593. By Loch Rannoch, Spiders and Butterflies.—Some years ago I was out on a naturalist's prowl in Perthshire. It was one of those hot still days when everything was reflected in the glassy loch, and I was soon weary of stumbling amongst the sweet-gale and heather in search of the Northern Brown. Yet it could hardly be called a search, since they were in their thousands. I soon got all I wanted, and then made towards the lake shore. Just before I got there I discovered the most splendid spider I have ever seen; its size was very great for a British spider, and its whole body and legs were flaming red. To see this scarlet "shilling" sitting in the middle of its great web was a wonderful sight. I have never again seen one of these spiders, and none of my friends know anything about spiders. It would give me very great pleasure to learn something about this creature. The big brown ones are common on the heather in some parts. I remember seeing a great many in the Abernethy Forest on Speyside, but I did not notice any other large spiders that day by Loch Rannoch.

The previous year a friend of mine had captured a Clouded Yellow (*Colias edusa*) on Rannoch Moor. I think this is rather far north even during an "Edusa year"! It certainly did not look at home on the bleak moor, far away from any cultivation.

Grange-over-Sands, Lake District. R. C. LOWTHER.
January 7.

594. Convolvulus.—Since writing No. 583 I find that Johnson's "Gardeners' Dictionary" and Nicholson's "Dictionary of Gardening" both mention a rose- or red- flowered variety of *Convolvulus sepium* as native in North America and called var. *incarnata*, so that there is nothing improbable in the occurrence of such a variety in this country.

C. NICHOLSON, B.E.N.A.

595.—I have occasionally seen *Convolvulus sepium* with pink flowers. There was a fine plant (apparently wild) in a hedge at Criccieth, North Wales, last year. It is an uncommon form.

Highgate. J. E. COOPER.

596. Wild Herbs.—I think it unlikely that wild herbs would grow well "in or near smoky towns" (p. 12) if the cultivated kinds will not succeed, because the former would be much more susceptible to the adverse influences prevalent in such situations than the latter, which have become more or less inured to smoke, soot, sulphur, and fog. Incidentally, one might ask: "Is it worth while to attempt to grow any herbs for culinary purposes in such localities in view of the amount of filth that must be deposited on the plants, and no amount of washing will entirely remove? The following cultural hints may be useful to anyone who has not been successful hitherto with the sorts principally grown, although the commonest ones do not seem to be very particular in this respect. *Parsley* likes a good open soil, fairly moist, and partial shade in a situation not too exposed, as it is rather liable to succumb to severe frost, especially if protracted. All the other herbs enjoy as much sun as they can get, but the moisture-loving ones must not be forgotten in long spells of hot dry weather. *Borage*, coriander, hyssop, *marjoram*, rosemary, *tansy*, and tarragon do best on a light, dry, and rather poor sandy or chalky soil, whilst a moderately rich, well-drained, sandy loam is best for caraway, *chamomile*, *chives*, dill, *fennel*, lavender, purslane, sage, savory (summer and winter), *thyme*, *wormwood*,

white horehound and southernwood (old man). Rue and *balm* will grow well in a moist heavy soil, whilst *angelica*, *mint*, *chervil* and *pennyroyal* revel in a wet one. All whose names are printed in italics are wild, or have wild allies. Sweet basil is not hardy, and can only be grown outdoors during summer. All herbs should be tied in bunches and dried slowly in a cool place, not in the sun or before a fire.

Hale End, Chingford. C. NICHOLSON.

NATURAL HISTORY QUERIES.

138. **Mistletoe.**—The mistletoe is so well known that few people think of the wonderful process of its growth, or even of its mythological history. Do you think any of your readers could explain the chemical changes which the seed goes through in the passage through the mistletoe-thrush's body—and the nature of its combination with the sap of the tree in which it takes root? I think this would be most interesting. The apple, the poplar, the lime and the may, are the trees I have found it growing on—does it ever now grow on the oak?

The Warnaford, Oxford. C. J. MAURICE
January 7, 1908.

[When the seed does pass through the digestive system of the bird, which is by no means necessary for its germination, there is no reason to suppose that it undergoes any chemical changes whatever. The parasite has often been stated to become grafted upon the sap-wood of the host; as however, it is its roots which penetrate this wood, more detailed observations of the initial stages of the process, which would be difficult to make, would be of interest. There are upwards of a dozen oak trees in Great Britain on which mistletoe is growing.

The following extract from *The Field* will probably interest you.—ED. *N. N.*]

CULTIVATION OF MISTLETOE.

The amateur who essays to grow mistletoe generally makes two mistakes, either of which courts certain failure. The first is to select for propagation mistletoe berries which are unripe, and the second to make an incision in the bark of the branch which is chosen as a suitable position for placing the berry. Mistletoe berries being mostly in evidence at Christmas time, most people suppose, and perhaps naturally, that that season is the best for making the experiment; but a little thought would convince any sensible person that it is quite unreasonable to expect the seed to take hold at a time when the sap of the foster-parent tree is dormant, apart from the fact that the seed of the mistletoe is quite unripe at Christmas.

This important stage is not reached until some months later, when, unfortunately for human experiments, mistletoe berries have been so thinned by the birds that they are difficult to discover. The berries, if protected from the birds, will hang on till the beginning of summer, at which time they are ripe for propagating purposes. It is only necessary to squash the berry with the thumb-nail on the smooth bark of a young branch, when the seed will become securely attached by the natural glue in which it is embedded. In a few months' time two or three small horns will be seen protruding from the three-cornered seeds, and these, turning inwards towards the bark, will attach themselves to it, and in time penetrate to the branch itself.

It may be necessary to cover the seed with some material which, while admitting light and air, will protect it from being interfered with by inquisitive birds. A sloping branch is the best to select, so that the excessive moisture of rain or dew does not remain in the neighbourhood of the seed. The latter is apt to be washed round by heavy rain to the under side of the bough, and some people place it in this position at the outset in order that it may better escape the notice of the birds.

"EAST SUSSEX."

REVIEWS AND EXCHANGES.

Whose Home is the Wilderness. By William J. Long. Illustrated by Charles Copeland. 8 in. × 5¾ in. Pp. 230. Ginn and Co. Price 5s. net.

Every naturalist—every student, that is, of living beings as opposed to the mere anatomist—has probably realised the main thesis of this series of "Studies of Wild Animal Life" by the skilful pen of that born observer, Mr. Long, namely, that apart from specific characters, animals exhibit individuality, psychic if nothing more. That his tales have a philosophic purpose in no way detracts from the interest of the author's narratives; his animals live: and their surroundings are no less vividly set before us, whilst many of the illustrations are charming.

Final Natural History Essays. By Graham Renshaw, M.B. Illustrated. 9 in. × 5¾ in. Pp. 225. Sherratt and Hughes. Price 6s. net.

We are sorry to see the title of Dr. Renshaw's third volume. It completes, as he says in his Preface, a series of sixty essays dealing with mammals, especially those seen in Zoological Gardens, "from the combined standpoint of the zoologist and the historian," illustrated by an excellent series of photographs taken by the author. There are, however, many more mammals—to say nothing of other animals—for the learned doctor's pen and camera, so that we hope we are not to part company permanently. Though antelopes and other African forms predominate, the subjects of this volume are in no way less interesting than those of its predecessors, and many visitors to the Natural History Museum in the Cromwell Road will be glad to have the representation of the case of polar animals in winter dress, which the author names "The White Company."

Some Nature Biographies; Plant—Insect—Marine—Mineral. By John J. Ward. With upwards of 200 Illustrations from photographs by the Author. 7¾ in. × 5¼ in. Pp. 307. John Lane. Price 5s. net.

We sometimes think that photographic illustration is overdone in quantity and misapplied in its subjects. To observe for oneself such biographies as Mr. Ward here records, such as those of the White Admiral, Brimstone, Swallow-tail and Cabbage-White Butterflies, a Hydra, a Horse-Chestnut Bud, a falling leaf, or the Mildew of Wheat, is a liberal education; and to photograph them is a technical feat and secures an interesting record of one's observations; but to look at some one else's photographs instead of the things themselves is far less valuable. Photographs of nearly opaque objects, such as not a few of the botanical subjects in this volume, are, we think, much less instructive than drawings. The skilled draughtsman can render relative values of light and shade far more intelligibly than can the camera. Mr. Ward has done his work excellently both with pen and camera, and the twelve views of the same landscape at monthly intervals, which attracted our attention at the Royal Photographic Society's Exhibition, are a delightfully novel feature and in themselves worth the whole price of the volume.

Guide to the Specimens of the Horse Family (Equidæ) exhibited in the Department of Zoology, British Museum (Natural History). By R. Lydekker. Illustrated by 26 Figures. . 8½ in. × 5½ in. Pp. 42. Price 1s.

It is now a good many years ago since Huxley, in calling attention to the new discoveries which tended to fill up so many of the gaps which Darwin had acknowledged in the palæontological record, insisted on the fossil Equidæ as a demonstration of the theory of evolution, or descent with modification. Since that time the feet and teeth of this series have become familiar illustrations of such evolution. Evidence has been accumulating as to Pleistocene forms in South America, the wild Mongolian horse or Tarpan of the Kirghiz Steppes, the various geographical races of the allied Zebras, and the "reversionary" characters of domesticated hybrids; while Professor Ridgeway's recent elaborate study of the Arab and the application of Mendelian principles to the question, have invested the Stud-book with a new scientific interest. It is, therefore, most fitting that a special series of specimens illustrative of this group should

now be exhibited in the Natural History Museum, and it could not be better explained than it is by Mr. Lydekker—probably our best living British mammalogist—in this Guide. The protective character of the apparently *outré* colouring of zebras is dealt with. To the present writer it has long appeared puzzling that the Tertiary fossil Equidæ should present so large a number of generic types in proportion to the number of species and individuals found, so that there are not many of those minutely graded variations which Darwinian evolution requires. This difficulty is not dealt with in this Guide.

RECEIVED:—*Bulletin of the New York Botanical Garden*, vol. iv., No. 14, 1907; *Bird Lore* for November and December, 1907; *The American Botanist* for November, 1907; *The Victorian Naturalist* for December, 1907; and *The Naturalist*, *The Irish Naturalist*, *Knowledge*, *British Birds*, *The Animals' Friend*, *The Estate Magazine*, *The Agricultural Economist*, and *Progress* for January, 1908.

ASTRONOMICAL NOTES FOR FEBRUARY, 1908.

Mercury will be well visible as an evening star during the period from about February 5 to 20. Near moon on morning of 3rd.

Venus will be also visible in the evenings, setting on the 1st at 7.51 p.m., and 28th at 9.14 p.m. She may be observed about $1\frac{1}{4}$ degrees north of Saturn on the 10th at 8 p.m. On the afternoon of the 4th, Venus and the new moon will be about 4 degrees distant and form an interesting pair.

Jupiter will be brightly visible during the whole night, and present a grand aspect for telescopic observation. He will be near the moon on the evening of the 15th. His position is in Cancer.

Saturn will be perceptible after sunset at the beginning of the month; but will have drawn too near to the sun for observation at the end. Near moon on 4th, and Venus on 10th.

An *occultation* of the star Zeta Tauri (Mag. 3) by the moon will occur on February 11, 12.22 p.m. to 1.19 p.m.

Jupiter's satellites, Ganymede and Callisto, will be seen with their shadows on the disc of Jupiter on the night of the 5th.

W. F. D.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

New Members.—*Central Society.*—The following members were elected at the last meeting of Council: Miss H. Bandulska, A.R.C.S.; Miss Marian Butler; J. H. Raymond de Jersey, Esq.; Mrs. Almeric Fitzroy; Dr. F. C. Knight; Mrs. Knight; Miss F. E. Maskell; Miss M. Moon; Mrs. F. Pierce; Herbert W. Sothern, Esq.; Prof. G. Lyon Turner, M.A.; Mrs. G. Lyon Turner; Miss B. Waugh.

Brighton Branch.—E. Hobhouse, Esq.

Ealing Branch.—Conrad Akerman, Esq., M.B.; Herbert J. Baker, Esq.; Dr. W. H. Baker; Lt.-Col. A. G. Bartley, M.A.; Miss R. M. Bevan-Brown; Stanley Box, Esq., M.D.; Charles S. H. Coles, Esq.; F. Martin Duncan, Esq.; G. W. Edwards, Esq.: Wilfrid Farr, Esq.; D. O. C. Finigan, Esq., M.D.; J. Cliffe Forrester, Esq.; Cyril E. A. Goddard, Esq.; Lt.-Col. W. E. Gowan, Thomas W. Hall, Esq., M.R.C.S.; H. O. Ince, Esq.; Col. Jameson; Dr. John B. Mason; George E. Massee, Esq., F.L.S.; Mrs. H. Meeres; General T. W. Mercer; Mrs. T. W. Mercer; Col. A. Le Messurier; Samuel J. Muir, Esq.; Joseph G. Nicholls, Esq.; Miss Florence Norton; Edward Pinhey, Esq.; John F. Popham, Esq.; Victor J. Prout, Esq.: J. W. P. Rawlins, Esq.; Walter H. Read, Esq.; Col. R. K. Ridgeway, V.C.; D. A. Robertson, Esq.; Miss E. Graham Robertson; Miss Saunders; Miss Helen Saunders: Dr. O. Cardew

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Subscriptions.—The Council has pleasure in acknowledging subscriptions of greater value than 5s. from the following members: E. S. Morphew, Esq., £2 2s.; Lady Farrer, £2; Miss Ellen Lomer, £2; C. Surgey, Esq., £1 6s.; Miss C. Alston, £1 1s.; T. J. Barratt, Esq., £1 1s.; Dr. Dudley Buxton, £1 1s.; Mrs. W. Greenwood, £1 1s.; Mrs. Currer Jones, £1 1s.; Miss E. Nicholl, £1 1s.; W. C. Stapleden, Esq., £1 1s.; C. D. Davis, Esq., 10s. 6d.; Mrs. C. D. Davis, 10s. 6d; A. J. Hall, Esq., 10s. 6d.; Mrs. Robinson, 10s. 6d.; Mrs. Picton Tubervill, 10s. 6d.; Cosmo Blore, Esq., 10s.; E. A. Bristow, Esq., 10s.; Miss Broderick, 10s.; Charles Burt, Esq., 10s.; F. S. Clayton, Esq., 10s.; R. Evans, Esq., 10s.; F. W. Headley, Esq., 10s.; The Rev. F. M. Millard, 10s.; Lady Simeon, 10s.; Mrs. Wilkinson Smith, 10s.; C. W. Ware, Esq., 10s.; Miss Wright, 10s.; Spencer H. Bickham, Esq., 7s. 6d.; Alfred Culshaw, Esq., 7s. 6d.; Miss M. E. Hodgskin, 7s. 6d.: Richard T. Lewis, Esq., 7s. 6d.; Mrs. Paterson, 7s. 6d.; Mrs. Probart, 7s. 6d.; Miss M. W. Ranken, 7s. 6d.; Clifton H. Regnart, Esq., 7s. 6d.; Mrs. R. Congreve, 7s.; Mrs. Ellen Frank, 7s.; Mrs. Osmond Freeland, 6s.

The Committee of the Ealing Branch has pleasure in acknowledging a subscription of 6s. from Miss A. L. Sheale.

Library.—The Honorary Librarian has pleasure in announcing the following additions to the Library: "Birds of the Loch and Mountain," by Seton P. Gordon; "The Fairyland of Living Things," by Richard and Cherry Kearton; "Gilbert White of Selborne," by W. H. Mullens; "Home Life of Marsh Birds," by Emma Turner and P. H. Bahr; all kindly presented by the Editor.

The Honorary Librarian will attend at 20, Hanover Square, from 6 p.m. to 6.30 p.m. on the evenings of February 17 and March 16, for the purpose of issuing books to members.

EXCURSIONS.

Saturday, January 11.—By the courtesy of Dr. A. E. Wallis Budge, Keeper of the Department, fifty-two members and friends met at the British Museum, Bloomsbury, and viewed the Egyptian Antiquities. The party was led by Mr. Spencer, a member of the staff of the Museum, who very clearly gave the history of the most interesting of the exhibits. Despite the usual inconvenience occasioned by the public encroaching into the party, a very enjoyable and instructive afternoon was spent by all. The first exhibit at which Mr. Spencer stopped was the famous Rosetta Stone which was captured by the French at Alexandria; it passed into the hands of the British at the capitulation of that town and was deposited in the Museum in 1802. The stone, which is of basalt, is inscribed with a trilingual decree conferring divine honours on Ptolemy V. in B.C. 195, and was made by order of the priests of Memphis. It has played a very great part in the elucidation of the hieroglyphic writing of the ancient Egyptians. The inscription being in uncial Greek as well as in both the sacred and ordinary characters of the Egyptian, students were enabled to extend their knowledge of the hieroglyphic alphabet, which had previously been fragmentary. Several interesting rolls of papyri were next seen; these were the books of the Egyptians. The paper is of a rough texture and was manufactured from the stem of the papyrus plant which grew in the Nile. The colours in which the hieroglyphics are written were made from earths, and are in many instances as bright to-day as when first the papyri were written. The party next stopped in the midst of the sculptures of the reign of Rameses II., 1333 B.C. Two wooden statues in a marvellous state of preservation dating from 1300 B.C. are specially worthy of note, as they demonstrate very clearly the wonderful preservative powers of Egyptian air and Egyptian dust. On the walls of the next gallery are several tablets taken from tombs which bear the effigy of the occupant and his ancestors to two or three generations. The interior of one tomb (3000 B.C.) bears the earliest form of tomb hieroglyphics, which set forth the offerings which the dead wished to have put for him in the tomb with his body. The Egyptians believed that the soul would at some future time reanimate the same body. Hence they

preserved the bodies of their friends in order that they might be ready. The corpse was handed over to the embalmers, who were a guild of priests. The body and brain-cavities were cleared of their contents, the rest of the corpse being steeped for a time in the preserving fluid, and afterwards the cavities were refilled with spices. Bands of linen cloth were then wrapped around the mummy beginning at the feet and working up towards the head. Two or three thicknesses of painted cloth were added, the outer one bearing a portrait of the dead man, and the whole was enclosed first in a wooden coffin and finally in a stone sarcophagus. The funeral procession was always made by water, usually across the Nile. Certain animals were also frequently mummified, as they were held sacred, so that we find mummified cats, dogs, calves, rams, crocodiles, snakes, apes, jackals, and some birds.

The various implements which were used by the Egyptians in their occupations, and were usually buried with them, show the high state of civilisation to which they had attained : a wig worn by a priestess, for instance, is particularly noticeable on account of the excellent workmanship, and a large number of family gods made of porcelain and bronze were seen. A very gruesome sight was the tomb and mummy of a man who lived long before the Egyptian historic age. The body, entombed in unhewn sandstone with the knees bent up to the chin, is accompanied by the flint implements which the dead man used in life.

A vote of thanks to Mr. Spencer, proposed by Mr. Oke, and seconded by Mr. Hugh Boyd Watt, was unanimously accorded.

FORTHCOMING EVENTS.

Council and Committee Meetings.

Monday, *February* 17.— General Purposes Committee at 5.30 p.m.

Monday, *March* 16.—General Purposes Committee at 5.30 p.m.

Tuesday, *March* 24.—Council Meeting at 5.30 p.m.

Saturday, *February* 22.—Visit to the General Post Office. Assemble at 3.30 p.m. at the north-east door opposite the Goldsmith's Hall. *Members only*, number strictly limited. Members wishing to attend should apply at once to the Excursions Secretary, enclosing a stamped envelope.

Projected Arrangements.

March 28.—Visit to the Church of St. Laurence Jewry. Guide, the Rev. J. Stephen Barrass, Rector.

April 11.—Visit to the Orient Royal Mail s.s. "Orontes" at Tilbury, by kind permission of Messrs. Anderson, Anderson and Co.

Full details will appear in due course.

All communications with regard to Excursions should be addressed to Mr. H. H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

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1. All communications for Nature Notes must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for Nature Notes (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. Boulger, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership, should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, Wilfred Mark Webb, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 219. MARCH, 1908. Vol. XIX.

DEVONSHIRE WOODLANDS.

LONG, trailing brambles, tall, green bracken ferns, giant marsh plume thistles, impenetrable masses of small, bushy nut trees, with here and there between the foliage the smooth, silver stems of a solitary holly or slender abele; then, rising from this thick undergrowth, like pillars decked in green, stand sturdy oaks, their thick-set trunks the main supports of one wide canopy of green; above, below, and all round, wherever the eye rests, all is green, green of every tint and every shade, bright brilliant green—the tell-tale sign of a damp, rainy atmosphere. The air is still and close, for the breeze blowing westward from over the common can hardly pierce the fastnesses of these wild English woods. Using a stout stick, I beat my way out into one of the over-grown rides, where the elegant spikes of the purple loosestrife vie, in colour and size, with the stately foxglove, that seems to droop its blooms in maidenly modesty, self conscious of beauty. The sun emerges from behind a watery cloud, and throws its dazzling light along the length of the clearing, opening the petals of the pimpernels, rousing the lazy hum in the bumble bee, and sending out the two-winged flies in myriads to dance and hover over the umbels of the water dropwort or around the pink labiate blossoms of the wood betony. Watch that volucella (a fly, I believe, which in its larval state is parasitic on the bee), hanging motionless in mid air as the kestrel loves to do. Follow him, too, when he dashes off on quivering wings to seize some tiny midge. Every time he darts away, his cruel jaws close on an unfortunate insect, yet do not blame the volucella, though he be killing all the day; his time will come, and perchance ere long we may recognise his withered form hanging on a thorn with the beetles and bees of a butcher bird's larder. And the butcher bird? He may be in the clutches of a falcon, and the falcon shot by the game-keeper, all haply within the space of the 24 hours. For in nature there is eternal war.

This is a cheerless thought: but to-day I dismiss it and wander down the woodland path toward the gate that leads into the meadow. The harsh scream of the wary jay grates on the ear, but the melodious trills of the chiff chaff, mingled with the jolly prattle of the tits, carry one back in thought to the swelling harmony of early spring. A large fritillary butterfly floats airily down the glade with its easy uncertain motion, then on and away above the flowers and bushes, over the tops of the oaks. That clear resonant "twit twit" comes from the "little instrumental throat" of the nuthatch, a bird both interesting and beautiful, and luckily very common in wooded districts. Look carefully, and you will presently catch sight of his gaudy coat of blue and yellow, as he runs up and down the branches of the tree, woodpecker fashion, catching up an insect from here and there between the bark as he goes. A weasel slinks across from one bush to another and disappears; a despicable little skulk is the weasel, though plucky, for all that, when hard pressed.

So there is wild life in England still, but enjoy it while ye may, for the times are changing and so are we, and all things in them. Already the fox has left these parts, and the red deer is but rarely seen; the only badger holt, a big burrow at the other end of the woods, has long been deserted, but the bottom of the old ash tree, where these bear-like creatures used to scrape and clean their feet in wet weather, tells the tale on its torn and muddied bark of their former presence. The squirrel, however, is common enough. How this sprightly imp jumps and scuttles among the trees—especially when frightened! occasionally it stops, and immediately, as if by magic, disappears. But in a moment or so the patient observer will see it again, or rather a part of it. For out jerks the little brown head with its wee brown eyes, out from behind the tree trunk where he is concealed; but almost as quickly it withdraws the pretty face, and then, probably, unseen to us makes off and does its best to keep out of sight for the rest of the day. A coquette, perverse yet charming!

The dormouse, too, is often viewed towards evening pattering over the fallen leaves "with bickering brattle," or stealing the nuts from the hazels in bold security.

This is the end of the wood; leaning on the gate I stay and take my fill of beauty undisturbed. Far away down in front (for the wood lies on the slope of a hill) stretches a great valley, in shape like some huge trough or empty hulk, and down its middle runs a narrow river. Its banks are thickly clothed in firs and dense Scots pines; then in a serried crowd rank after rank they creep up the valley's side, till on the highest ridge their conic tops stand out against the sky like jagged peaks of lofty crags. The little river itself, as soon as it enters this Happy Valley, seems awed by the exceeding beauty of the spot, and flows through it with calm waters and a straight course down to the place now hidden from view, whence, when the wind is low, the sound

of its rush and roar as it whirls over the falls in a shimmering sheet of glass comes up over the hill on the soft, sweet-scented air, and tells of the clear, cool water far below. I love to come and gaze on the great natural amphitheatre down which this river glides, and the memories of it I store away into my heart.

"Hi! did 'ee zee any rabbits out by the coppice as ye came along?" I half turned round to find it was old Simon Oare, the rabbit trapper, who was calling me from the bottom of the field. He was standing on the hedge and was evidently rabbiting, for he held a ferret in one hand and a sack in the other.

"No," I answered, "I did not."

"Hump," said the old man, and climbed down over the hedge into the field. I opened the gate and moved down towards him. He is tall and uncouth, dressed in gaiters and breeches, and a very antiquated tail coat. On his head reposed a ragged cap, which, apparently with supreme indifference, he had allowed to drop from its peg to his venerable skull; unfortunately, the cap fell "all of a heap," for the peak hung over his left ear and the lining over the other!

"Cunning little toads they rabbits," he murmured, "can't get 'em to bolt no ways. They'm more cunning than I be." An amusing old gentleman is Simon, and a great hero with his friends, for he has been to the wars, and requires little persuasion to induce him to relate the whole of his military history, or to "shoulder his stick and show how fields were won." We walked up the road together towards the village, and many an interesting tale he told, which I one day hope to repeat.

It was growing late and the rain began to descend in large, round drops. They fell on the leaves and flowers, where they glistened in the sun's last rays; then the clouds rolled over, and, as Virgil says, dark night came on apace.

14, *Cross Street*, BRUCE F. CUMMINGS.
Barnstaple, North Devon.

A BIRD'S EDUCATION.

YEARS ago there was a ready answer to every difficulty in the animal world we could not explain and did not understand. A cat was said to return home from a distance, a calf to seek its mother's teat, or a bird to make its way over the ocean, because it was their "nature" to do so. And this nature was looked upon as a blind instinct or innate fate. A creature possessed by it performed all sorts of complex acts without previous experience, instruction, or forethought. It did them, or was forced to do them, automatically, like a penny-in-the-slot machine that registers one's weight. By-and-by this universal panacea, blind instinct, ceased to satisfy, like most answers do sooner or later, that are no answers

at all, and leave us none the wiser. Nowadays we are waking up to the conclusion that many of the lower animals are endowed with powers foreign to, or beyond, our own experience, and that they have an intellect in some respects exceeding that which we ourselves possess.

Lessons in flying received by young birds from their parents have often been seen and described, but as they may be taught by imitation or example only, I need not say more on this branch of their education.

Birds that have not been brought up in a nest either make very poor attempts, or are quite unable, to build one. If a small bird be taken from the nest when one or two days old, and be reared by canaries on a piece of flannel, it will not be able to make a nest like that in which it was born. But if it be left in the nest for a week or ten days its brain will be sufficiently developed either to profit by the instruction given by the parents, or to remember the construction of its old home, and will build one like it. Young married couples are not such adepts at building as older ones, and after a season or two improve considerably in their work.

A finch reared by foster parents adopts their notes and call instead of those usual to its kind. The uninitiated sometimes look on a singing sparrow as a valuable curiosity. The deception is perpetrated by rearing the sparrow under canaries: it soon learns, though in a feeble way, to imitate the notes of those that brought it up. The call note is learned in the first two or three days of a bird's existence.

Up to a certain point the language of birds is well known, and those who make it their study are able to interpret much of its meaning. The *cave* of the blackbird, swallow, or tomtit, is as familiar to the ornithologist as to the birds themselves. He recognises at once their notes of joy, pleasure, love, warning, alarm, distress or pain. Does their language go beyond this? Is it capable of imparting ideas and instruction? Do birds give advice to their young, and teach them from their own experience by word of mouth?

Some of the migratory movements of birds are beyond human ken, and ever will remain an unsolved mystery. There are, however, certain facts connected with these movements which point to a power of imparting or receiving knowledge and instruction such as we hardly expect to find in any of the lower animals.

In the case of 400 European species of birds, with the single exception of the cuckoo, the autumn migration is begun by young birds from six to eight weeks old. Two months later the parents follow. How do these young birds set out on an unknown journey thousands of miles, and find their way without a guide?

To account for this there are many theories. One is the theory of "magnetic sense," by virtue of which birds travel in a

magnetic direction towards or away from the poles. This helps us very little, because at the very time that some birds are migrating north or south, others are travelling east or west, while several species in flying to their spring destination, instead of taking a direct line go two sides of a triangle and return by the third side in the autumn.

Another theory is called the "sense of direction," such as is more possessed by savage tribes than by the civilised. Civilised man cannot travel in a straight line without aid or guide: he almost always turns involuntarily to the left, and wanders in a circle. The savage gains his "sense of direction" by much experience. He usually lives a roving life: he notices the lie of the ground, or the growth of the trees, and this or that object by which he is enabled to find his way. Young birds can have no experience when travelling for the first time, and there are no marks or objects to guide them in a long journey across the sea.

The theory of "local memory" cannot be of any assistance to a young bird setting out on a journey of thousands of miles.

Then there is the theory of "inheritance of collected memory" or "tradition." This might be, and probably is, of assistance to those that have made the journey before, but could in no way help the young unless they were accompanied by the old birds to point out the way.

A migratory column of birds is a broad front hundreds of miles wide, and corresponding with the latitudinal range of the breeding area. Its course is not guided by the "conformation of the land"—still another theory—for migrants "do not follow ocean coasts, rivers, or valleys." Some American birds (so Heinrich Gätke, author of "Heligoland," tells us) make the journey to Ireland, a distance of "four thousand eight hundred miles, in *nine hours;*" and during nearly the whole time are out of the sight of land.

Amidst the many theories is it beyond the bounds of possibility that birds impart to their children the knowledge they themselves possess of foreign lands; that they teach them when, and where, and how to make the journey, and the precautions to take so as to arrive safely in the land to which they themselves will follow, a little later in the year? If it be true that the first six or eight weeks of a bird's life are spent in the company of its parents, and that then it sets out on a long journey with companions of its own age only, and goes with "unerring certainty" to the very country where its parents had been the year before, we are almost driven to the conclusion that the knowledge required for such a journey must have been imparted by the parents and in no other way.

Most birds have a good deal to say to each other in their own particular way, and when in company engage in much merry conversation. We have only to listen to the sparrows in

the ivy on the walls of our house, or to the starlings on the roof, to be convinced of this. We call their language by various names, and look on it as a song, a chirp, a twitter and the like; and suppose it to consist principally of senseless chatter, because we know so little of its meaning. But somehow or other, a vast amount of learning and instruction is compressed into a short space of time, and at the end of two months a bird's education is sufficiently advanced for it to shift for itself, and to battle its way in the vicissitudes of a wandering and eventful life.

EDMUND THOS. DAUBENY.

ABOUT STOCK DOVES.

EVERY Londoner knows the bulky form and waddling gait of the Wood Pigeon, once regarded as essentially a denizen of the woods and fields, though now a familiar object in many of the by-ways and open spaces of the great metropolis; but few, probably, can claim acquaintance with the beautiful little bird, likewise a native of these shores, that forms one of the small groups of British pigeons, and is known to naturalists as the Stock Dove.

With the exception of the English Turtle, it is the smallest of the four varieties found in a feral state in these Islands, and is, by nature, active and shy. By many, even at the present day, it is confounded with the Rock Dove, to which bird, indeed, it bears at first view some slight resemblance, principally owing to the fact that its body-colour is somewhat similar, and that the black bands of the wings are present, though in a modified form. These markings in the *Columba œnas*, by which name the Stock Dove is known to scientists, consist in reality of spots, and do not form a continuous band, as in the case of the Rock Dove. In both birds the plumage is bluish-grey, varying in intensity at different points, but beyond this the two have little in common.

Formerly the Stock Dove was regarded as the progenitor of all the domestic races of pigeons, not, it must be admitted, without some apparent reason, for what is more plausible than to connect the specific name of the species with the "stock" or "stem" of the cultivated breeds? More recent research has, however, laid the matter conclusively at rest, and the Rock Dove (*Columba livia*) is now universally recognised as the originator of common and fancy pigeons the world over. We find the species variously distributed in England, but it is more frequently met with in the Midland and Southern counties.

When at large the Stock Dove frequents woods and copses, often congening with the Wood Pigeon and, like that bird, it feeds chiefly upon beech-mast, pulse, small grain and acorns. For nesting purposes, holes in stumps and trees are utilised—where such are available, but not infrequently the pigeons will

resort to the disused burrows of a rabbit warren—especially when these happen to be situated at an elevation. It was during a sojourn on the borders of Kent and Sussex that the writer chanced upon a colony of Stock Doves that had taken up their quarters on a high, sandy cliff overlooking the waters of Rye Harbour. There were no trees in the immediate vicinity, and from the foot of the cliff, which commands a magnificent panorama of the surrounding marshland, one could discern the pigeons as they alighted and entered the rabbit-holes that studded its side. An ascent from the front being no easy matter, the hill was skirted, and an approach made from the rear under cover of a thick hedge that crowned the summit of the cliff. From this coign of vantage it was possible, after considerable waiting, to obtain a good view of the birds at short range; and if it required the exercise of some patience, the effort was well rewarded, for one by one the pigeons descended with rapid flight and, after a momentary pause, entered the burrows. As the birds wheeled about in the dazzling sunlight, the tinsel-like feathers of their necks flashed a hundred brilliant rays, and gave to the picture an indescribable charm. These metallic feathers form a conspicuous feature in the Stock Dove and are far brighter than the iridescent markings that adorn the neck in other pigeons.

An attempt to reach the birds after they had entered their retreats proved futile, for they were far back in the burrows—well, in fact, out of arm's length—leaving no sign save a few stray feathers to betray their presence. The farmers in the district call them "sand pigeons," and one native of whom enquiry was made referred to them as "Rock Doves," evidently mistaking the birds for *Columba livia*, which species, however, seldom travels so far inland.

Numbers of Stock Doves are taken annually from this cliff by lads and others residing in the neighbourhood. A rabbit-net is placed over the hole containing the bird, and the ground immediately above is beaten vigorously with a stout stick or "bat," as it is locally termed. The effect is to drive out the quarry, which is then easily captured. During the summer Stock Doves live in pairs, rearing, generally, two nests of young. In the autumn, however, they flock in large numbers, and remain congregated during the winter. At this time they desert their more exposed nesting places, and seek the seclusion of the woods, which they leave only when in search of food.

For the sake of their natural beauty and active habits, Stock Doves make desirable inmates of the ornamental or garden aviary. If undisturbed they soon become accustomed to their surroundings, and thrive well on the diet of domestic varieties. Nevertheless, they seldom altogether lose their instinctive love of freedom, and struggle vehemently at any attempt to catch them, battering themselves wildly about if startled or otherwise frightened.

A. A. Goodall.

BIRD NAMES.

"WHAT'S in a name"? is often quoted, when the worthy speakers intend to remark on the unimportance of a mere name. But it must be admitted that names are often surprisingly interesting, and the names of birds and beasts and flowers are especially so. A brief study of the derivations of the names of our birds is bound to be interesting, and is sure to repay the searcher with many out-of-the-way facts and quaint bits of folklore. Words, when they represent our wild birds, can be made to live; and their study becomes, not the dry philology of students, but a really interesting bye-path of knowledge. Let us investigate some of our bird names, and we shall be surprised at the real meanings of some of them.

Many names are onomatopoetic, that is, their meaning is suggested by their pronunciation; many birds take their names from their colour or appearance, while others derive theirs from their habits, their favourite haunts or their usual food.

Among onomatopoetic names one at once thinks of Cuckoo, Chiff-chaff, Owl, Shrike and Turtle (dove). These names are generally very old, and are often very similar in most languages; thus Cuckoo, for instance, becomes in French "coucou," in German "kuckuk," in Dutch "koekoek," in Italian "cúculo," in Spanish "cuclillo," and in Portuguese "cuco." "Pigeon" comes through French from Latin "pipio," to chirp, which word is itself derived from the tiny note of a nestling bird.

Familiar examples of colour names are Blackbird, Goldcrest, Whitethroat and Blackcap; but "Fieldfare" comes under this heading, for the "field" has nothing to with pastures, but is derived from A.S. "fealo," yellow, the bird's throat and breast being of that colour. We call a jay a jay because of its splendid plumage, for its name comes from Sp. "gayo," which is synonymous with our word "gay"; few will deny this brilliant bird its name. "Robin" may be derived from Lat. "rubecula" (its scientific name to-day), from "rubeo," to be red, but it seems more likely that our Anglo-Saxon forefathers gave this bird, on account of its pert familiarity, a proper name, Robin, which is a popular form of Robert. We know they were formerly fond of thus christening birds, for we hear of Jenny-wren, Jack-heron, and Philip Sparrow, while Tom-tit remains to this day The Starling is named from the starry spots on its plumage, and many other birds are directly or indirectly named from the dress they wear.

A large number of birds are named from habits, haunts or food. Wryneck, Woodpecker, Lapwing, and Wagtail at once occur as examples of the first class, which need no explanation; Dunlin (from Gael "dun," a hill, and "linne," a pool), Plover (from Lat. "pluvia," rain, hence wet places) and Woodcock, furnish examples of the second; and Kingfisher, Sparrow-hawk,

Oystercatcher, and Flycatcher illustrate the third. The following are interesting: Kestrel, from Lat. "circo," to go round, named from its habit of hovering and wheeling in circles; Wren, from A.S. "wraene," playful, an appropriate name for his little favourite; Lark, from Old Germ. "lären," to sound or sing, truly a good name; Dove, from A.S. dufian," to dive, an allusion to its dipping flight; and Heron, from Ger. "reihen," to scream. "Chaffinch" is chattering finch, the bird having no connection with the corn-shop, at least, that is, as far as its name is concerned. "Goose" and "Gannet" can both be traced through Ger. "gans," to root, "gahnen," to yawn; while "Cormorant" is a corruption of Lat. "corvus marinus," and means literally "sea-crow." Some of the commonest names are the most difficult to derive; thus "Gull" may come to us, either from Brit. "gwela," to weep, an allusion to its wailing cry, or from Lat. "gulo," a glutton, and anyone who observes gulls—even Londoners can now—will understand that either supposition is feasible. Superstition supplied many names in the past, but as the old beliefs were exploded, the names died out, or at best survived only in rural districts. An exception is the word "Goatsucker," which unfortunately still sticks to *Caprimulgus europæus* formerly accused of robbing sleeping goats of their milk, but "Nightjar" is more suitable, and should be allowed to supersede the other slandering epithet.

Now for a few miscellaneous and rather surprising derivations. The "Knot" is supposed to be named after Canute, who is said to have had a fondness for its flesh. As even the most ardent investigator cannot ask Canute now, the derivation may be accepted for want of a better. The Pheasant is not a native of England, but was introduced from Asia Minor, and from one of the rivers of that peninsula—the Phasis—it takes it name. The familiar Martin was named by the French peasants after St. Martin, while the little Stormy Petrel is named after St. Peter, because of its habit of apparently walking on the water, as the great apostle attempted to do.

The above derivations are only a selection; nearly every one of our birds possesses some interesting name which, traced to its origin, often leads to surprising pieces of information. It is, too, usual to completely separate book-work from field natural-history, but surely the two are complementary. "A rose by any other name would smell as sweet," yet one looks with more pleasure on the familiar wren, when one knows it is named from its playfulness, or on the lark when one knows its name means the singer. One cannot help loving the birds more when one knows the meaning of each one's name, and a few moment's hunting in the dictionary is amply repaid by the pleasure it affords to the seeker. C. S. Holder.

SELBORNIANA.

Tree Photographs at the Natural History Museum.—Mr. Henry Irving has just completed his magnificent display of photographs of British trees in the Central Hall of the Natural History Museum in Cromwell Road. The trees are each represented by two large views taken from the same position in summer and in winter respectively, and by a nearer view exhibiting the detail of the bark. Many other structural points are also illustrated in this display, which should do much to advance among Londoners the now growing taste for our trees.

Tree Photographs in the Natural History Museum.

Marlborough Grey Wethers.—The National Trust has an option to purchase some examples of the Sarsen Stones on the Marlborough Downs which are traditionally known as the Grey Wethers. These Sarsen Stones are geologically hardened and solidified portions of a stratum of Eocene sand which formerly covered the Chalk. In the course of ages the sand has been denuded, and these Sarsens alone remain. They vary in size from small boulders to vast masses of 60 to 70 tons. They are found as scattered blocks over a wide area of the Chalk country; but in the neighbourhood of Marlborough are in

The Grey Wethers, Marlborough.

several places congregated together in such vast assemblages —following the windings of some narrow combe or "bottom" of the Downs—as to suggest the idea of a river of stones. Two of the most remarkable of these assemblages are those to be found in Lockeridge Dean and Pickle Dean; the latter collection, from the fact that the narrow valley containing the stones is actually crossed by the Bath Road some four miles west of Marlborough, has been known ever since the old coaching days more particularly as the valley of the "Grey Wethers" (from the resemblance of the stones in the distance to a flock of sheep). Lockeridge Dean lies rather to the south, and, in spite of much destruction of the stones in past days, still contains perhaps the largest "Sarsens" now to be found *in situ* anywhere. There can be little doubt that it was from this neighbourhood, perhaps from this spot, that the great Sarsen monoliths of Stonehenge came.

For many generations these stones, scattered widely over the Downs, have been broken up and used for building and other purposes, mainly of a local character, but the "quarrying" (if the term is permissible) has not been on such a scale as to make any appreciable difference in the appearance of the Downs. In consequence of a recent change of ownership, however, there is every probability that the work of breaking up the Sarsens will be undertaken on a greatly extended scale. In the ordinary course, the Grey Wethers in Pickle Dean and Lockeridge Dean would be the first to go, owing to their situation adjacent to high roads; while for the same reason their disappearance would be a greater loss to the public than the disappearance of those in more remote parts of the Downs.

Under these circumstances it was felt that steps ought to be taken to secure the preservation of some characteristic examples of the stones in their natural condition, and representations were made to the owner by the National Trust and by the Wiltshire Archæological Society. Mr. Alec Taylor, the present owner, met the representatives of the two Societies in a friendly spirit; he stated at once that he intended to preserve the Dolmen, known as the Devil's Den, and after some further negotiations he has given the National Trust an option to purchase about 11 acres in Pickle Dean and about 9 acres in Lockeridge Dean for £500.

For this sum, therefore, with some addition to cover legal and other necessary expenditure, an appeal is now made jointly by the two Societies. If the money is forthcoming, characteristic examples of a unique geological phenomenon will be secured for the nation, and the Pickle Dean valley will remain in possession of those Grey Wethers which have for generations formed a curious and picturesque feature of the country traversed by the Bath Road. About £200 is still required.

L'Association pour la Protection des Plantes.—We have received the twentieth *Bulletin* of this Association, containing the

Address of the President, M. Correvon, for 1901-7. It appears that the Association is to be merged in La Ligue Suisse pour la Protection des Beautés naturelles (Heimatschutz). Speaking of ourselves, M. Correvon writes:—

"La 'Selborne Society,' notre sœur d'Angleterre qui, sous la présidence de Lord Avebury (c'est le nom actuel de notre excellent ami Sir John Lubbock), poursuit son œuvre saine et pratique. Nous recevons chaque mois sa belle et très intéressante publication, qui nous tient au courant du travail vraiment énorme qu'elle accomplit; il faut bien le dire, grâce à des capitaux dont nous autres n'avons aucune idée."

REVIEWS AND EXCHANGES.

The Sea-shore: shown to the children by Janet Harvey Kelman, described by Rev. Theodore Wood. With 48 coloured pictures. $6\frac{3}{8}$ in. × 5 in. Pp. 146. T. C. and E. C. Jack. Price 2s. 6d. net.

Clearly printed on good paper, illustrated with excellently drawn and well-coloured pictures, and strongly bound, this first-rate pocketable volume tells in simple but accurate language just what children at the sea-side want to know about fishes, molluscs, crabs, sea-worms, starfishes, jellyfishes, sea anemones, sponges, and sea-weed.

The Minimising of Maurice, being the Adventures of a very small Boy among very small Things. By Rev. S. N. Sedgwick. Illustrated with 36 photographs. $7\frac{1}{2}$ in. × $5\frac{1}{4}$ in. Pp. 150. Elliot Stock. Price 5s. net.

These are prettily told chapters of not too obtrusively didactic Natural History, based on the same fancy as Mr. Druery's *New Gulliver*, which we reviewed a few years ago. We think that it would prove an acceptable book to read aloud to small folk.

Forage Crops. By Dr. E. B. Voorhees. With 63 Illustrations. $7\frac{3}{4}$ in. × $6\frac{1}{4}$ in. Pp. 384. The Macmillan Company. Price 6s. 6d. net.

This is a practical guide to crops suitable for forage and ensilage in New Jersey, including various millets, sorghums, teosinte, &c., of which our farmers have never heard. Interesting tables of analysis into water, ash, protein, "fiber," nitrogen free extract and fat are given.

Where to Live Round London: Southern Side. With a Chapter upon the Geology and Subsoils, by W. H. Shrubsole. Second Edition. $7\frac{1}{2}$ in. × 5 in. Pp. 204. With 10 Illustrations and 5 sketch railway maps. Homeland Association. Price 1s. net.

It is difficult to imagine a handbook for the house-hunter which could contain any useful information which is not provided in this volume, while the illustrations are calculated to make one want to live in ten places at once.

The Literature of Roguery. By F. W. Chandler, 2 vols. $7\frac{3}{8}$ in. × 5 in. Pp. 584. Constable. Price 12s. net.

This is a most comprehensive analysis of the indirect psychology of roguery as represented in literature, and can hardly, therefore, be denominated Natural History.

RECEIVED: *The Fifth Annual Report of the Horniman Museum*, and *A Handbook to the Vivaria and Aquaria* (Second Edition), from the London County Council; *Board of Agriculture and Fisheries Leaflets*, No. 195, *American Gooseberry Mildew* (*Sphærotheca mors-uvæ*); No. 199, *A Pine Disease* (*Diplodia pinea*); and No. 202, *The Frit Fly* (*Oscinis frit*); *The American Botanist* for December, 1907; *Progress* for January, 1908; and *The Naturalist*, *The Irish Naturalist*, *Knowledge*, *The Animals' Friend*, *The Humanitarian*, *British Birds*, and *The Agricultural Economist* for February.

NATURAL HISTORY NOTES.

597. Rats.—It is difficult to say anything fresh about these animals, for everybody is quite sure that he knows all about them. However, judging by the newspapers, public opinion is being roused to the great injury they do, and the nuisance they are almost everywhere. It would be worth while for our County Councils to take the matter up, and employ persons skilled in the destruction of rats to set to work systematically the country through. Much good might be done, not only in killing them, but also in pointing out where they harbour on our premises, and how these haunts could be discovered and destroyed. In combating the rat, the virtues of the weasel should be kept in sight, a policy I have advocated for many years. Many farmers round here preserve the weasel's life. They find he is their friend, and not their foe. Let me give a case. Two ricks close to each other in a farmyard were threshed, one of which was full of rats. The other was tenanted by a weasel, not a rat in it, but about thirty freshly killed mice, which the weasel had caught for itself and its family. The farmer knew the value of the weasel and saved its life, and it will probably reward him by saving another rick or two. Sometimes, in passing to leeward of corn ricks, I detect the smell of mice at a distance of 100 yards or more. The amount of grain destroyed by mice is very great. Why persecute the weasel, the natural enemy of rats and mice alike? Unfortunately, weasels are very like stoats in the eyes of the uninitiated, and I am quite unable to defend the stoat's character.

South-acre, Swaffham. EDMUND THOS. DAUBENY.
February, 1908.

598. Golden Oriole.—One of these birds, a male, has been seen about here on December 24 and January 7. These birds usually come here in the spring and leave in the autumn. As this bird is settled in safe quarters, where its life is respected, I hope it will survive the winter and rear a brood this spring. About here our Norfolk squires do what they can to preserve the lives of rare birds, and have persuaded their keepers to do the same. It was but a few days ago a keeper told me of a "large hawk," probably a hen-harrier, which he had seen frequently of late, and was determined *not* to slay. Keepers are looking up a bit at last! EDMUND THOS. DAUBENY.

599. A Sign of Spring.—The return of the peewits to their breeding grounds is one of the earliest signs in the open fields of the welcome coming of spring. Seen (as to-day, February 28) on some stormy day, when the black rain-storms come riding up over the high ground on a bitterly cold north-west wind, as at intervals the dark rain-clouds pass by and the sun, now growing stronger, streams out in glory with a perceptible and welcome warmth, we enjoy and appreciate the appearance of the peewits on the bare bleak hill, their chosen breeding ground. The sunshine which lights up the hillside, covered with short withered mossy grass ("whitey-brown," dashed with green), and makes the arable land glow into fox-colour where it has been newly worked, glints with dazzling effect on the white plumage of the peewits in erratic flight. Here and there we see a bird standing motionless and contemplative; but they are not still for long together, twisting up into the air with joyous cries, toying with one another up aloft or making short excursions into neighbouring fields and fallows to feed. They do not stay away long; soon they come restlessly sweeping back to their spring home, to shoot along close to the ground and then alight as perhaps only a peewit can alight. They touch the ground just as a large soap bubble touches it, and almost seem as if they must bound gently forward. Thomson is very fine on the peewit's flight, although his lines apply to a rather later period:—

> "Hence, around the head
> Of wandering swain, the white-wing'd plover wheels
> Her sounding flight, and then directly on
> In long excursion skims the level lawn,
> To tempt him from her nest."
>
> (*The Seasons*, Spring.)

So too Tennyson:

> "And the tufted plover pipe along the fallow lea."

A scene like this brings home to one better than anything else, in our bleak North Oxfordshire, the fact that despite morning frosts, cold winds, black storms and sprinkles of snow, we are really within touch of spring. Though so changeable is the weather that scarce know

"The Plover when to scatter o'er the heath
And sing their wild notes to the listening waste,"

(Thomson.)

yet spring *is* here. The sweet breeding cries, *poolie poolie teee weeep*, are instinct with the spirit of early spring, and speak as eloquently to our ears as will Cuckoo's note and the Swifts' scream of a later stage in their joyous season.

Bloxham, Oxon. O. V. APLIN, F.L.S.

600. **The Little Auk.**—It may be of interest to your ornithological readers to hear that on January 10 last a labourer named Taylor, living on Mr. Sinclair's farm, Flexford, Wanboro', Surrey, discovered a small web-footed bird taking shelter underneath a coat which he had laid on the ground. He took it to a friend of mine living at Flexford, who recognised it as a Little Auk, having seen and identified a specimen which had been captured in the same neighbourhood thirteen years previously. My friend tried to feed the bird with fish, but it died in five days, and is being stuffed by Mr. Braddon, of Guildford. It is a female. I observe from my Yarrell that the Little Auk, *Alca alle*, or *Mergulus melanoleucos*, is an Arctic bird, not breeding in the British Islands, but is a winter visitor to the northern parts of them, and it is not unusual for stray specimens to be found in the southern counties in very severe weather, such as occurred at the time when the Flexford capture took place.

I have a note that on January 8 we had a heavy fall of snow, and on the 9th a strong wind from the north-west, and that there were from 19° to 20° of frost on the night of the 10th. M. J. T.

601. **Luminous Owls.**—Much interesting correspondence has taken place on this subject. The luminosity of the feathers of the barn owl is supposed to arise from phosphorescence or from electricity. When emaciated or dying these luminous conditions are said to be increased.

The body of the barn owl is of a beautiful "yellowy buff" colour, which does not readily reflect the rays of light, and renders it almost invisible at night. The feathers of "the chin, throat, and breast are of a pure silky white." If a ray of light falls on such a surface as this, the result is that the light is reflected from it as if it were a mirror. This sheen is simply reflection, and not of phosphorescent or electric origin.

One evening when driving home I noticed an owl, dimly discernible in the darkness, flying the other side of the hedge at the side of the road, and keeping pace with the carriage. After going about fifty yards, the bird turned and faced me. There was a flash of light, as if some ghost had suddenly appeared from the darkness. My friend was startled, and my mare tried to bolt. The lights from the lamps had been reflected from the "pure silky white" feathers of the owl's breast, so as to cause the sudden apparition, which instantly disappeared in the darkness as the bird turned away. Cases like this have come to my notice many times. Even a faint glint of rays of light from the horizon is sufficient to cause similar effects, though perhaps in a less startling manner.

It is said that luminosity, whether phosphorescent, electric, or otherwise, is of service to the owl in securing its prey. This is difficult to understand, for it is probable that it would have much the same effect on its prey that it had on my horse, which was fright and an attempt to run away.

When hunting, barn owls do not seize their prey with the bill, nor does the "breast of pure silky white" come into play. On seeing a mouse the owl stops in its flight, suddenly drops upon it and seizes it in its talons with outstretched legs. The white owl in a barn "sleeps with one eye and one ear open. There is a slight movement invisible to human eye, a slight rustle inaudible to human ear, in the straw below. In a moment he is all eye, all ear. The tucked-up leg joins the other, the head is bent forward and downward, the dark bright eyes gaze with an almost painful intensity on the spot from which the rustle comes. The mouse or rat shows itself in a moment again. Without one movement

of his wings, and without tremor of the air, he drops upon his prey. There is hardly a struggle or a cry, his long sharp talons—and no bird of his size has such long and sharp talons—have met in the vitals of his victim, and he flies back with it grasped tightly in them to his coign of vantage."

There are grounds, then, for saying that the breast of the barn or white owl is not in itself luminous, and that luminosity is not a factor in its search for food.

EDMUND THOS. DAUBENY.

602. Luminosity in Owls.—I have not seen the discussion on this matter in any of the daily papers, but have no doubt that a vast amount of nonsense has been written, as is usually the case. The editor of *The Country-Side* suggests that either (1) the owl was not luminous at all, but, being a barn owl and therefore very white, the irradiation natural to white objects in a dim light gave the impression of a distinct luminosity, aided perhaps by some unusual condition of the atmosphere; or (2) that some of the refuse fish or flesh in its nest had become phosphorescent—a not unusual phenomenon in stale fish—and adhered to the bird's feathers. This latter idea is supported by "A Country Teacher's" notes (p. 34), where he says the "luminosity" appeared to come from the bird's underparts. The writer of the ornithological notes in *Knowledge* suggests that the oil gland may have become diseased and the resulting secretion rendered phosphorescent thereby. The notes on p. 33 by the fisherman and in "the curious book" seem to refer to St. Elmo's fire, a not uncommon electrical phenomenon, which seems to have no connection with the question.

C. NICHOLSON, B.E.N.A.

[Another suggestion (in the February issue of *British Birds*) is that a feather-fungus is answerable for the luminosity. As, however, one of the "luminous" owls is stated to have died and to have been sent to the Natural History Museum, we shall soon, doubtless, have the mystery set at rest.—ED. *N.N.*]

603. The Parental Instinct.—The incident of the bullfinches and that of the duckling are easily explicable if it be borne in mind that "instinct" is merely the "inherited experience" of the species in question. There is very little "intelligent accommodation" exercised in nature, I think, but a very rigorous selection, resulting in the "survival of the fittest" and "the weakest (*i.e.*, unfit) going to the wall." The animal which does not obey the involuntary promptings of the inherited experience of untold generations will suffer extermination in all probability, and its descendants, if any, will suffer likewise, if they inherit its disobedience.

C. NICHOLSON.

604. The Bittern.—*Country Life* of February 1 says: "Few English birds are of more interest than the bittern, whose booming used to be one of the most regular and melancholy sounds in the neighbourhood of marsh and mire. It is therefore pleasant to hear that the bird is not extinct, as was at one time supposed. Mr. Wm. H. Davison writes that when shooting at Henley Park, in Surrey, midway between Guildford and Aldershot, he saw one fly slowly over the keeper and himself. 'Shot,' of course, is the usual end of such an incident; but in this case it happened to be a bird-lover who saw the bittern, and it was allowed to go unscathed. Since this has been the case, we hope that every gunner, if he happens to come across it, will be equally mindful of the rarity of the bird and repress any desire to shoot it. Early in last century, as we can see from references in various poems and folk-lore, the bittern was a common bird under the name of butter-bump. Everybody knows the reference to it in Tennyson's 'Northern Farmer,' and there is an ancient adage in the North which runs: 'When the butter-bumps cry, summer is nigh.' In Yorkshire it used to frequent the Carrs, but deserted them about 1750. How common they were is proved by the fact that in weather-lore it was accepted as a certain indication of rain, or something worse, when their melancholy voice was heard above Potteric Carr."

"BITTERN CAUGHT IN YORKSHIRE.—A fine specimen of the bittern, now very rare in England, has been caught at Bishop Monckton by a youth named Charles Underwood. The bird attacked the boy on his approach with great ferocity. With assistance it was knocked down and secured."—*The Lancashire Daily Post*, *January* 27, 1908.

In neither case is the date of observation given, but it seems possible that the bird has escaped destruction in Surrey only to be caught in Yorkshire.

W.

605. Pond Life.—In query No. 137 Mr. Millard tells us that his small pond is "covered with duckweed," and that there were "numerous tracks across the surface." By the narrowness of these tracks he supposes they must have been caused by small creatures swimming on the surface of the pond, and not by large ones. These tracks are not of necessity made by night, as Mr. Millard thinks; for I have seen them made by day, times without number, and also by all sorts of creatures that swim across our ponds. In all cases where the duckweed is of sufficient density of growth, the effect, after a certain lapse of time, is that narrow tracts alone remain.

In "Flowers of the Field," Johns informs us that the "lesser duckweed" (*Lemna minor*) belongs to a class of minute floating plants, which are not attached to the soil, and that it is "often so abundant as to cover the surface of stagnant waters, where, with the insects which it harbours, it is greedily devoured by ducks." I have never seen the lesser duckweed grow in greater luxuriance than in a moat in my garden, when I lived in Hampshire. There were a number of trout in the moat, some perch and carp, and of course, newts, water beetles, and such like. None of the tracks were caused by these. Ducks were excluded from the moat, but there were moor hens, rats, water rats, and other creatures usually found in such situations, which go about the surface of the water. It was by these that the tracks were made; and the width of the tracks was practically the same, irrespective of the creatures that caused them, a short time after the track was made. The duckweed grew so luxuriantly as at times to assume the thickness of a carpet; and when any creature swam through it, it closed behind it, leaving only a narrow tell-tale track which remained for many hours. This is what happens when the crop of weed is dense; when, however, it is a poor one, the track has a tendency to remain open; and then it may differ in width according to the size of the animal that swam along it.

Mr. Millard's pond no doubt had a fine crop of the "lesser duckweed," and the tracks probably were not caused by ducks, for they would soon have eaten the duckweed up.

Many creatures live right under our noses that even the most observant would fail to notice.

EDMUND THOS. DAUBENY.

606. Mistletoe.—There is no difficulty in propagating mistletoe on the apple tree if a ripe berry be either placed in an incision in the bark, or even bruised and rubbed on the outside, so that the seeds adhere to it. In nine cases out of ten the experiment will succeed if the conditions are favourable, but if the plant roots freely it will probably result in the death of the apple tree in the course of a few years, or, at any rate, of the branch on which it has rooted, and then of course the death of the mistletoe follows. If the same experiment be tried on the oak, however, there will probably be a large proportion of failures to one success.

W.

607. Movements in the Organs of Plants.—In the first part of his article on this subject Mr. Bunyard speaks (p. 6) of the "violet" bringing its matured seedpod close to the soil to sow its seeds. This is too general. There are some 120 species of *Viola*, and of the eight (out of thirteen) British species I have here in my garden his statement is true of only one, *V. hirta*, so far as I have observed. Does he refer to this one or to *V. odorata?* I have roots of only the white variety of the latter, and unfortunately they do not produce cleistogamous flowers; but in all my other species, including cultivated violas, the process seems to be as follows: the capsule remains more or less hidden amongst the leaves until the time for scattering the seeds draws near. Then it assumes an upright position on its stalk, well above the leaves, and splits into three valves, which open out later and assume a spreading horizontal position. The shining seeds, arranged usually in a single row in each valve—in some species there are two rows in each valve—are not yet ripe, as shown by their pale colour, but this

deepens under the influence of light and warmth, and as the two edges of the valve dry they draw together, beginning sometimes at one end, sometimes at both, and the seeds are squeezed out one by one with an audible click and expelled to a considerable distance. I may add that Mr. Bunyard omits to refer to the genus *Viola* in the second section of his article.

C. NICHOLSON.

608. **Wild Herbs.**—My inquiry respecting wild herbs was not so much in reference to their cultivation in towns as to the possibility of their being substituted for garden ones for culinary purposes. Our Downs near Brighton are carpeted in places by wild thyme, whilst marjoram grows in equal luxuriance in adjacent lanes and roadsides. The dust of motors does not reach these tracks across the hills, as it does in gardens by the high road, whose owners complain bitterly of the injury to vegetation. I venture to differ from your correspondent in the last number of NATURE NOTES, who objects to "herbs being dried in the sun." I have always found it a good way, laying them in the sunshine on open paper trays, which should be taken in before the dew falls. Mine have kept for years dried in this way, in glass bottles, without loss of flavour.

9, *Park Crescent, Brighton.* E. M. NICHOLSON.
February 3.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

New Members.—The following members were elected at a Council Meeting held on January 28. *Central Society.*—Henry Budge, Esq.; Miss E. L. Boys; J. R. Bentley, Esq., M.B.; K. Kimber Bull, Esq.; Miss Mary Carson; S. Davey, Esq.; F. H. Keeble, Esq.; T. Hamilton-Adams, Esq.: Miss L. R. B. Lascelles; W. Gurnell, Esq.; C. H. Martin, Esq.; The Rev. S. Le Messurier; Mrs. A. Nash; Mrs. Patteson; The Rev. Gurney Richards; Miss K. Sydney; E. M. Waugh, Esq.; C. A. West, Esq.; W. Lifton Wynne, Esq.

Brent Valley and Richmond Branch.—Francis T. Adamson, Esq.; The Rev. Brownlow Atlay, M.A.; Mrs. Bedford; Mrs. Horace Bell; Frank Challis, Esq.; F. I. O.; Colonel H. W. H. Cox; W. G. Cummings, Esq.; Major-General W. T. Corrie; Norman Farr, Esq.; Miss B. Grylls; Reginald Morton, Esq., M.D.; C. E. Phipps, Esq.; Captain H. Wallace Ronaldson, V.D.; Frank Simpson, Esq.; Mrs. White.

The following were elected at a Council Meeting held on Thursday, February 20. *Central Society.*—Herbert E. Ash, Esq.; C. H. Bentham, Esq.; Miss Wilmot Buxton; C. F. Colver, Esq.; Miss D. Eastwood; Miss E. J. Fenwick; Thomas Fisher, Esq.; E. W. Hickman, Esq.; George E. Maillard, Esq.; The Malvern Field Club; J. H. Parry, Esq.; Miss Amy Seymour; E. P. Squarey, Esq.

Brent Valley and Richmond Branch.—Mrs. Amery-Parkes; A. N. Booker, Esq.; Mrs. Wallace Dunlop; F. W. Force, Esq.; Miss Margaret Gilliland, M.A. (Lond.); Miss A. J. Gordon; Lionel Hayes, Esq.; T. W. Hill, Esq.; Miss Jeaffreson; Charles Jones, Esq., M.I.C.E.; W. M. Jones, Esq.; F. A. Jones, Esq.; Lady Jane Kenney-Herbert; F. W. Millachip, Esq.; Mrs. Neale; William Ottway, Esq.; Miss M. E. Parker; C. A. Patten, Esq.; George H. Pritchard, Esq.; J. Beresford Riley, Esq., M.D.; E. A. Salter, Esq.: Mrs. O. Salter; Mrs. E. Snowdon; James Startin, Esq., M.R.C.S.; Mrs. Startin; Ernest Toley, Esq.; F. A. Vezey, Esq.; Miss Rosa Waugh; Henry Waymouth, Esq.; T. G. Yoell, Esq.

Kensington and Bayswater Branch.—Miss A. H. Borrow.

Rother Valley (Midhurst) Branch.—Miss Chilver.

Subscriptions.—The Council has pleasure in acknowledging subscriptions of greater value than 5s. from the following members: Miss Anne Garratt, £1 1s.; The Rev. A. L. Hussey, £1 1s.; Mrs. Prochownick, £1 1s.; The Hon. Walter Rothschild, M.P., £1 1s.; F. C. Stewart, Esq., £1 1s.; Mrs. Lowther, £1; Miss Ellen Shadwell, £1; Mrs. Phillips, 10s. 6d.; Miss E. B. Brand, 10s.;

Miss J. Brand, 10s.; Miss Brinkley, 10s.; Mrs. Travers Buxton, 10s.; Mrs. Eden, 10s.; J. Ray Eddy, Esq., 10s.; H. J. Evelegh, Esq., 10s.; Miss Agnes Fry, 10s.; Lady Fry, 10s.; Mrs. Anstey Greet, 10s.; S. G. Huntley, Esq., 10s.; Mrs. McKay, 10s.; E. V. Squarey, 10s.; Miss Stevenson, 10s.; Samuel Willson, Esq., 10s.; Mrs. Cornish Bowden, 7s. 6d.; Ernest Leete, Esq., 7s. 6d.

Library.—The Honorary Librarian will attend at 20, Hanover Square, from 6 p.m. to 6.30 p.m., on the evening of March 16, for the purpose of issuing books to members.

The Honorary Librarian has pleasure in announcing the following addition to the Library: *Natural History of Selborne*, Buckland's edition, 1876, 2 vols., 4to, purchased by the Society.

NEWS FROM THE BRANCHES.

Birmingham and Midland Branch.—The Annual Meeting was held on January 30 at the Council House, the Lord Mayor of Birmingham in the Chair. There was a good attendance of members and friends.

The Lord Mayor, in proposing the adoption of the Reports, spoke of the necessity of recreation of some sort, and said he considered there was no more inspiring, elevating and instructive hobby than the study of Natural History.

Professor Alfred Hughes, M.A., Dean of the Faculty of Arts, Birmingham University, seconded the resolution, and said he thought Birmingham was rich in societies such as the Selborne Society, and that they might in many ways help one another.

In supporting the adoption of the Reports, Mrs. Percy Adams mentioned a scheme—which she hoped the Society would take up—to give school children an opportunity of planting wild flowers in some of the parks. It would have to be begun on a small scale, and under the supervision of the teachers of the schools.

The resolution was passed unanimously.

Mrs. Lomax proposed, and the Rev. G. H. Moore seconded, a resolution of thanks to the Officers and Committee for their past services, and that they be re-elected. This was carried, and the meeting concluded with a hearty vote of thanks to the Lord Mayor for presiding, which was carried by acclamation.

EXCURSIONS.

Saturday, January 25.—Owing to the ungenial weather only ten members gathered at the Bethnal Green Museum. The party proceeded to view the economic (food and animal products) collections, under the guidance of Mr. T. A. Lehfeldt, Assistant Keeper in Charge, whose lucid explanations, and kindness in replying to the various questions put to him by members, resulted in a most interesting and instructive afternoon. The objects of his demonstration covered a wide field, ranging as they did from the chemical analysis of the human body and its food, to the final exhibits of a modern top hat and boots in process of making.

The exhibits of specimens of food, both vegetable and animal, which illustrated the various stages of preparation for commerce of wheat, rice, lentils, tea, coffee, &c., are admirably arranged and would amply repay members for the trouble of a second visit for closer study than was possible on this occasion. Specimen cases of various prison dietaries, as well as others, showing chemical adulteration of food and sweetmeats, attracted a good deal of attention. Wool, skins of animals, silk, feathers, pearl oysters, &c., were also shown, both in their crude state, and as applied in various arts and crafts. Silken embroideries were seen, of which the most beautiful specimens were the Chinese. Leather trappings, shoes (of different nations) and jewellery were also displayed. A curious exhibit in this section is a cable 700 ft. long, made in Japan and composed entirely of human hair.

The end of the gallery is occupied by some fine specimens of elephant and narwhal tusks, hippopotamus ivories, with which are exhibited buck and antelope horns.

All present were unanimous in their expressions of appreciation of Mr. Lehfeldt's most interesting demonstration.

FORTHCOMING EVENTS.

COUNCIL AND COMMITTEE MEETINGS.

Monday, March 16.—Publications Committee at 5.30 p.m.

Tuesday, March 24.—Council at 5.30 p.m.

THE ANNUAL CONVERSAZIONE.

The probable date of the Annual Conversazione will be May 1st, as H.M. First Commissioner of Works has kindly placed the theatre and halls at Burlington Gardens at the disposal of the Selborne Society on that day. The President, the Right Hon. Lord Avebury, has also signified his ability to be present on the day in question.

EXCURSIONS.

Saturday, March 7.—British Museum, Bloomsbury. Assemble in the Entrance Hall at 2.15 for 2.30 p.m. Mr. T. A. Joyce has kindly consented to give a demonstration in the Ethnographical Gallery.

Saturday, March 14.—The Royal Botanic Gardens, Kew. The Greenhouses and Winter Gardens, paying special attention to Alpine plants. Assemble inside the Main Gates (near Kew Bridge) at 3 p.m. Guide, Mr. George Nicholson, F.L.S., V.M.H., Ex-Curator of the Gardens.

Saturday, March 28.—St. Laurence Jewry, Gresham Street, E.C. Assemble at 3 p.m. The Rector, the Rev. J. Stephen Barrass, has kindly consented to conduct the party.

Saturday, April 11.—Visit to the Orient Royal Mail s.s. "Orontes" at Tilbury, by kind permission of Messrs. Anderson, Anderson and Co. Train leaves Fenchurch Street Station (L.T. & S. Ry.) at 2.15 p.m. Return from Tilbury at 5.55 p.m., arriving at Fenchurch Street at 6.55. Members who wish to attend must send in their names to the Honorary Excursions Secretary before April 4, enclosing a stamped addressed envelope. Return tickets 1s. 6d., but if a sufficient number apply, arrangements will be made for reduced fares.

All communications with regard to Excursions should be addressed to Mr. H. H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

ASTRONOMICAL NOTES FOR MARCH, 1908.

Venus is very conspicuous as an evening star, setting on the 28th at 10.41 p.m., or four and a quarter hours after the sun.

Mars is also visible in the evenings, setting about 10.50 p.m. throughout the month. Will be near the moon on the evening of the 6th.

Jupiter is a brilliant object in the evening sky, and will be seen near the moon on the 13th. His position is nearly stationary in Cancer. A transit of the third satellite occurs on the 5th, 12th, and 19th, and of the fourth on the 9th and 26th.

Saturn may possibly be observed after sunset at the beginning of the month, but at the end will be quite lost in the sun's rays.

The minor planets Ceres and Pallas are in opposition this month, but these objects are too small for observation without telescopes. W. F. D.

1. All communications for NATURE NOTES must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for NATURE NOTES (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. BOULGER, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. JOHN BALE, SONS AND DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership, should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, WILFRED MARK WEBB, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 220. APRIL, 1908. Vol. XIX.

A HOUSE IN A WOOD.

WHY do people generally build houses in bare fields, or at any rate in open places with a few scattered trees? How few of us can hope to live long enough to see planted trees become shady avenues, or shrubs develop into enchanting mazes!

When we bought a bit of ancient woodland, part of the Weald of Kent, our friends and relations thought us quite mad to think of building a house in it. Yet, in spite of whispered or open protests, we went our own way against conventional prejudices.

We chose the south slope of a ridge crowned with tall pine trees. The undergrowth was chestnut and birch grown for hop poles, the soil sandy, the ground under the pines and in every open space covered with glorious heather. On three sides the land sloped rapidly into a tiny valley where spreading oak trees take the place of the higher-growing pine trees. Then the ground rises higher again, first thickly clad with trees, but on the higher slopes meadows, hop-gardens and orchards spread themselves round an old farmhouse.

First we proceeded to cut the underwood; the splendid long chestnut sticks, instead of being turned into hop poles, eventually made capital unobtrusive fencing with wire netting to keep the wily rabbit from the immediate vicinity of the house, and a space sufficient for the house and terrace was measured out, which obliged the sacrifice of a few pine trees.

Our architect, an old friend, whose sketch-book I found full of picturesque Kentish farmhouses, entered into the spirit of our enterprise and evolved a cosy-looking two-storied cottage with gables, and a picturesque porch entrance supporting a tiny room; due south the deep-red tiled roof sweeps down and forms a spacious verandah, broken by roomy dormer windows. The whole exterior harmonizes deliciously with its rustic surround-

ings. The interior was designed to get the maximum of sun and also to enable the indwellers to enjoy perpetually the outside beauties of nature. The verandah is enclosed at either end by the projecting walls of chimney and drawing-rooms, so that it resembles the "stoop" of a South African Dutch farm. It can be closed in front by large rolling glass doors, where in the coldest weather one can sit and feel "out-of-doors," and watch the ever-changing lights and shades and scenes.

A large living-room opens into the verandah, from which the staircase ascends at the further end, lighted with a big window, framing tree-tops against the sky. A capacious inglenook with an old Sussex iron fireback with the royal arms, and dogs, dated 1672, form a delightful feature in this homey room. In order to avoid the usual drawback of draughts down the staircase rushing up the inglenook chimney, a glass-panelled screen runs along the top of the staircase, and a glass door closes the stairway.

From every window enchanting views meet the eye. Distant blue hills, with Fairlight church above the southern cliffs, bound our horizon. On a nearer ridge are green fields and hop gardens set in high-treed hedges, and an old church tower whose bell-chimes make sweetest music over hill and dale.

Nearer still a deep-red-roofed farmhouse, with picturesque ancient barns and quaint oasthouse, nestles in a cherry orchard—in springtime a cloud of snowy bloom. Below the house you look down on a mass of tree-tops, while close round the house and terrace groups of pines, with their velvety green needle-tufts and red-brown stems, fill up portions of the sky with lovely branch tracery, guarding the house from wintry blasts, and throwing, in the summer heat, spaces of cool shade, and at all times filling the air with delicious balmy perfume. A small lawn slopes away from the terrace, and immediately beyond the ground breaks into sheer wildness. Where our friends thought we ought to lay out flower-beds, billows of bracken weave a pale emerald lace-work. From June to October through the tall fern-fronds shows an underglow of red bell-heather, while long delicate spikes of the rose-mauve heather overtop the bracken as it is turning in the autumn to a rich tawny gold, draping the whole hillside between the scattered tree-stems with a glory of green, gold-bronze, and royal purple.

It is true that we struggle in vain to make proper lawns; after a year or two the native heather reasserts its right and forms spreading patches in the shaven grass. Nevertheless our friends agree that they know no croquet lawn to equal ours in beauty, surrounded as it is with tall whispering pines, birches and spruce firs, the sun glinting on gorgeous vistas of red heather, and the croquet balls rolling rather erratically over the heathy turf make the game all the more exciting to the less serious-minded players.

Throughout our woodland run endless heather-bordered

THE WOOD.

mossy paths, the branches often arching overhead, filtering the sunlight through the shading leaves. At unexpected turns they open out and glimpses of blue hills and shimmering misty distances meet the eye. Our favourite summer evening walk is up a slope and through glades one glowing mass of heather stretches, like red velvet where it is short, amethyst and ruby spikes where it grows as high as two and three feet. You climb upwards till, at the top, spreading branches frame a picture hard to match. Beyond the billowy masses of trees, above emerald meadows, on a lovely ridge, the red roofs of Tenterden town nestle among orchards and oak trees. The grand old church tower, built of Bethersden marble, rears its magnificent crocketed pinnacles high above its surroundings, a landmark to all the countryside. The level rays of the setting sun strike the crystals in the grey marble and turn it into a wondrous pile of mother-of-pearl and amethyst, exquisitely delicate and beautiful, and if backed by a storm-grey cloud the effect is quite ethereal.

Living in a wood you are never lonely, never dull. The trees become your dear and intimate friends and companions; their branches rustling in the breeze sing you songs without words. The birds give you morning and evening concerts. The glow-worms light their opal lanterns at your feet; while the "flitter-mice," as bats are called in the Weald of Kent, spread their silky wings and gauzy ears against the starry sky.

Nightjars abound in our woods, and on summer nights, if you imitate their notes, half a dozen at a time will hover round your head, making a curious noise with their wings, which they strike together over their heads in the position of angels' wings in some old pictures, repeating all the time their whirring, jarring cry. They prey on the goat moth, who lays her eggs in the bark of trees, and whose ugly red larvæ work such havoc to forest timber.

No unclean thing defiles for long our woods, for huge ant-hills are frequent, and myriads of busy denizens from their mound cities rapidly remove dead rabbits and birds, leaving in a very few days no trace of them except a tiny pile of feathers, or shreds of fur.

At sunset wild ducks wheel over head, quacking loudly with outstretched necks against the amber evening sky, reminding one of tenderly delicate Japanese paintings. Squirrels disport themselves fussily up and down the fir trees and chase each other among the branches. Pheasants rustle under the tall bracken fronds and chortle high up in the boughs where they roost. Four kinds of tits abound. Woodpeckers, red and green, tap the decaying trunks in search of grubs, while pigeons and turtle-doves break the stillness of summer mornings with their soothing cooing, accompanied by the hoarse cry of the gaudy jay.

Living in a wood tends to foster a friendly confidence between all the inhabitants. Even a stately Persian cat we have only catches the rats and mice, and leaves our feathered friends alone, to our great joy. Our beautiful red setter watches the

pheasants picking up the ants under the pine trees with genial interest, though beyond the home precincts he is such a keen sportsman.

On one side of our wood lies a hop garden belonging to the red-roofed farm which adds such a homey charm to the view from the house. The picking of the vines is a most picturesque sight, and when the wind blows from that direction the smell of the drying hops in the quaint white-capped oasthouse is wafted across the valley and brings over one a delicious sleepy sensation on a hot September afternoon.

Winter deals gently with our corner of the Weald of Kent. Snow powders occasionally the pine branches, but is seldom heavy enough to break off the russet foliage of the scrub oak; blackbirds and thrushes find plenteous fare under the fallen leaves. Robins hop into the verandah and sing us cheery thanks for crumbs. A frost embroiders with silver the dead bracken fronds, and each tint and outline of the distance stands out infinitely clear against the wintry sky.

On rainy, windy days, the tree-tops sway till the branches seem lashing themselves into impotent fury against some unseen foe, raindrops flash and splash on the broad glass verandah panes, and one sits in the inglenook and listens to the blustering roar of the gale, rejoicing in the bright leaping flames from dry oak logs on the wide red-brick hearth.

But, of all seasons, spring is the most enchanting in our wood. Among the still brown branches of the oaks and chestnuts, the birch first unfolds its tiny leaflets, and soon a delicate blush of faintest green pervades and penetrates the whole scene. Then feathery larches hang out their rose-pink tassels, and the oaks and ashes burst their silken buds until the wood gleams with every tint of the green and golden gamut of colour; bushes of broom and furze add their flames of glorious yellow bloom. One's eyes are positively dazzled with the glittering sheen and one seems to hear the new-born leaves clapping their little hands in glee as the soft spring wind passes over them. In the openings where last year the wood was cut, great tufts of pale primroses carpet the ground; these are succeeded by a wealth of blue-bells, till one fancies a bit of blue sky has fallen in love with Mother Earth and got entangled in the tree-stems. Mossy stumps are draped with the fairy cups of white and purple veined wood sorrel; its lovely trefoil foliage enamelling the velvet cushions on which it grows.

On harsh east-wind days we can wander through the glades and up and down the slopes in our wood, completely sheltered from the ruder blasts, and sitting in the warm spring sunshine one is deluded into fancying summer is come until one ventures forth beyond the secluded shelter of our beloved woods. And so every season has its delights and joys of sight and sound, and one thanks God that there are still such havens of rest left in Old England as the wood in which we have built our nest.

EMILY CONYABEARE-CRAVEN.

SELBORNIANA.

Annual Soirée.—The Annual Soirée of the Society will be held on Friday, May 1, in the Theatre and Halls of the Civil Service Commission (Old London University), Burlington Gardens, New Bond Street, by kind permission of His Majesty's First Commissioner of Works. The Right. Hon. Lord Avebury will preside. A small charge will again be made for tickets, of which two will be forwarded to each member. Additional tickets must be obtained from the Head Office of the Society, 20, Hanover Square, London, W. (See page 79 of this number.)

Legislation on the Importation of Birds.—The Selborne Society is the outcome of a movement made more than twenty years ago to influence public opinion against the wearing of the plumage of birds that are not domesticated or killed for food. Of recent years it has become more and more evident to the Council that some legislation is necessary if the ranks of many beautiful birds are not to be very greatly lessened and the extinction of a number of species ultimately, and in some cases soon, brought about. The general opinion has been that up to the present moment the time was not auspicious. Now, however, the opinion of a number of Societies interested has been definitely asked by our President, Lord Avebury, with regard to a proposed bill which has the advantage of not being brought forward by an official member of any of the Societies interested.

On Friday, March 13, Lord Avebury presided over a meeting of representatives from the Royal, the Linnæan, the Zoological, and the Selborne Societies, and the Royal Society for the Protection of Birds, whom he had invited to meet him at 6, St. James's Square. With one exception possibly, all those present were in favour of legislation of some kind, if it could be made effectual. Mr. James Buckland's proposed Bill was discussed, and it was agreed unanimously (on the advice of some ornithological experts, amongst whom were Mr. Holte Macpherson and Mr. Pycraft, who are members of a special committee appointed by the Selborne Society to consider the matter) that the schedule of the Bill should contain a list of such birds as might be imported rather than the names of a host of others which might not. The general points set forward by Mr. Buckland were generally approved, and Mr. Montagu Sharpe, who has had great experience in the matter of Bills, kindly undertook to revise the draft under discussion, following the sense of the meeting, so that it should be circulated again to the Societies who might give their representatives authority to express a definite opinion. At present the idea is to prevent importation while allowing such feathers as are actually worn on the person to pass the Customs officers' hands. Though in the opinion of some, which is shared by the Council of the Selborne Society, the actual retail sale of

birds' feathers should be dealt with, it is hoped that the Bill as outlined will do a great deal of good.

A Grangerized "Selborne."—On Wednesday last Messrs. Hodgson sold by auction the only copy of a grangerized "Natural History of Selborne" that has come into the market—at any rate, of late years. The edition was that in Bohn's Illustrated Library, with notes by Jesse and Jardine, and the single volume has been extended to three by the insertion of more than 500 extra illustrations. These consist of portraits, which include those of Plot, Linnæus, Buffon, Pennant, Sir Joseph Banks, Daines Barrington, Bewick, Dyer, Derham, Pope, Archbishop Laud, Queen Anne, John Hunter, and Jenner, and a curious silhouette of Pallas; views of places mentioned in the text, famous trees, among which is the Fairlop Oak, and pictures of animals, plain and coloured. Both the binding and the character of the extra illustrations show that the book was grangerized before the days of the Selborne Society and the spread of Nature study, to which there is no reference. The original volume cost 5s.; the work as submitted on Wednesday was purchased by Mr. Maggs for £3 10s.—*The Field*, January 11, 1908.

A Partially Unpublished Letter by Gilbert White. Mr. Rashleigh Holt-White has kindly forwarded us a transcript of a letter from White to Banks which has recently come into his possession, and which was published in part in Professor Bell's edition of the "Selborne," vol ii., pp. 241-2. It is as follows:—

Selborne,
Near Alton, Hants.
April 21, 1768.

To Joseph Banks, Esq.

Sir,—Lest you should suspect that I forget my promise, I take the liberty to acquaint you, that either the unusual dryness of last month or some unknown cause has retarded the blowing of the *Lathræa squammaria*. It does not yet appear above ground as usual: when it had appeared I should not have failed to have sent you an offset in a pot, with the Coleoptera, its constant attendants; but now I find last night by a letter of Mr. Pennant's dated from Chester, that you are going to leave ye kingdom again in pursuit of Natural knowledge.

I was greatly in hopes once that both you gentlemen would have honoured me with yr. company this spring; but now it seems that unless Mr. Skinner, of C.C.C., should happen to come (as he has partly promised), I must plod on by myself with few books and no soul to communicate my doubts or discoveries to.

The district round this village is, I believe, a fine field for Botany: we have great variety of aspects and soils, and many shady stony lanes for Capillaries; not to mention chalky hills, sands, boggs, clays, and vast shady woods. Here are moors that

have hardly ever been trodden by the foot of a real Botanist, where I should suspect some rare matters may be discovered. The *Gryllus gryllotalpa* will begin his jarring note next month, and is, as you well know, a most curious Insect. We have banks full of the *Grylli campestres* which make a prodigious shrill cry all the summer months. I discovered a Coleopteron the other day that smelt so very strong of musk that I could hardly come near the box that it was in. It was no Cerambyx. The *Papiliones Rhamni* and *urticæ* were very late this year. Of Bombylii we have had very fine ones; but now they are over, being very early flies. The *Musca meridiana* is altogether as late, not coming, by my Journals, till Septemr. The *Musca tenax* and *carnaria* begin to appear. But I much want your information about the whame or barrel-fly of Derham (see physico-theology), that lays its eggs on the hair of the legs and sides of Horses; and has nothing to do with stinging them. I do not mean the *Hippobosca Equina* that stings very severely, and runs sideways: we call it in Hants the forest-fly. I have a specimen of the whame-fly, but it was imperfect and had lost the generic distinction; so I can't make it out in the *Systema Naturæ*, nor in *Scopoli*.

As to summer birds of passage we have a good variety. I think I can show 16 or 17 species round the village; among which are three species of the *Motacilla troehili*. The vast large bats are beginning to appear, some of which I shall endeavour to procure.

After wishing you good health and a great deal of success and satisfaction in your laudable pursuits, a prosperous voyage and safe return, I remain, with great esteem,

Your most obedient Servant,
GIL. WHITE.

THOMAS EDWARD.—A correspondent writes as follows:—

"Just a line to remind members of the Selborne Society that April 27 is the anniversary of the death of Thomas Edward, A.L.S., the Scotch Naturalist.

"Born on Christmas Day, 1814, he died in 1886, worn out, one may say, by his over-mastering love for Nature. I think he has left as good an example of what may be done by honest hard work against very long odds as any on record.

"I recommend anyone who wants a fresh, wholesome book to read his 'Life' by Smiles."

WILD BIRDS PROTECTION ORDER.—We have received from the Home Office an Order, dated January 16, referring to East Suffolk, which protects all birds on Sundays to the east of the Great Eastern Railway line from London to Yarmouth, adds a number of species to the schedule, protects a number throughout the year, and extends the close time for all except Snipe and Wild Duck from the last day of February to September 1.

An Australian Reservation.—Every year brings some interesting animals or plants nearer to extinction. All lovers of Nature, whether members of our Society or not, will be glad to hear that the Government of South Australia has, at the request of the Royal Society of that colony, set aside 67 square miles at the west end of Kangaroo Island as a national reserve. It also has under consideration the larger scheme advocated by that body, under which 313 square miles would be devoted to the sanctuary. If the animals to be introduced from the mainland, which are among the most interesting of the curious Australian creatures, are to succeed, no smaller reservation than that asked for by the local experts must, in our opinion, be granted. Rather should an example be set to other authorities by the addition of further tracts to those for which a definite request has been made.

Extermination of the Kauri Pine.—"Dr. Cockayne, who was recently sent by the Minister for Lands on a botanical research mission in the North of Auckland, has just returned from a lengthened visit to the Waipoua State forest, which is situated to the south of Hokianga. Dr. Cockayne speaks in enthusiastic terms of the beauty of this Kauri forest, and in being interviewed by a *Times* representative he was most emphatic in stating that this scene of wild grandeur should be preserved from desecration for all time. Indeed, he goes as far as to say that the time is not far distant when the Kauri will cease to exist in its natural state, except for a few isolated trees. Greedy utilitarianism will kill the Kauri forests, if steps are not taken to stop it.

"Dr. Cockayne deplores deeply the vandalism that is everywhere apparent, and instances the clearing of land of timber, which is the finest crop it will ever grow. Much of the timberland, not necessarily Kauri (which is singularly unproductive), has been cleared and burnt, and the tillers are now only eking out a miserable living. The same timber would have kept the clearers in comfort.

"Dr. Cockayne adds that in his opinion a virgin Kauri forest is quite equal as a spectacle to the geyser regions or the cold lakes of the South. 'Some portion of the State forest,' he says, 'should be set aside as a national domain, where our children and our children's children can look upon a part of the glorious forest that once adorned the country, and which is so fast disappearing before the axe of the vandal whose æstheticism is lacking, and whose utilitarianism is false economy.'"—*New Zealand Times.*

Hemlock.—The recent cabled information from Sydney, New South Wales, of the death of three children from eating hemlock, gives special interest to the fact that this plant is growing on unused pieces of land in the vicinity of Christchurch.

It is a plant with a fairly stout hollow stem with purplish markings. The stem bears branches on which are carried finely divided, fern-like leaves, the colour being a dark glossy green. It bears small white flowers arranged something like those of the sweet william or phlox. It is one of the oldest-known poisonous plants, the draught by which Socrates met his death being a potion made from the hemlock. The principal poisonous ingredient of the hemlock is the alkaloid conine, and the symptoms of poisoning are weakness and staggering gait, eventually bringing about paralysis, which passes up the spinal cord till it reaches the respiratory centre, when death ensues. Like most poisonous herbs, hemlock has a medicinal value as a powerful sedative, while in the sixteenth century it was much used as a salad flavouring.—*New Zealand Herald.*

NATURAL HISTORY NOTES.

609. **Bird Names.**—A few comments on some of the derivations given by Mr. C. S. Holder in his article on this subject in NATURE NOTES for March may not be amiss.

Fieldfare, he states, "has nothing to do with pastures, but is derived from A.S. *fealo*, yellow." But he does not explain the second part of the word. "Fare" is "go," and I do not think there is much doubt amongst etymologists that fieldfare is the field-goer, or traverser. It is a very good descriptive name.

Starling is not so named from the "starry spots on its plumage." The word is compounded of "stare," the proper name of the bird, and the diminutive. "Stare" is from the A.S. *Stær*. That the word has nothing to do with a star is proved by a comparison of "stare" with the numerous cognate forms in other languages, such as the Latin *sturnus*, the German *staar*, none of which can be connected with any word meaning star.

Dunlin, we are told, is "from Gael 'dun,' a hill, and 'linne,' a pool." But why should this bird of the sea-shore be called Hill Pool? The name, in fact, refers to the colour, and is a dialectic form of "dunling," *i.e.*, little dun (bird). Compare "dunnock," a name for the hedge-sparrow. Here an equally well-known suffix-diminutive is used, and the verbal meaning is precisely the same as that of dunling.

Kestrel is said to be from "*circo*, to go round." I should suppose this derivation to be impossible. There is the old French corresponding form of *cresserelle*.

Wren is no doubt from the A.S. *wræne*, but the meaning is not "playful" in an innocent sense.

Lark, Mr. Holder tells us, is "from the old German *lären*, to sound or sing." Professor Skeat does not agree with him, or rather does not refer to such a derivation at all. The early English form was "lavrock," from the A.S. *lawerce*, which may be resolved into *law-werca*, guile-worker. Professor Skeat says: "The name points to some superstition which regarded the bird as of ill omen." ("Etymological Dictionary)."

Heron cannot be derived "from German *reihen*, to scream," but the two words have a common source.

Chaffinch is, we are told, "chattering finch, the bird having no connection with the corn shop." Not with the corn-shop, perhaps, but a close one with corn ricks. It is characteristic of the chaffinch to forage for "grains amongst chaff and the sweepings of homesteads." Compare the late Latin name, *furfurio*, from *furfur*, bran.

Knot. I never heard that Canute "had a fondness for its flesh." Camden is

responsible for the derivation of "Knot" from "Canute," and he gives quite a different reason. His words are: "*Knotts, id est, Canuti aves, ut opinor, e Dania enim advolare creduntur*" (Britannia, Lincolnshire). Knotts means, he thinks, Canute's birds, for they are believed to fly here from Denmark. There is apparently nothing to support Camden's conjecture. His etymology, however, suggested to *Linnæus* a specific name for the bird, which is, and probably always will be, known as *Tringa canutus*. J. L. OTTER.

610. A Bird's Education.—There is no doubt, I think, that young birds do learn from their parents how to fly, feed, sing, and indirectly, perhaps, how to build nests, but that they also learn the gentle art of migration by direct tuition is, I am sure, unlikely, especially as a much more simple explanation meets the case. Birds migrate because of a scarcity of food, and the trigger, so to speak, which sets them off is a cold northerly or north-easterly wind in the autumn migration, and a hot southerly one in the spring. Hot weather in the tropics causes scarcity of insect food, exactly as cold weather does here. The inherited experience called "instinct" sends them off in the right direction, and young birds go before their parents because the latter are still rearing a brood which often perishes if it be very late, and severe weather sets in. The cuckoo is an exception, for obvious reasons. C. NICHOLSON.

611. With reference to the much-controverted question of bird-migration, attention may be called to a suggestive address by Professor E. A. Schäfer, F.R.S., on "The Incidence of Daylight as a determining Factor in Bird Migration," delivered to the Scottish Natural History Society on November 7, 1907, and printed in *Nature* for December 19. The eminent author suggests that most birds find their food by sight, and therefore require light so to do. They are feeding for many hours in every twenty-four, and therefore migrate from north to south when the days in the north shorten (*i.e.*, for the winter), and from south to north when the northern days lengthen (*i.e.*, for summer).

Editor, NATURE NOTES.

612. I notice the statement in the article entitled "A Bird's Education," that "some American birds (so Heinrich Gätke, author of "Heligoland" tells us) make the journey to Ireland, a distance of "four thousand eight hundred miles, in *nine hours.*" As this seemed to be rather fast travelling even for birds, I pointed it out to a friend of mine, who also is inclined to discredit the statement as either misquoted or misprinted. I looked up the question of "Flight of Birds" in a book I have, "Science for All," and in an article by A. Leith Adams, F.R.S., he says: "It has been computed that the greatest speed of the Common Black Swift of Europe is about 276 miles an hour," which I believe it is known to maintain for about six hours. But this pace, as you see, is not anything like that mentioned in your article. I might add, in conclusion, that I lived for over two years in Sligo, N.W. coast of Ireland, and neither saw nor heard of any bird from America that attained anything like that speed. I shall be glad to see any remarks from your other readers on this most interesting subject.

31, *Graham Street, S.W.* W. G. NIGHTINGALE.

613. Birds and Mountains.—A friend of mine when touring round Snowdon last summer, was told by the residents there that no birds were ever seen in the Valley of Gwynant, between Beddgelert and Pen y gwryd, nor in the Valley of Llyn Idwal; the tradition as regards the latter place being that a young Prince called Idwal was said to have been drowned in the lake by his foster-father, since which no birds would fly over it. I am anxious to know if any of your correspondents can corroborate this absence of birds in these walled-in valleys. If so, it corroborates an observation which I made and wrote about twenty years ago, that most birds avoided mountains, and could with difficulty be induced to cross them. I was living then at Mpwapwa, on the western edge of the great mountain chain that extends in a practically unbroken range from Lower Egypt along the East Coast of Africa to Cape Colony. I noticed that the ordinary English swallows which arrived early in December and left in February, though they had come several thousands of miles to get there, never penetrated even one mile into the range, which was fifty miles wide at this spot, in the latitude of

Zanzibar. I watched them during two winters, and made enquiries from the natives, but always found that the mountain chain, though only two or three thousand feet above the great plateau on which they spent the winter, was an impassable barrier to the birds. I next collected the birds on both sides of the great range, and found that those common on the east side were common to Zanzibar and the East Coast, whilst those common on the west side were common to the great lakes of Central Africa, but not to the East Coast.

Some six years ago Herr Fleuricke, working out the question of the migration of birds in North Central Europe, said that the mountain ranges were avoided at the cost of a considerable circuit ; that the birds of Northern Europe made for the Moravian gates, the easy pass between the mountains of South Germany and the Western Carpathians ; that they followed a river valley, such as the Rhine and Volga, whenever they could, and that many lines of migration ended in a *cul-de-sac* of high mountains, and that this determined the winter quarters of many species ; that the south-west corner of the Carpathians was such a spot, and that there the birds congregated in incredible numbers. I might add that Mpwapwa is just such another spot, a long range of hills some 7,000 feet high, branching off from the great range at Mpwapwa and extending west or north-west for more than a hundred miles. They are the mountains of Uhehe. I was very familiar with them, though they are unmarked in most maps.

Lypiatt Lodge, Cheltenham. S. T. PRUEN, M.D.
February 19, 1908.

NATURAL HISTORY QUERIES.

139. The Weasel.—A strange thing took place about two days ago. One of us was looking out of a window which opens on to the garden, and is at right angles to an older portion of the house. From the angle close by came a weasel and went straight across the lawn, passing close to the window where we were watching, to a clump of acacia trees with ivy over the trunks. It went up one to the height of about 8 ft., then we saw two sparrows hovering in great alarm, and immediately after the weasel descended with a full-fledged bird in its mouth and went up the wall from whence it came and disappeared over the spouting. The gardener went up, but could find no signs either outside or in the loft, and laconically remarked, "You won't have no rats while he is up there." Why should the weasel have a den in a dwelling-house when there are plenty of ricks close by ; and is it a common occurrence?

M. S. Y.

140. The Hedgehog.—Nearly all country people know, and many believe, the story that hedgehogs suck—or at any rate in some way take—milk from cows.

Perhaps it may be as well to put on record in NATURE NOTES that once when I happened to be strolling about in a pasture-field in Cadney, Lincolnshire, the cows in it were quite indifferent to my presence among them, till I took up and carried a hedgehog. As soon as they noticed this, however, they ran hither and thither in evident unrest. My surprise was great, and I still ask myself why they were disturbed at sight of the animal. Are experienced farm-labourers right, after all, when they declare they have often seen hedgehogs stealing away from cows, and, more rarely, have actually come on them drawing milk? If they have made no mistake, why do the cows permit the hedgehogs to take milk?

A FOLKLORIST.

P.S.—Are full-grown hedgehogs ever seen without prickles? Mr. H. Mackenzie, writing in the *Manchester Guardian*, March 2, 1901, says even now a "throw-back"—a spineless baby—may occasionally be found in a litter of four or five normal white-spined young hedgehogs." What do these spineless ones become when they grow up?

[If our correspondent will consult the back volumes of NATURE NOTES he will find these popular delusions duly confuted. Hedgehogs will sleep near a cow for the sake of the warmth ; and perhaps the cow may have unpleasant recollections of its spines. Rustic observation is often very superficial, *e.g.*, when it tells us that a cuckoo becomes a hawk.—ED. *N.N.*]

141. Newts.—Folklore teaches that the toad is highly "venomous," and it does indeed secrete a fluid which causes considerable irritation when it comes into contact with a wound, or with peculiarly sensitive skin.

The frog is usually held to be harmless, but the newt bears almost as bad a reputation as the toad. Is there any reason to think that it, also, is provided with a defensive fluid to eject? A FOLKLORIST.

[The coloration of the male newt is much like a warning colour, and the late Miss Ormerod personally tested the matter. "The first effect," she says, "was a bitter astringent feeling in the mouth, with irritation of the upper part of the throat, numbing of the teeth more immediately holding the animal, and in about a minute from the first touch of the newt a strong flow of saliva. This was accompanied by much foam and violent spasmodic action, approaching convulsions, but entirely confined to the mouth itself. The experiment was immediately followed by headache, lasting for some hours, general discomfort of the system, and half an hour after by slight shivering fits."—ED. *N.N.*]

142. Spiders.—Do any of the English house-spiders in reality bite? Some few weeks ago a girl who is a member of a very intelligent and observant family of working people told me that she and other girls she knew had been bitten by spiders when doing spring-cleaning. The spiders were little, and very black, she said, and they lived in houses built in low, damp situations. Their bite was sharp, and caused the injured flesh to "puff up, but not so bad as a wasp would do." She was perfectly sure they were spiders, and nothing else. Not long after this recital, a gentleman who has lived all his life in the country, mentioned casually in my presence that he had once been bitten by a spider. He was opening a door about nine o'clock one evening, when he felt a sharp sensation in the hand, which went with a thrill like electricity up his arm. Looking down, he saw that the pain was caused by a large spider.

A FOLKLORIST.

ASTRONOMICAL NOTES FOR APRIL, 1908.

Venus is splendidly situated for observation, and will be at her greatest apparent distance from the sun on the 26th. This planet sets a few minutes before midnight at end of month, and will be near moon and Mars on the 4th. Venus will be a brilliant object after sunset.

Mars is an evening star, setting at about 10.47 p.m. during the month. Near moon and Venus on 4th.

Jupiter is favourably visible in the evenings high in the southern sky. Sets at 3.43 a.m. on 1st, and 2 a.m. on 28th. Near the moon on 9th.

Uranus can be well seen in a telescope during the later part of the night near the star *Pi Sagittarii.*

Neptune is visible in evenings, but only as an 8th magnitude star.

Meteors may be numerous on April 21. W. F. D.

REVIEWS AND EXCHANGES.

The Age of the Earth and Other Geological Studies. By Professor W. J. Sollas. $8\frac{1}{4}$ in. × $5\frac{1}{4}$ in. Pp. 328. T. Fisher Unwin. Price 6s. net.

On one point we cannot agree with Professor Sollas. He apologizes for "the clumsiness of a geologist, who is more at home with the hammer than with the pen." This apology is wholly unnecessary; for though dealing with some of the most abstruse and most controverted questions of the science of which he is a master, such as the figure of the earth, the origin of coral-reefs and that of flints, he does so in a manner readily comprehensible by the non-geological reader. The volume contains ten distinct essays, mostly reprinted from various more or less popular periodicals. At the same time the most advanced student of geology will find in it much that is suggestive. It is fully illustrated with figures in the text.

Three Voyages of a Naturalist: being an Account of many little-known Islands in three Oceans visited by the "Valhalla," R.Y.S. By M. J. Nicoll. With an Introduction by the Earl of Crawford. With 56 plates, 4 sketch-maps, and text illustrations. 9 in. × 6 in. Pp. 246. Witherby and Co. Price 7s. 6d. net.

ABBOTT'S IBISES (*Ibis abbotti*) ON ALDABRA ISLAND.
From M. J. Nicoll's "Three Voyages of a Naturalist" (by kind permission of Messrs. Witherby & Co.).

Some years ago the late Professor Moseley proposed that the present writer should accompany him to some of the islands of the Pacific to supplement by inland observations the work of the "Challenger." But, alas, we had no Lord Crawford to provide a ship or to bear the expense of the proposed expedition, and it came to nothing. The Trustees of the British Museum are to be congratulated on having persuaded their fellow trustee to take a naturalist with him on

his voyages in search of health, and Mr. Nicoll is to be congratulated alike on his opportunity and on the good use he has made of it, as evinced in this volume. Though he occasionally mentions trees and other plants, and notes the occurrence

TREE-FERNS ON SOUTH TRINIDAD ISLAND.
From M. J. Nicoll's "Three Voyages of a Naturalist" (by kind permission of Messrs. Witherby & Co.).

of mammals, snakes and lizards, Mr. Nicoll writes mainly as an ornithologist; and the little-known islands which he visited yielded eleven new and many rare species. Fishes he seems also to have collected with diligence, and, as might

have been expected, both in this group and among insects his diligence was rewarded by the discovery of novelties. We should be glad to know what is the species of tree-fern which forms the remarkably "pure" forest on South Trinidad, of which we are allowed to reproduce the illustration, and we frequently find ourselves, while reading Mr. Nicoll's interesting narrative, filled with regret that the comparatively small coaling capacity of the "Valhalla" often much curtailed their stay in the islands visited. The whole "get up" of the volume is excellent; and of the many first-rate plates that of Abbott's Ibis on Aldabra (which we are also permitted to reproduce) is one of the most attractive.

Wild Bees, Wasps and Ants, and other Stinging Insects. By Edward Saunders. With numerous Illustrations in the text, and four Coloured Plates by Constance A. Saunders. 8½ in. × 5 in. Pp. 144. George Routledge and Sons. Price 3s. 6d.

Mr. Saunders is well known as an authority upon the aculeate Hymenoptera, and it is always desirable that our most elementary manuals should come from the pens of our best authorities; for it is far more difficult to teach beginners than advanced students. These highest insects are full of interest, and it is much to be wished that more of our younger observers and collectors would turn their attention to the Hymenoptera. Of the Aculeata alone there are some 400 species in this country, many of them most imperfectly known. We cannot imagine any work more likely to be conducive to this wider spread of the study than the present series of short clear chapters. They are far more anatomical than our President's well-known work, which is, in fact, rather a contribution to comparative psychology. We believe that most persons will rise from its perusal with the sole regret that there is not more of it. We note that Gilbert White is cited as accurately describing the habits of a bee, and that Mr. Saunders states the curious generalization that "Eccentricity in structure almost always occurs in the male; excess of coloration usually in the female."

British Birds' Nests: How, Where, and When to Find and Identify Them. By Richard Kearton. Illustrated from photographs by C. Kearton, and with Coloured Plates of eggs. New Edition. In sixteen fortnightly parts. 9½ in. × 6½ in. Cassell and Co. Price 1s. net per part.

This "revised and enlarged" edition of the popular work which first appeared in 1895 is to contain the best of the pictures in "Our Rarer British Breeding Birds" (published in 1899), and other more recent achievements of these most successful bird-photographers. Six "Rembrandt" plates on stout card and fifteen coloured plates of eggs, comprising 140 species, will render the work, when complete, a remarkably cheap one. The present part contains forty-four pages; the birds, dealt with in the alphabetical order of their English names, extending from Accentor to Chough. There is an excellent Rembrandt plate of a young Buzzard, and a coloured plate of the eggs of Terns, which is a masterpiece in tricolour printing, besides eight whole-page illustrations of nests, and twelve smaller ones. The text consists of brief practical descriptions of the adult plumage of both sexes, the situation, locality, and materials of the nest, the eggs and the time of year when they are laid, with remarks on migration, notes and local names. The whole is admirably planned and executed.

The Naturalist. Special Spring Number. March. Price 1s. net.

This is merely a double number—but an excellent double number—of our well-known contemporary, the 614th number it has issued. We congratulate the editors on the varied interests to which it appeals. Plant-chemistry, fungi, boulders, algæ, diptera, moths and birds—all find a place, mostly, as is the rule in *The Naturalist*, with reference to Yorkshire. A number of reviews, a coloured plate, and four other whole-page illustrations go to make up a most attractive issue.

Received: *Bird-Lore* and *The Victorian Naturalist* for January and February; *The Estate Magazine* for February and March; and *Knowledge*, *The Irish Naturalist*, *British Birds*, *The Animals' Friend*, *The Humanitarian*, and *The Agricultural Economist* for March.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

Central Society.—The following members were elected at the Council Meeting held on March 24:—Miss H. Barclay; James Buckland, Esq.; H. H. Seaton Buist, Esq.; Joseph M. Coplams, Esq.; Miss N. Derrington, M.P.S., Ph.C.; Charles J. Faux, Esq.; Miss S. Gage-Brown; Miss Lillian E. Madden; Miss Milner; Miss E. F. Odell; Miss Thain; J. Tod, Esq.

Brighton Branch.—The Hon. Charles H. Sinclair.

Brent Valley and Richmond Branch.—C. Norman Abbott, Esq.; S. S. Abbott, Esq.; Lewis Bailey, Esq.; H. V. Bracken, Esq.; Mrs. Broade; Reginald Brown, Esq., M.I.C.E.; Mrs. S. Burgess; William E. Burrows, Esq.; Mrs. W. E. Burrows; Howard S. Button, Esq.; E. Carlisle, Esq., M.A.; T. W. Cole, Esq.; William L. Coltman, Esq.; W. H. Dolamore, Esq., L.R.C.P.; The Rev. Thos. Eland, M.A.; Miss L. H. Gibson; A. F. Green, Esq.; L. Grubb, Esq.; George Haigh, Esq.; Walter A. Hamilton, Esq.; Miss Rose A. Hamp; Miss Edith H. Hewitt; Edmund S. Holland, Esq.; Walter F. Leach, Esq.; John G. Longfellow, Esq.; Dr. Maples; Mrs. Maples; Miss Maples; W. H. McNamara, Esq.; Miss Edith Mitchell; P. H. O'Brien, Esq.; Kenneth Packard, Esq.; Mrs. Pennington; Frank Pocock, Esq.; John Rayner, Esq.; E. Rippon, Esq.; Miss H. Rogers; Miss K. T. Sedgwick; Beaumont Shepheard, Esq.; N. P. Sinha, Esq., M.R.C.P.; Percy Smith, Esq.; Dr. P. A. Stacey; John Stevens, Esq., L.D.S.Eng.; Inglis Taylor, Esq., M.B.; A. Vassall, Esq.; Thos. Verrinder, Esq.; Richmond Watson, Esq.; E. T. Way, Esq.; The Rev. W. Wells; A. Wilson, Esq.; Fred. Austin Wollatt, Esq.

Subscriptions.—Subscriptions of greater value than 5s. have been received from the following members: David Morphew, Esq., £1 1s.; G. A. Musgrave, Esq., F.Z.S., £1 1s.; Mrs. G. A. Musgrave, £1 1s.; Andrew Pears, Esq., £1 1s.; George Wheeler, Esq., £1 1s.; Earl of Stamford, £1; J. H. Barker, Esq., 10s. 6d.; A. Bourne, Esq., 10s. 6d.; His Grace the Archbishop of Canterbury, 10s. 6d.; G. S. F. Manton, Esq., 10s. 6d.; Miss Beeching, 10s.; Alfred Deed, Esq., 10s.; Lady Jenkyns, 10s.; H. A. Lewis, Esq., 10s.; J. H. Master, Esq., 10s.; W. M. Maw, Esq., 10s.; Mrs. Minet, 10s.; J. Rawlins, Esq., 10s.; Mrs. R. Warton, 10s.; R. M. B. Otter-Barry, Esq., 10s.; James W. Sharpe, Esq., 10s.; Mrs. Sturge, 10s; Dr. W. J. Treutler, 10s.; Mrs. W. J. Treutler, 10s.; M. J. Teesdale, Esq., 7s. 6d.; Mrs. MacLeod, 7s.; Mrs. Scott (sen.), 7s.; Rev. Arthur Shipham, 6s.; A. B. R. Wallis, Esq., 6s.; and donations from the following members: Charles J. Faux, Esq., £1 1s.; and Johnston Macfie, Esq., 5s.

The Committee of the Brent Valley and Richmond Branch has pleasure in acknowledging the following subscriptions: Inglis Taylor, Esq., 10s. 6d.; W. S. M. Burns, Esq., 10s.; R. Gordon, Esq., 10s.; F. W. Lawrence, Esq., 10s.; T. P. Morgan, Esq. (jun.), 10s.

Library.—The Honorary Librarian will attend at 20, Hanover Square, from 6 p.m. to 6.30 p.m., on the evenings of April 20 and May 18, for the purpose of issuing books to members.

The Honorary Librarian has pleasure in announcing the following additions to the Library: "Final Natural History Essays," by Graham Renshaw; "The Minimising of Maurice," by the Rev. S. N. Sedgwick; "Some Nature Biographies," by J. J. Ward; "Whose Home is the Wilderness," by William J. Long, all kindly presented by the Editor.

NEWS FROM THE BRANCHES.

Birmingham and Midland Branch.—On Thursday, March 5, the "Town Hall" Lecture was delivered by Mr. John J. Ward, author of "Some Nature Biographies," &c., on "Insect Life through Microscope and Camera." The audience consisted of children invited from many of the elementary schools of the city, upwards of 1,300 being present; the head teachers of the schools; and

members and friends of the Society. The lecturer dealt with his subject in a manner calculated to instruct and interest even the youngest of the children, and all followed the lecture with close attention. The lantern views from Mr. Ward's own photographs were particularly good, the series showing the various transformations from the egg to the fully-developed White Admiral butterfly being especially beautiful. Mr. Ward also gave a very interesting life-history of the Hover fly, a frequent visitor to the flower garden.

Some groups of butterflies and moths photographed by the new colour process were also exhibited.

Mr. T. H. Russell presided, and at the close proposed a hearty vote of thanks to the Lecturer, which was carried by acclamation.

Twenty-four voluntary stewards rendered great assistance in placing the children in their allotted seats, and Mr. Perkins, the city organist, played a selection on the organ before the commencement of the lecture.

EXCURSIONS.

Saturday, February 22.—By the courtesy of the Secretary of the General Post Office, a party consisting of thirty members was allowed to visit the buildings at St. Martin-le-Grand. In all eighty applications reached the Excursions Secretary, and those who were in time to receive tickets had good reason to be pleased that they were able to do so. The party was split up into four sections, each of which was supplied with a competent guide, who explained very lucidly the system regulating the whole process of receiving, sorting, stamping and despatching the letters.

The Posting Box, or rather the room which bears this name, was first visited, and it was explained that the country letters are, immediately upon collection, placed in mailbags, and sent to the country sorting office at Mount Pleasant.

The town letters are dealt with in the St. Martin's office itself. They are taken to the sorting tables and "faced": that is, they are arranged so that the stamps are all in the same relative position. This operation is performed in order to facilitate stamping, which is done by four stamping machines. The stamps are obliterated at an almost incredible speed, each machine being capable of dealing with 200 letters per minute. Letters of odd sizes will not pass through the machines, so the stamps upon them have to be cancelled by hand stamps.

The letters are next sorted into districts, and those which are to be delivered by the postmen on the St. Martin's staff are subdivided into rounds, whilst those for the suburbs are despatched *en bloc* to the local sub offices.

The "Blind Office" which is usually mis-named "the Dead Letter Office," is a department where five experts devote their time to the deciphering of insufficiently and illegibly directed letters. The addresses they have to decipher are often puzzles, and would defy any less expert than the veterans who deal with them. Even they, however, have perforce to employ the aid of interpreters in order to deal with the numerous letters consigned to the many aliens who dwell in our mighty metropolis.

Another interesting department is the "Hospital," where an official devotes his whole time to patching up parcels and letters which have become damaged during transit.

The guides tell a story that upon one occasion a chameleon, enclosed in a cardboard box, was once discovered by this gentleman, who was, it seems, somewhat afraid of it and wished to destroy it. We were glad to learn, however, that although it *is* against the regulations to send such parcels, the lady to whom the little creature was consigned was communicated with, and eventually received her pet in safety.

Each different batch of letters is stamped with its own particular stamp, so that the officials have a record of through whose hands each individual letter has passed. Few of us realize, when we hear the familiar rat-tat of the postman, the intricate system which enables us to receive our letters in such a prompt and certain manner.

On *Saturday, March* 7, Mr. T. A. Joyce, one of the staff, conducted a party of twenty-five members and friends over the Ethnographical Galleries of the British Museum. He gave a very interesting discourse on "The Stone Stage in

Recent History," showing how nearly all native races, when discovered, were in a state of civilization corresponding to some period in Stone Stage History.

The Tasmanians were in the Palæolithic Stage. Their implements were of roughly chipped stone, not ground as were those of the Australians, who belonged to a later stage of the Stone age. The Australians used hafted implements, the stone portion being fixed to the wooden or bone portion of the implement by means of lumps of gum. When telegraphy was introduced into Australia, the natives used the insulators as material for the manufacture of their implements, the earthenware chipping more readily than flint. This race also used glass for the same purpose.

Mr. Joyce explained the use of the boomerang, which was not intended as a weapon of defence or offence, but as a hunting implement. The natives hid behind bushes, and, owing to the curved flight of the boomerang, were not obliged to show themselves to their intended victims.

The Maories were of a still later stage. The stone axes of the Maories are of exceptionally fine workmanship, many being made of jade, which is a very hard material. Jade weapons were only used by the chiefs, one of these weapons taking a generation to make.

The Australian natives practised scar-tattooing as a form of ornamentation; the Maories employed a much finer kind, the process being extremely painful and lengthy. They preserved the heads of both their friends and their enemies.

The Polynesians proper had no flax, and no animals larger than the rat until Captain Cook introduced the pig. In consequence they had no weaving, and could not make use of skins in the manufacture of their clothing. Instead, they used *Kapa* or *Tapa*, which was made from the paper-mulberry plant. The strips were beaten, when in a moist condition, into a form of vegetable felt, which was used as clothing. Vegetable fibre was also used in making the feather cloaks of their chiefs. The chiefs were allowed to wear red and yellow, whilst the king wore yellow only.

In the North American Gallery the obsidian masks of Mexico were the chief centre of interest. A crystal skull is also worthy of especial mention, being carved out of hard crystal without the aid of steel implements.

The Peruvians made excellent pottery, although in other branches of art, such as drawing, they were less enlightened.

Mr. Joyce also traced out in a very interesting manner the history of the Axe and the Bow. In Tasmania and Australia the axe was used as a weapon, and in the other grades of Stone age civilization it became a god. In New Zealand it was also a symbol of rank, whilst in Melanesia it had attained the dignity of a currency. A jade axe would buy a fat man.

Mr. McNeil Rushforth proposed, and Mr. Poole seconded, a vote of thanks to the guide, which was heartily accorded to him.

FORTHCOMING EVENTS.

Council and Committee Meetings.

Monday, April 13.—General Purposes Committee at 5.30 p.m.
Tuesday, May 26.—Council Meeting at 5.30 p.m.

The Annual Soirée.

The Annual Soirée will be held on Friday, May 1, 1908, in the Theatre and Halls of the Civil Service Commission (Old London University), Burlington Gardens, New Bond Street, W., from 7.30 to 11 p.m.

The Right Hon. Lord Avebury, President of the Selborne Society, will preside.

The programme will include a lecture by the Honorary Secretary of the Society, Mr. Wilfred Mark Webb, F.L.S., on "*The History of Punch and Judy*," illustrated by lantern slides and the present-day puppet show.

There will also be exhibited in the Theatre during the evening some striking cinematographic pictures of living birds, by the courtesy of Messrs. L. Kamm and Co.

The South-West Hall will, as usual, be devoted to microscopes, while the other available space will be occupied by exhibits of all kinds, and it is hoped to arrange a series of interesting experiments. Music will be provided by Mr. Franz Zeidler's Bijou Orchestra.

Two tickets, the price of which together will be 2s. 6d., *will be sent to all members of the Society, who can obtain additional tickets* (by sending a stamped addressed envelope and a remittance to the Head Office of the Selborne Society, 20, Hanover Square, London, W.) *at the rate of one for* 1s. 6d. *and two for* 2s. 6d. On the day of the Soirée the price of a ticket to admit one will be 2s. 6d.

No price will be printed on the tickets, and it is hoped that members who are unable to be present themselves will make the work of the Society known by giving them to friends who will be able to attend. It will greatly facilitate the work of the Conversazione Committee if members will send an early reply to the Honorary Secretary, and make any application for further tickets that they may require without delay.

Brent Valley and Richmond Branch.—The Annual Meeting will take place in St. George's Hall, Bond Street, Ealing, on Thursday, April 9, 1908, at 8 p.m. The Hon. Sir John Cockburn, K.C.M.G., M.D., Vice-President of the Selborne Society, will take the chair. Mr. Robert H. Read, M.B.O.U., will give a lecture on "The Birds of Brent Valley," and there will be an exhibition of lantern slides illustrating the life of the Bird Sanctuary.

Excursions.

Saturday, April 11.—Visit to the Orient Royal Mail s.s. "Orontes," at Tilbury, by kind permission of the Managers of the Line. Train leaves Fenchurch Street Station (L.T. and S.Ry.) at 2.15 p.m. Return from Tilbury at 5.55 p.m., arriving at Fenchurch Street at 6.55. Members who wish to attend must send in their names to the Honorary Excursions Secretary, before April 4, *enclosing a stamped addressed envelope.* Members will procure their railway tickets at the Booking Office (return fare 1s. 6d.), and assemble on the platform before 2.15 p.m. Reserved carriages will be provided.

Saturday, April 25.—West Wickham. Meet at West Wickham Station at 3.15 p.m. Train leaves Charing Cross at 2.10 (change at Cannon Street), Cannon Street at 2.27, and London Bridge (S.E. and C. Ry.) at 2.30 p.m. *Enquire if it is necessary to change at Elmer's End.* Take single tickets, 11½d. Tea at "The Cricketers," Addington. Guide, Mr. Matthew Hunt.

Saturday, May 2.—Farthing Downs and Devilsden Woods. Meet at Coulsdon Station on arrival of train leaving Charing Cross 2.12, Cannon Street 2.12, London Bridge 2.18 p.m. S.E.Ry. (passengers from Cannon Street *change at Purley*). Return ticket 2s. Guide, Mr. H. H. Poole.

All these trains should be verified in the April and May time tables.

All communications with regard to Excursions should be addressed to Mr. H. H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

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1. All communications for NATURE NOTES must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for NATURE NOTES (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. BOULGER, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. JOHN BALE, SONS AND DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership, should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, WILFRED MARK WEBB, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 221. MAY, 1908. Vol. XIX.

LUMINANCE IN PLANTS AND ANIMALS.

THERE are few subjects more curious, and none, perhaps, less understood, than the occasional luminance of certain plants and animals. The writer does not allude to that phosphorescence which arises from decomposing substances, and which everyone must have observed on putrid fish, decaying fungi, and the like; but to those luminous appearances exhibited under peculiar conditions by living structures, as, for example, by the flowers of the marigold and by the female fire-fly. The former phenomena are owing to an actual combustion of phosphoric matter in the atmosphere, precisely similar to that which takes place when we rub a stick of phosphorus on the walls of a dark chamber; the latter belong to peculiar states of growth and excitement, and seem at times to be ascribable to electricity, at others to phosphorescence, and not infrequently to plain optical principles.

Flowers of an orange colour, as the marigold and nasturtium, occasionally present a luminous appearance on still, warm evenings; this light being either in the form of faint electric sparks, or steadier, like the phosphorescence of the glow-worm. The tube rose has also been observed on sultry evenings, after thunder, when the air was highly charged with electric fluid, to emit small scintillations, in great abundance, from such of its flowers as were fading. Several of the fungi which grow in warm and damp places manifest a similar luminosity, and that when in their most healthy and vigorous state. The spawn of the truffle, the most esteemed of the fungus family, is also accounted luminous; and, from this circumstance, may be collected at night in the truffle-grounds. Some varieties of the lichens are occasionally phosphorescent, and are more or less luminous in the dark.

A plant, the true family of which has not yet been ascertained, was discovered by an Englishman in a jungle in East

India. The explorer, having been compelled by a storm to take shelter at night under a mass of rock in the jungle, was astonished to see a blaze of phosphoric light over all the grass in the vicinity. This unnamed plant abounds in the jungles near the foot of the hills in the Madura district.

The writer advises gardeners to be on the look out for this curious phenomenon, and to examine all such rhizomes as they may have in their possession in the hope of finding it; for assuredly they would hardly hit upon a thing of more than ordinary interest. Plants habitually luminous, and constantly so at night, would form quite a new feature in our gardens, and are well worth any degree of trouble that may attend their discovery.

It must be observed that the above instances of luminance refer only to the living and healthy organism, and are independent of that phosphorescence which is often exhibited during the decomposition of vegetable matter. That this light may sometimes depend upon phosphoric excretion is very likely, as it has been found that the parts emitting it are the most luminous when immersed in pure oxygen, and cease to emit when excluded from that element. This is precisely what would take place with a stick of phosphorus, and it may be that at certain seasons phosphoric substances are taken up from the soil by the growing vegetable, and excreted under those conditions of warmth, moisture, and atmospheric influence above alluded to. It is equally evident, if observers are not mistaken as to the scintillating nature of the light occasionally emitted, that there must be some other cause than phosphorescence, and to no agency can it with more likelihood be ascribed than to electricity. The earth and atmosphere are often in different electric states, and when so the leaves and spikelets of vegetables would afford the most prominent points for the elimination of the passing fluid.

Let us turn next to luminance in animals—a phenomenon which has been observed and commented on from the earliest times of natural history. And here, again, we throw out of view those instances of phosphorescence which arise from decomposition, and which have been observed over the spots where animals are buried, or on their bodies even before death, as in cases of human tuberculosis.

As in the vegetable, so in the animal kingdom, luminance is a rare and somewhat irregular phenomenon, appearing not in the higher and more perfect races, but chiefly in the obscure and least important. The most vivid, perhaps, of all luminous creatures is the lantern-fly of the Tropics—the *Fulgora lanternaria* of Linnæus—which attains a length of three or four inches. It affords a light so great, that travellers walking by night are said to be enabled to pursue their journey with sufficient certainty if they tie one or two of them to a stick, and carry this before them in the manner of a torch.

Next in order comes the less luminous, but more familiar, fire-fly or glow-worm—*Lampyris noctiluca*. In this genus, the

male insect has expansive wings and horny wing-covers, and makes his flight through the air; the female is wingless, and crawls on the ground; hence the English appellation glow-*worm*. The light of the former is comparatively feeble, that of the latter beautiful and brilliant. These insects are frequently met with in July and August in woods, meadows, and on banks beneath hedges. The utility of the light of the females is supposed to consist in attracting the attention of the males during the dark, when alone they are able to render themselves conspicuous—a circumstance to which Moore beautifully alludes—

> "For well I knew the lustre shed
> From my rich wings, when proudliest spread,
> Was in its nature lambent, pure
> And innocent as is the light,
> The glow-worm hangs out to allure
> Her mate to her green bower at night."

This theory, though probably not correct, is not altogether fanciful, as was proved by Olivier, who frequently caught males by holding females in his hand. Besides, without some such apparatus, it is difficult to conceive how a crawling insect could attract the attention of its mate, whose principal medium of motion is the atmosphere. Be this as it may, the light undoubtedly serves some important purpose in the economy of the glow-worm, and manifests itself even when the insect is in its larval state.

If the luminous portion of the abdomen be removed, it retains its luminous property for some time, and when apparently extinct, it may be reproduced by softening the matter with water. Olivier, in his experiments, could only reproduce it within thirty-six hours after the death of the animal, and that only once, and by the direct application of heat. Darwin, who examined the *Lampyridæ* of South America, found also that the light was most brilliant when the insects were irritated. "The shining matter," he says, "was fluid, and very adhesive: little spots, where the skin had been torn, continued bright, with a slight scintillation, whilst the uninjured parts were obscured. When the insect was decapitated, the rings remained uninterruptedly bright, but not so brilliant as before: local irritation with a needle always increased the vividness of the light. From these facts, it would appear probable that the animal has only the power of concealing or extinguishing the light for short intervals, and that at other times the light is involuntary." The brilliancy of the light is increased by plunging the insect into warm water, but cold water extinguishes it. If the insect is crushed, and the face or hands rubbed with it, they contract a luminous appearance similar to that produced from phosphorus.

Passing over several land insects—such as certain beetles, scolopendra, &c.—which exhibit more or less luminance, some of the marine animals presenting similar phenomena may next be referred to.

One of the most common is the night-shining nereis—*Nereis noctiluca*. The body of this little creature is a mere oblong speck, so minute as to elude examination by the naked eye. It inhabits every sea, and is one of the causes of the shining of the water in the night, which is sometimes so great as to make the water appear as if on fire. Myriads of these creatures are found on all kinds of seaweeds, but they often leave them and swim on the surface of the water. They are common at all seasons, but particularly in summer before stormy weather, when they are more agitated and more luminous than at other times. Their numbers and wonderful agility, added to their luminous property, must contribute not a little to that phosphorescence so often observed on the ocean; for myriads are contained in a single glass of water. The iridescence or lustre of various fishes may be also caused by these animalcules attaching themselves to their scales.

Besides the *Nereidæ*, there are many other sea-animalcules, minute *Crustacea*, *Medusæ*, *Infusoria*, and certain corallines possessing luminous properties, which, when congregated in shoals, give to the agitated waters that phosphorescent brilliancy observed by almost every navigator. It is difficult, however, in many of these instances, to say whether the luminance is the result of decay, or of a vital and peculiar principle. It may be remarked, however, that when the waves scintillate with bright green sparks, the light is owing to the presence of minute living creatures, and that, when the phosphorescence is steadier, and of a paler hue, the proximate cause is the decay of gelatinous particles with which the ocean abounds.

The phenomenon happens most frequently in warm countries, and most brilliantly immediately after a few days of still weather. Now, though such would certainly be most favourable to the rapid increase of minute animals, it would at the same time be equally active in hastening the process of decay, so that, in the majority of instances, the phosphorescence of the ocean may be safely attributed to the decomposition of organic particles.

From all the experiments which have been made, it would seem that animal luminance is a true phosphorescence, increased by warmth, and made most obvious when the animal is disturbed or put in motion. In plants, it was surmised on fairly good grounds that electricity was sometimes the illuminating agency; but in animals we have no such reason.

The light occasionally yielded by plants seems to be in most cases the result of phosphoric emissions; in some, it appears to arise from the presence of electricity. In the former case, the phosphorus must be taken up from the soil, which is known to contain many phosphates; in the latter, the plants seem to act as the mere conductors of electricity from one medium to another. On the other hand, luminance in animals seems in all cases to be owing to the presence of phosphoric matter; nor is there any difficulty in accounting for its presence. In the dead

organism of plants and animals, phosphorescence is no rare phenomenon. Its appearance in plants prepares us for its occurrence in the humbler animals, and its presence there ought to do away with any surprise at its occasional manifestation in the higher forms of animation.

P. Walton Harrison.

THE BOTANY OF BUILDING ESTATES.

By Charles Nicholson, B.E.N.A.

WHEN a piece of land is cleared and cut up for building purposes, the removal of turf, digging of foundations, excavations for sewers, and other processes, necessarily cause a great disturbance of the surface soil, and what is not immediately built on forms a fine nursery for the straying seeds of innumerable plants, which readily germinate and grow in bare soil without much regard to its composition and texture. Such places are, therefore, often of much interest to the botanist, and are always worth a visit while the building is going on; and even when the houses are built it often pays to inspect the gardens in their raw state, unusual plants being not infrequently met with in such places. The results of my own explorations in the neighbourhood of Hale End and Woodford Green, where much spasmodic building goes on, are set forth below, and I divide the localities according to the nature of the ground, drawing special attention to the "casual" and "alien" plants met with in my wanderings.

It will be desirable first to note the distinction between the terms *native*, *colonist*, and *alien*, when applied to plants and as defined by H. C. Watson in "Cybele Britannica." A *native* plant is apparently an aboriginal British species, which has not been introduced by human agency, and I shall treat as such, for the purposes of this article, all species included in the ninth edition of the "London Catalogue of British Plants," except those classed therein as aliens and colonists; *aliens* being understood as presumably, or actually known to have been, introduced originally from other countries by man, but now more or less established in this; *colonists*, as weeds of cultivated land or the vicinity of houses. By *casuals*, I mean plants commonly found, but not necessarily native, in other parts of the country, and certainly not native in this district. In this neighbourhood a building estate is apparently a piece of land on which one or more roadways are marked out, kerbed, ballasted with coarse shingle and then left to Nature's tender mercies, a house or two being sometimes put up here and there just to show what is intended. The coarse shingle gradually gets covered with a

variety of plants, of which the common buttercups, clovers, dandelions, plantains, hawkweeds, docks, goosefoots, grasses, shepherd's-purse, groundsel, and knotgrass furnish by far the greater part, the seeds being, no doubt, mostly supplied from local stock; but a fair proportion probably come with the shingle, and amongst these are sometimes those of aliens or casuals, which may not appear until a year or two after their arrival, when some chance disturbance of the stones gives them an opportunity to germinate. In such situations in Hale End I have met with the casuals: Viper's Bugloss (*Echium vulgare*), Common Melilot (*Melilotus officinalis*), Round-leaved Mallow (*Malva rotundifolia*), Small-flowered Willow Herb (*Epilobium parviflorum*), Narrow-leaved Pepperwort (*Lepidium ruderale*) and Wormseed Treacle Mustard (*Erysimum cheiranthoides*), the last-named only a few inches in height owing to the poor soil; and the aliens: *Salvia horminum* and Canadian Fleabane (*Erigeron canadense*). I have also found the Rosebay (*Epilobium angustifolium*) and Great Willow Herb (*E. hirsutum*) in similar situations not exceeding 18 inches in height, both occurring of the normal stature of 4 or 5 feet in suitable spots elsewhere in the district. A heap of builders' rubbish, mainly consisting of mortar refuse, cement dust, bricks and slabs of concrete, gradually became overgrown with grass and weeds, among which appeared a patch of the colonist, *Lepidium draba*, and one specimen each of the casuals—White, or Evening, Campion (*Lychnis alba*), Bladder Campion (*Silene cucubalus*), and the apricot-scented Night-flowering Catchfly (*S. noctiflora*). On another estate from which the turf had been removed, leaving the clay exposed, the most noteworthy plant found was the alien, *Melilotus indica*, a native of warm countries. The casual, Lesser Wart-cress (*Coronopus didymus*), and its commoner relative, Greater Wart-cress (*C. ruellii*) were also observed, as well as Many-seeded Goosefoot (*Chenopodium polyspermum*), which turns up in some plenty hereabout on newly disturbed wastes. In some of the gardens on this estate I found the *Erysimum* again, but 2 feet high, instead of a few inches as above mentioned. Lesser Yellow Trefoil (*Trifolium dubium*, or *minus*) and Black Medick (*Medicago lupulina*) grow commonly on stony ground, and being almost indistinguishable from one another in March, except by a botanist, are about equally drawn upon to do duty as "shamrock." In summer they can be easily separated, the pods of the latter being dull black, kidney-shaped, and exposed in a bunch at the end of a stalk, while those of the clover are concealed within the bunches of little dead flowers.

Passing on now to the Woodford Green district, mention may be made first of *Impatiens parviflora* (a small-flowered balsam native in mountain woods in Siberia), a specimen of which was found in 1906. Last year the species was better represented, there being about a dozen plants. On the Monkhams estate, recently cut up and partly built on, the casual, Stinking

Groundsel (*Senecio viscosus*), and the aliens, White Melilot (*M. alba*), Common Flax (*Linum usitatissimum*), and Field Woodruff (*Asperula arvensis*), with *Galinsoga parviflora* and *Sisymbrium pannonicum*, turned up on the newly-made roadways, whilst on the adjoining field, from which the turf had been removed partly, several plants of Purple Cow Wheat (*Melampyrum arvense*) showed up conspicuously in the sunshine amongst a medley of small plants, with the aliens, *Crupina vulgaris*, which looks like a cross between a Catchfly and a Knapweed, and *Vicia pannonica*, var. *purpurascens*, a Vetch with remarkably hairy, stout and short pods. But, so far, the best locality about here has proved to be an estate near Woodford Wells, to which I paid a passing visit in the early autumn of 1905, and quickly recognised it as a very paradise for the botanist, being not only a "casual" ward but a dumping ground for "aliens" into the bargain. There is only one road on this estate, one end of which was apparently a small orchard. Here I found on one side of the made roadway, and bordering it, a belt of lime-covered soil, on which was growing a perfect forest of Upright Goosefoot (*Chenopodium urbicum*) with a few examples of Gold-of-Pleasure (*Camelina fœtida*) and some climbing Buckwheat (*Polygonum convolvulus*) interspersed, the first two being aliens, and the last a casual. Further along, in a small belt of trees, were a good many low bushy plants of Black Nightshade (*Solanum nigrum*). On the other side of the road was a mixed growth, amongst which Corn Cockles (*Lychnis githago*) predominated; one or two Blue-Bottles (*Centaurea cyanus*), a plant of Corn Spurrey (*Spergula arvensis*), Many-seeded Goosefoot—all of which are casuals—Buckwheat (*Fagopyrum esculentum*) and one specimen of *Blitum capitatum*—both alien species—were also observed. The last-named is remarkable, and perhaps unique, as being of unknown origin, its native country not having yet been ascertained. There was also the branched upright-growing form of Knotgrass (*Polygonum aviculare*) some 18 inches or more in height, and a little further along was a large patch of Marsh Cudweed (*Gnaphalium uliginosum*), some of the plants being large and very spreading. Beyond this again was a regular jungle, the bulk of which consisted of Common and Pale-flowered Persicarias (*P. persicaria* and *P. lapathifolium*), Docks, Knotgrass, White Goosefoot and Spear Plume-Thistles (*Cnicus lanceolatus*). Amongst these, however, were noticed the following casuals: Common and Common Red Hemp-nettles (*Galeopsis tetrahit* and *G. angustifolia*) and Bladder, Night-flowering and White Campions; also the aliens, Pale Yellow Woundwort (*Stachys annua*), Grey Madwort (*Alyssum incanum*), each represented by several specimens, and one plant of Ox-eye Chamomile (*Anthemis tinctoria*). There were many Evening Primroses, too, and one Great Snapdragon (*Antirrhinum majus*), which may have come as seeds from neighbouring gardens, but from their positions, I am inclined to think not.

By no means the least interesting feature of this paradise

was the extraordinary way in which certain species were grouped in separate patches. It will be noticed that a fair proportion of the species enumerated are more or less common in the eastern counties, and I think it may be safely assumed that the seeds from which they sprang came with the sand, shingle and other materials, and that these were brought from one or another of those counties by the Great Eastern Railway, which serves the whole district. A most astonishing fact has yet to be told. When I paid an expectant visit to the estate in 1906, not a vestige of the unusual plants was to be seen. The jungle, corn-cockles, cudweed and belt of goosefoot had absolutely vanished, and their places were occupied by grass, a few common small weeds, docks and thistles. Why this should be I am at a loss to understand, but conjecture that, in the interval between the dying-down of the plants and the time when the seeds they had dropped should have germinated, the grass and local weeds spread over the whole available surface, preventing such germination and smothering any growths which may have been able to start. Perhaps some competent botanist among readers of NATURE NOTES may be able to suggest a likelier explanation.

SELBORNIANA.

LEGISLATION ON THE IMPORTATION OF BIRDS.—We have received the following letter from Mr. A. Holte Macpherson. "In the note on this subject in the April number, reference is made to the fact that in the opinion of some the retail sale of feathers should be dealt with. It is interesting in this connection to turn to the law of the State of New York:—"Wild birds other than English sparrows (and certain other birds named) shall not be taken or possessed at any time, dead or alive, except under the authority of a certificate issued under this Act. No part of the plumage, skin or body of any bird protected by this section, shall be sold or had in possession for sale. The provisions of this section shall not apply to game birds, for which an open season is provided in this Act." (Section 33, Forest, Fish and Game Law of 1900, as amended by chap. 443, Laws of 1903). This is possibly too comprehensive to serve at present as a model for similar legislation in this country, but is admirably clear and simple in form.

TREES, OLD AND NEW.—An interesting lecture was delivered on March 19 at Carpenters' Hall, by Professor Somerville, of Oxford, in which, with the aid of a magnificent series of lantern slides, he classified our British-grown trees into those truly native and those of human introduction in ancient and modern

times. Basing his conclusions largely on Mr. Clement Reid's researches into the seeds and fruits found fossil in our Post-Glacial gravel and peat, he enumerated as truly native the following species: Scots Pine, Yew, Birch, Juniper, Oak, Beech, Rowan (Mountain Ash), Whitebeam, Service, Hawthorn, Blackthorn, Wild Cherry (Gean), Guelder Rose, Elder, Holly, Field Maple, Goat Willow (Sallow), Aspen, Hornbeam, Alder, Hazel, Plum, Bird Cherry, Crab Apple, Wayfaring Tree.

As introduced in Roman times, the lecturer enumerated the English Elm, the Sycamore, the Lime and the Sweet Chestnut. After the Roman evacuation, an interval of about a thousand years passed before any other introduction. Subsequently the following species were introduced: Norway Spruce, Silver Fir, Common Larch (1730), Oriental Plane, Horse Chestnut, Walnut, Weeping Willow, Cedar of Lebanon (about 1650), Mount Atlas Cedar, Deodara (1831), Himalayan Spruce, Maidenhair (Ginkgo), Japanese Larch, Araucaria (Monkey Puzzle), and numerous North-American species, *e.g.* (amongst others), Ash-Leafed Maple, Virginian Juniper, Catalpa, Douglas Fir, Menzies Spruce, *Pinus insignis*, *Abies nobilis*, Redwood (*Sequoia sempervirens*), *Wellingtonia gigantea*, and Lawson's Cypress. We notice in these lists the omission of the Box, which is perhaps of Roman introduction, and certainly occurs among Roman remains from Silchester in the Reading Museum. We are indebted to Mr. H. B. Watt for the lists of trees mentioned by Professor Somerville.

Excursion to Scarborough on Whit-Monday.—The Birmingham Field Naturalists' Club are arranging a visit to Scarborough for Whit-Monday, June 8, and hope that any Selbornians in the locality will join them. Particulars can be obtained from the Hon. Secretary, People's Hall, Hurst Street, Birmingham.

Nature Study Course for Women.—We have been asked to call attention to a course of training in Nature Study for Women, to be held at the Horticultural College, Swanley, from Saturday, August 1, to Saturday, August 15. The instruction, which will be mostly out of doors, will include studies in plant-life and plant-geography by Mr. R. J. Tabor and Mr. M. Wilson; studies in pond-life, insects and birds by Miss Hibbert-Ware, and garden lectures and demonstrations by Miss M. Agar. The fee, including board and lodging, is from five guineas. Further particulars can be obtained from the Secretary at the College. A very attractive illustrated syllabus of their ordinary year's work has also just been received from the same College.

NATURAL HISTORY NOTES.

613. **Birds and Mountains**—*Erratum.*—In this note, p. 72, l. 15, for "South-west corner of the Carpathians," read "South-west corner of the Caspian."

614. **Stoats.**—One day I disturbed a stoat engaged in hunting on the river bank, that immediately took to the water and swam with considerable speed to the other side. Being startled at my approach, it made as much commotion and noise in swimming as a dabchick when scuttling along the surface of the water. It then took to cover and swam quietly across a moat; but on again catching sight of me retreated in haste, making the same disturbance in the water as at first. Then it ascended a tree, scampering up the trunk with the ease and quickness of a squirrel, and hid among some ivy until I had gone away. Stoats are great wanderers, and can easily be distinguished from weasels, even at a distance, by the black tuft at the end of the tail, which is conspicuously displayed as they pass rapidly from spot to spot.

South-acre, Swaffham,
April, 1908. EDMUND THOMAS DAUBENY.

615. **A House in a Wood.**—Your contributor's delightful description of her woodland home quite makes the mouth of a town-dwelling Nature-lover water. I should like to ask her two questions, without, however, in any way discrediting her statements. What evidence has she that nightjars prey on the goat-moth? This insect is so large in expanse of wing and size of body that I should have thought it too large a mouthful for even a nightjar's expansive gape. What becomes of the bones of the rabbits and birds which the woodants remove, "leaving in a very few days no trace of them except a tiny pile of feathers, or shreds of fur?" Surely the ants do not carry away the bones also; in fact, I have seen it recommended, in preparing skeletons of small birds and mammals, that the corpses should be placed on or near an anthill to be cleaned.

Hale End, Chingford. C. NICHOLSON.

616. **A Bird's Education.**—In his comments on my article bearing the above title, Mr. Nicholson settles offhand some of the difficult problems of the migration of birds in a way so satisfactory to himself, that it is almost a pity to attempt to upset it. He says that "birds migrate because of scarcity of food." A little examination into this very common belief will show that it is often erroneous. Neither dearth of food nor the approach of cold weather are a cause of migration in young birds, for they go at a time when food is plentiful; the weather in July and August being warmer than earlier in the year. Young starlings migrate at the end of June, ringed plover, golden plover, ruff, dunlin, whimbral, redshank, greenshank, in July, all being young individuals. In the case of the birds in my garden—and about thirty-six kinds breed in it—there are five times as many, not counting sparrows, in the spring, as at Midsummer. In July and August even the tits desert us; while green plover and rooks, both of which are highly migratory, forsake the fields, comparatively few being seen till the end of autumn.

One of the greatest migratory puzzles is how young birds make their first journey to foreign lands without a guide. Mr. Nicholson cuts the knot by informing us that "the inherited experience called 'instinct' sends them off in the right direction." This is no explanation at all as far as information is concerned. It is merely a way of getting out of a difficulty by resorting to the worn-out theory of blind instinct, which makes us none the wiser, though it does satisfy many minds, especially those who do not take the trouble to try and probe the matter to its depths.

Vast clouds of moths of certain kinds pass over Heligoland and away from the continent of Europe, on their one and only migration every year. Hardly a single individual survives the journey, and they never return to the land of their birth. Some strange impulse, the nature of which at present we cannot fathom,

causes these myriads of feeble creatures, most of which cannot fly against the wind, to undertake a single fatal journey. What kind of instinct is this? It cannot be inherited; because those that remain behind must have, if anything, an inherited tendency to stay at home.

This migration of insects is fatal to the theory that migration is the result of the "inherited experience called instinct."

Mr. W. G. Nightingale considers "276 miles an hour" a great pace for the Black Swift. And so it is for a bird that is in the habit of flying at no great height above the earth, where the atmosphere is dense. High-fliers, however, that resort to great altitudes, eight or ten miles above sea-level, perform their migratory journeys in a rarity of atmosphere that offers but slight resistance to a velocity far greater than the one he mentions.

The question of the pace of birds when migrating has already been entered into in back numbers of NATURE NOTES.

South-acre, Swaffham. EDMUND THOS. DAUBENY.

617. Golden Oriole.—A Golden Oriole was seen for about a week near Kettering at the beginning of last December, and another near Oundle at about the same time, by two of my friends. I reported one that I saw near Sidmouth in November, 1903, at the time, but saw no reference to it in NATURE NOTES, so presume it was overlooked.

Haselbeech Rectory, Northampton, March 9, 1908. W. A. SHAW.

618. The Goldfinch.—Mr. G. A. B. Dewar asks if Redcap is a North Country name for the Goldfinch, to which question I can say it is, or was, certainly a Lincolnshire Wold name for that bird. In my boyhood, on those Wolds, thirty to forty years ago, the Goldfinch was not known to us by any other name. The only bird known to us as the Goldfinch, or "Goolie," as we used to generally call it, was the Yellowhammer. Not having access to any books on birds in those days, it was not until I went, in my teens, to live in Manchester, that I learnt differently. Subsequently I have resided in Cheshire, Hampshire, Sussex, Kent, and Nottinghamshire, but never heard, in any of these counties, the name Redcap applied to the Goldfinch. These birds are not at all uncommon on the Wolds. On the last Sunday of 1903 I counted more than a score in one flock flying from bush to bush; and on Christmas Day last, while fossil-hunting in a chalk-pit, I was delighted by the company of about half-a-dozen "flitting" from thistlehead to knapweed, twittering their sweet song all the time. As Mr. Dewar speaks so highly of another author's lines, may I be permitted to say there are few authors whose writings delight me more than his own? Only recently had I an opportunity to read his "Glamour of the Earth," which was kindly lent me by Mrs. Cordeaux (widow of the late well-known ornithologist), who is herself a great admirer of Mr. Dewar's writings.

Louth, Lincs., February 5. C. S. CARTER.

619. Do British Spiders Bite Human Beings?—I remember reading of a gentlemen, a naturalist, I think, and possibly the Rev. J. G. Wood, having been bitten by a garden spider. He was conscious of a sharp prick on his finger, which was followed shortly by a dull aching pain lasting for some little time, but no other results. I cannot at present trace this note in any of my books, but I believe the above is the substance of it. It is possible that house-spiders could produce a similar effect, but I know of no record, and it seems extremely unlikely that any small spider, however black (!), could make any impression with its falces on the human skin. Could not "A Folklorist" (p. 73) manage to secure a few specimens of those mentioned in his note and forward them to Mr. F. P. Smith, 15, Cloudesley Place, London, N., who would certainly be able to identify them.

Hale End, Chingford. C. NICHOLSON.

620.—In reply to Folklorist, I am of opinion that house-spiders *can*, but *do not* bite human beings. I have studied spiders of all kinds for the last forty

years. During the spring and autumn "clean" if spiders are discovered I am always called to the rescue, and always carry them out in my hands, I have also handled all kinds of spiders, *Octonoculina* and *Senoculina*, and may safely say with Mr. A. F. Staveley, that there is no English species capable of inflicting on man a poisoned wound of any severity. I went into my cellar a short time ago at 9 p.m., and felt a sharp bite or sting on the forehead, which soon began to swell up badly, and was swollen for some days: it was not the bite of a spider, but one of the thousands of gnats which hibernate there. I am of opinion that the gentleman noticed a spider on his hand, *but not* the gnat which escaped.

Barmby Moor, York, W. D. Wood Rees.
April 4, 1908.

621. Plant Movements.—I am obliged to Mr. C. Nicholson for his kind remarks and questions in Nature Notes for March. In reply I can only say my observations were almost entirely confined to *the* violet (*Viola odorata*) and its many seed varieties, as "Czar," &c., the notes being in almost all cases made on cultivated specimens.

That no reference was made to this in the conclusion of my article was an omission, for I find I have the necessary notes, couched in almost the same words as Mr. Nicholson's critique. These should have followed the account of the dispersal of seed in the furze (*Ulex*) and the vetches.

This peculiarity of the genus (*Viola*) has to be taken account of in saving seed of the pansy and violas, or tufted pansies, for if the box or pan containing the gathered capsules be not covered over by a piece of glass or cardboard, the chances are very little seed will be found in it when required.

St. Peter's Road, South Croydon, Thomas Bunyard.
April 11, 1908.

NATURAL HISTORY QUERIES.

143. Weasels or Stoats,—which?—I am informed on reliable authority that last autumn some workmen came across about thirty weasels coming across a field, of which they killed several. A day or two later, near the same spot, they saw about eighteen on the road. Is this not an unusual sight? Were they weasels or stoats?

Barmby Moor, Yorks, W. D. W. Rees.
April 4, 1908.

ASTRONOMICAL NOTES FOR MAY, 1908.

Mercury will be visible as an evening star, setting about two hours after the sun at the close of the month; near the new moon on evening of 31st.

Venus sets shortly before midnight, and will be a brilliant object in the western sky after sunset. She will attain her greatest lustre on the 29th. The moon will be in the same quarter of the sky on 3rd and 4th.

Mars sets about 10.30 p.m., but will only be faintly visible in the evening twilight.

Jupiter will be splendidly visible in the south-west sky before midnight. He is placed amongst the small stars of Cancer. In same region as the moon on the 6th and 7th.

Uranus is well visible in telescopes, but rises late, and is at a very high altitude in Sagittarius.

Saturn will be presented as a morning star, rising on the 1st at 3.42 a.m., and on the 31st at 1.50 a.m.

Shooting stars are likely to be numerous during the first week in May, but they will appear after 1 a.m. in the morning. This shower is directed from Aquarius, and is supposed to be connected with Halley's comet, which is expected to return in 1910.

The evening sky is now very attractive, with the brilliant planets Venus and Jupiter displayed to their best advantage.

W. F. D.

REVIEWS AND EXCHANGES.

A Guide to the Exhibited Series of Insects. With 62 Illustrations. $8\frac{1}{2} \times 5\frac{1}{2}$ in. Pp. 60. Price 1s. British Museum (Natural History), Zoological Department. Insect Section.

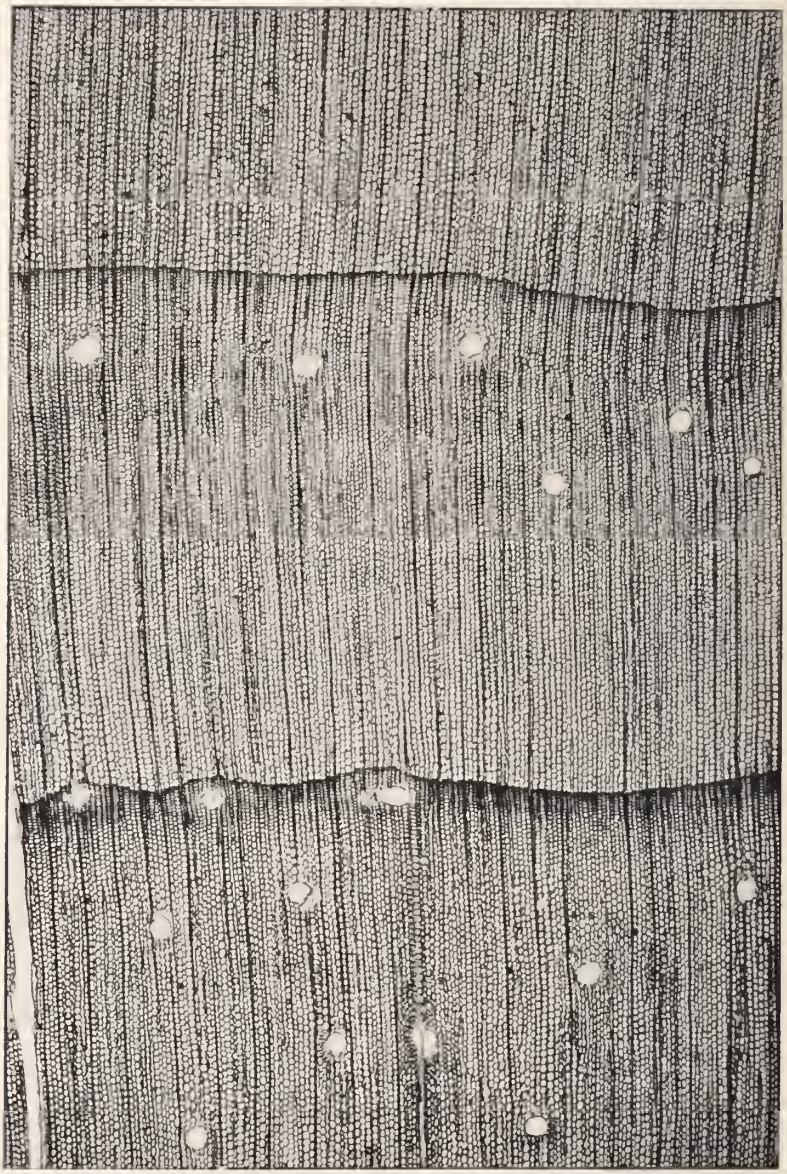
The casual visitor to our National Collection wishing to obtain some general notions on the animal kingdom, may well be misled by the relatively small space occupied in the public galleries by insects. The main collection, we are told in this Guide, "is estimated to contain 1,150,000 specimens, and comprises about 155,700 named species, occupying 13,000 drawers and 602 boxes." This is accessible to students, but is in the basement of the building, and is, therefore, not seen by the general public. The Class *Insecta* is not only the most numerously represented, so far as species are concerned, in the animal kingdom, but furnishes such a wealth of illustration of biological principles that it has often appeared to us that more space should have been given to its representation in the public galleries. As it is, we are inclined to think that the most important omission in this excellent Guide is a general plan of the Museum indicating the whereabouts of the Insect Gallery. The author—presumably, from the signature to the preface, Mr. Charles O. Waterhouse—furnishes us with an only too brief summary of the structure and classification of the Class. This only extends to seven pages, much of which is occupied by illustrations. He then passes in review the ten orders into which he subdivides the Class. The excellent illustrations have almost all been specially prepared from the specimens in the Gallery. Evolutionists will be interested to find that the author ventures upon a genealogical table of the group, but we do not notice any reference to its fossil representatives, or to the geological sequence of its subdivisions. As we are told that the arrangement of the Gallery and the Guide are both provisional, we can only hope that at an early date Mr. Waterhouse will "let himself go" in a new edition.

The Insect Book. By W. Percival Westell. Illustrated with photographs by R. B. Imisson. $6\frac{3}{4} \times 4\frac{1}{4}$ in. Pp. 120. John Lane. Price 3s. net.

This attractive booklet is of a very different character to the last-mentioned work. It is one of Mr. Lane's tasteful "Country Handbooks," and the author makes no pretence to a scientific or exhaustive treatment of his subject. He gives us chapters on the insect-life of the garden, the waterside, the woodland, meadows, heaths, lanes and houses, illustrated by thirty-six excellent photographs. The book is calculated to serve as a suitable introduction to such works as Professor G. H. Carpenter's or Mr. Oswald Latter's.

Wood: A Manual of the Natural History and Industrial Applications of the Timbers of Commerce. By G. S. Boulger. Second Edition. With 48 plates and other illustrations. $8\frac{7}{8} \times 5\frac{5}{8}$ in. Pp. 348. Edward Arnold. Price 12s. 6d. net.

This is a revised and enlarged edition, entirely re-set, of a work which we reviewed in November, 1902. Some 300 species have been added to the descriptive portion, bringing the number of woods dealt with up to about a thousand. Another new feature is the series of full-page plates, giving transverse sections of typical woods, uniformly magnified to 30 diameters. The specimen which we are permitted by the publisher to reproduce represents portions of three annual



Transverse Section ("end grain") of Yellow Pine (*Pinus Strobus*), the White Pine of America, or Weymouth Pine of Gardens.

From "Wood," by G. S. Boulger (by kind permission of Mr. Edward Arnold).

rings of the very simple wood known in English commerce as Yellow Pine, the type of the series known as "Soft Pines," a wood entirely composed of tracheids with a few resin passages, and little or no distinction between spring and autumn wood. Such a timber offers a striking contrast to such complex woods as those of the Laburnum or Elm. A full specific index of scientific and popular names has also been added.

BLUE-BOTTLES ON STAPELIA (CARRION-FLOWER).

From "Last Hours with Nature" (by kind permission of Mr. T. Fisher Unwin.)

Last Hours with Nature. By Eliza Brightwen, edited by W. H. Chesson. Illustrated. $7\frac{1}{2} \times 5$ in. Pp. 223. T. Fisher Unwin. Price 2s. 6d. net.

The many admirers of the popular but accurate works of our late Vice-President, Mrs. Brightwen, will be glad to have this collection of papers by her, most of which have appeared either in NATURE NOTES or *The Girl's Own Paper*. The diaries referring to a tour made by Mr. and Mrs. Brightwen in 1870, and to the Natural-History observations of the latter, 1896, both of which are freely illustrated by Mrs. Brightwen herself, are peculiarly vivid and varied in their interest. The editor has done his work with scrupulous care; and we are glad to see that he promises us another volume in which none of the contents of this one will be included, and which is to be entitled "The Life and Thoughts of a Naturalist."

Our Woodlands, Heaths and Hedges: A Popular Description of British Trees, Shrubs, Wild Fruits, &c., with Notices of their Insect Inhabitants. By W. F. Coleman. Illustrated by the author. New edition, $7\frac{3}{8} \times 5$ in. Pp. 140. Routledge. Price 1s.

This cheap handbook, originally designed as a companion to the late Rev. J. G. Wood's "Common Objects of the Country," has, we are informed on the title-page, been entirely re-set. The list of trees and shrubs with which it deals in brief fashion is fairly comprehensive, and short technical descriptions, including the entirely unnecessary Linnæan classification, are appended as footnotes. A lengthy list of *Lepidoptera* is given, grouped under the names of the trees on which they feed.

Received: Board of Agriculture and Fisheries Leaflets, No. 188, *Fumigation with Hydrocyanic Acid Gas*, and No. 204, *Apple Tree Mildew* (*Sphærotheca mali*); The British Institute of Social Service, Report for 1907; National Conference of Guilds of Health, February 25, Report; *The American Botanist* for January; *The Victorian Naturalist* for March; *The Journal of Horticulture* for March and April, and *The Naturalist*, *The Irish Naturalist*, *British Birds*, *The Animals' Friend*, *The Agricultural Economist*, and *The Estate Magazine* for April.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

Central Society.—The following members stand for election: Miss A. de Anson; John W. Board, Esq.; Walter Burton, Esq.; J. Buxton, Esq., M.R.C.S.; Arthur F. Charrington, Esq.; Dr. A. E. C. Dickinson; H. D. Everington, Esq.; F. R. Farrow, Esq., F.R.I.B.A.; Miss M. Featherstonehaugh; The Hon. Mrs. Leveson Gower; G. Herbert Goodman, Esq.; L. C. Harwood, Esq.; The Rev. R. W. Hoare; J. A. Hughes, Esq.; The Rev. G. R. Macaulay; F. J. Meadows, Esq.; The Rev. E. D. S. Ram; H. R. Schön, Esq.; Charles H. Stanley, Esq.; John Ward, Esq.; Lieutenant-Colonel Warde; The Hon. Mrs. Warde; C. H. E. West, Esq.; Mrs. W. P. Wynne.

Brent Valley and Richmond Branch.—Dr. Carol L. Batteson; A. E. Buckhurst, Esq.; Miss Annie Baxter; Cecil R. W. Chapman, Esq.; Miss Chipchase; M. J. Cole, Esq.; Dr. Arthur D. Deane; W. Barclay Dick, Esq.; L.R.C.P.; Mrs. W. B. Dick; G. F. Harwood, Esq.; Miss Hoare; Mrs. Hodgskin; Arthur Lay, Esq.; Miss S. E. Lyndon: Percival Mallinson, Esq.; Miss Rita May; E. Miller, Esq; R. V. Murphy, Esq.; George H. Newman, Esq.; Herbert J. Norman, Esq.; A. Ramsay, Esq.; A. E. Robinson, Esq.; Arthur Ruston, Esq.; Frederick V. Ruston, Esq.; E. Cubit Sayers, Esq.; H. Pruitt Shanks, Esq.; Percy C. Stallworthy, Esq.; Mrs. Stallworthy; Captain E. Stracey-Clitherow; Miss Laura E. Symonds; Mrs. Eugéne Thompson; C. H. Ward, Esq.; John

H. Witty, Esq.; Miss Jane Wood; Francis C. Woodbridge, Esq.; E. J. Wright, Esq.

Mithurst Branch.—Mrs. Coombe.

Subscriptions.—Subscriptions of greater value than 5s. have been received from the following members: J. H. Bowman, Esq., £1 1s.; Mrs. Brewin, £1 1s.; F. A. Currey, Esq., £1 1s.; Mrs. F. A. Currey, £1 1s.; Mrs. Broomhead-Colton-Fox, 10s.; Miss Broomhead-Colton-Fox, 10s.; Miss Hagen, 10s.; G. B. Milne-Redhead, Esq., 10s.; W. E. Milne-Redhead, Esq., 7s. 6d.

Library.—The Honorary Librarian will attend at 20, Hanover Square, from 6 p.m. to 6.30 p.m., on the evenings of May 18 and June 15, for the purpose of issuing books to members.

The Honorary Librarian has pleasure in announcing the following additions to the Library: "The Sea Shore," "Shown to the Children" Series, by Janet H. Kelman and Rev. T. Wood; "Three Voyages of a Naturalist," by M. J. Nicol; "Wild Bees, Wasps and Ants," by E. Saunders, F.R.S., F.L.S.; "The Age of the Earth," by W. J. Sollas, D.Sc., F.R.S., all kindly presented by the Editor.

NEWS FROM THE BRANCHES.

Brent Valley and Richmond Branch.—The Annual General Meeting of the Brent Valley and Richmond Branch was held at St. George's Hall, Ealing, on Thursday, April 9. There was a good attendance and the chair was taken by the Hon. Sir John Cockburn, K.C.M.G., M.D. The balance-sheets for the past two years were read and adopted.

During the past year the branch has grown at an astonishing rate, there being now nearly three hundred members. This rapid growth is mainly due to the interest shown in the Bird-Sanctuary which is carried on by the branch.

The following officers were elected for the ensuing year: President, The Hon. Sir John Cockburn, K.C.M.G., M.D. Vice-Presidents, Mr. A. A. George, Professor Henslow, Dr. Bowdler Sharpe and His Worship the Mayor of Ealing. Honorary Secretary and Treasurer, Mrs. Wilfred Mark Webb. Executive Committee, Miss Astbury, Mr. J. F. Davie, Miss Grout, Mr. Lawrence, Miss Parker, Mr. H. H. Poole, Mr. R. H. Read, and Mr. Wilfred Mark Webb. Bird-Sanctuary Committee, Miss Astbury, Mr. J. King, Mr. R. H. Read, Mr. H. H. Poole, Mr. B. Weaver, Mr. Wilfred Mark Webb and the Hon. Secretary.

A lecture on "The Birds of the Brent Valley," by Mr. R. H. Read, M.B.O.U., was enthusiastically received, as also was an exhibition of lantern slides of the Bird Sanctuary, made from photographs taken by Mr. H. H. Poole and Mr. Wilfred Mark Webb, F.L.S., and described by the latter. Mr. J. Milton Offord, F.R.M.S., very kindly lent and manipulated his lantern.

EXCURSIONS.

Saturday, March 14.—In the absence of Mr. George Nicholson, F.L.S., V.M.H., who was seriously ill, Dr. Otto Stapf, F.R.S., at very short notice, kindly met the party of some fifty Selbornians at Kew Gardens, and conducted them through the greenhouses, the Alpine Garden and the Museum. In all of these Dr. Stapf pointed out the plants best worth notice, and greatly increased the enjoyment of the members by the many interesting facts he mentioned about the different species. As often happens at meetings in a public place, members of the general community usurped the position of the Selbornians in such numbers as to render it difficult for the guide to make himself heard by all the party.

Before the members separated a hearty vote of thanks was passed to Dr. Stapf, on the proposition of Mrs. McKay, a member of the Council of the Society.

Saturday, March 28.—The Rector, Rev. J. Stephen Barrass, very kindly conducted a party of forty-nine members over the interesting Church of St. Lawrence Jewry. The church is of very early foundation, probably dating back to Saxon times, though the existing list of rectors, which is complete up-to-date, does not commence until 1180. The living was originally in the gift of the Abbot of Montreux, in Normandy. The earliest instititution of which there is

a record was made by the Bishop of London in 1180. In the fourteenth century the church was altered, and much of it remained until the great fire of London, when, with the exception of the Tower, all perished. Parts of the Tower are Norman; and undoubtedly Wren, who rebuilt the church, added a new face to it. The vestry minutes and churchwardens' accounts date from 1538, and the parish registers also from the time of Henry VIII. to the present time.

Many eminent names are connected with the Church, notably those of Sir Nicholas Bacon, Geoffrey Boleyn (Grandfather of Anne Boleyn), the Dormers and the Greshams.

There is a monument erected in the Church to the memory of Dr. John Tillotson, a very great preacher and lecturer, afterwards Archbishop of Canterbury, who was married and his children christened in this church. Most of the carving is by Grinling Gibbons. On the small side panels of the organ-case may be seen the distinctive signs of the great craftsman, *i.e.*, carvings of the pea pod and barley head. The carving on the pulpit by the same master hand is extremely beautiful.

The altar, though in a much smaller form, was saved from the fire of London, and enlarged fifty years ago. The carving is Elizabethan.

The organ was built by Harris, who probably designed it for the Temple Church, for the contract for which he was competing with another famous builder of the Stuart period.

The stained glass windows in the Church were all added during the Victorian Era. In the vestry there is a table made of carvings by Grinling Gibbons. Over the fire-place is a picture representing the martyrdom of St. Laurence. It is probable it was formerly an altar-piece in one of the chapels supported by the Worshipful Company of Girdlers.

The ceiling was painted in 1678 by Mr. Fuller, known as "the younger," son of Mr. Isaac Fuller, who painted the organ-case at Wadham College, Oxford. Both father and son studied in the School of Verrio, in Paris, their work closely resembling that of their master. The ceiling is composed of handmade plaster. The clock, which was made on Old London Bridge by one Cornelius Herbert, was purchased in 1721.

The plate, which is that of the combined parishes of St. Mary Magdalen, Milk Street, St. Michael's, Bassishaw, and St. Laurence Jewry, consists of a silver-gilt cup dated 1542, from St. Mary Magdalen's; a paten, probably of much older date, from the same parish; a second cup to match the first, dated 1682; from the parish of St. Laurence Jewry two cups, one of the period of Elizabeth and one of that of Edward VI., or Mary, four alms dishes, 1680; three great silver flagons and a silver gilt Augsburg cup.

A special service is held in St. Laurence Jewry on Michaelmas day every year in preparation for the election of the Lord Mayor. It was instituted in 1406 on the occasion of the second Mayoralty of Sir Richard Whittington, and has continued ever since. The ceremony terminates with the sword-bearer proceeding to the altar and inviting the Rector to dine with the Lord Mayor.

Saturday, April 11.—On this afternoon a party of sixty-two Selbornians were, by the courtesy of the Managers of the Orient-Royal Mail Steamship Line, privileged to visit the twin-screw s.s. "Orontes" in Tilbury Docks.

At the gangway the party was met by Mr. Astley, who was in charge of all the arrangements, and conducted to the first class dining room. Here a little book descriptive of the ship was given to each and the party was split up into groups of ten, each in charge of a steward. Every part of the ship was visited, from the captain's bridge to the shaft tunnels, from the forecastle to the stern. This fine ship was launched in 1902, and is 530 feet in length with a breadth of 58 feet, 10,000 horse power and 15,450 tons displacement. There is accommodation for over 320 first and second saloon passengers, besides third class, and the comfort and liberal space provided in the saloon cabins is particularly striking. Some of the inside cabins are on the Bibby system, whereby they have access to a porthole giving them direct light and air. The ship is fitted throughout with electric light and bells, electric fans for ventilation, and steam pipes for warming. The first class dining room is a large and lofty apartment 43 feet square, carried out in mahogany with ebony panels and coromandel-wood pilasters inlaid with mother-of-pearl and green shell. The smoking room is fitted in grey fumigated

oak, while the drawing room is panelled with bleached Italian walnut and satin-wood. The second saloon rooms are but little inferior to the first, and the very liberal allowance of deck space for both classes for exercise and amusement is especially noticeable. The Selbornians were shown the method of closing the watertight compartments, and many, braving the steep ladders and the oil, penetrated to the engine and boiler rooms, and went along the tunnels wherein run the twin screw shafts. The ladies were particularly interested in the excellent galley and pantry arrangements for the different classes.

One very striking feature is the comfortable quarters that are allotted to the steerage passengers: cabin space naturally is much less than in the saloons, but the comfortable dining room forms a great contrast to what steerage passengers in the past had to suffer. *Then* they were herded together like sheep, they were supplied with rough benches and coarse food on tin plates, which they themselves had to wash and store, *now* they sit at comfortable tables covered with white napery and decorated with flowers, and have a four-course dinner served by deft-handed stewards.

The curiosity of the Selbornians being now satisfied, they were invited to the great dining saloon, where they were entertained to tea by the Company, while the male members of the party also enjoyed the hospitality of the officers in the smoking room.

The great pleasure the Selbornians had experienced was expressed by the Honorary Excursion Secretary, who proposed a cordial vote of thanks to the Company and the Managers of the line, coupling with them the names of Mr. Mathieson, Third Officer, and Mr. Astley, who had so efficiently carried out all the arrangements for the comfort of the visitors.

This was carried by hearty acclamation and was acknowledged by Mr. Mathieson. The party then proceeded to the station and reached London just before 7 o'clock. The London, Tilbury and Southend Railway Company provided reserved carriages on both the outward and homeward journeys.

Thus pleasantly concluded the Winter Excursions of 1907-8.

FORTHCOMING EVENTS.

Council and Committee Meetings.

Monday, *May* 18.—General Purposes Committee at 5.30 p.m.
Tuesday, *May* 26.—Council Meeting at 5.30 p.m.

Excursions.

Saturday, *May* 2.—Farthing Downs and Devilsden Woods. Meet at Coulsdon Station on arrival of train leaving Charing Cross 2.12, Cannon Street 2.12, London Bridge (S.E.Ry.) 2.18 p.m. *Passengers from Cannon Street change at Purley.* Return ticket, 2s. Tea at the "Fox," Coulsdon Common, 1s. Guide, Mr. H. H. Poole.

Saturday, *May* 9.—Smallford, London Colney and Hatfield. Train leaves King's Cross (G.N.Ry.) at 2.30 p.m.. Take half-day return tickets to Hatfield (1s. 9d.), at Hatfield take single ticket to Smallford (3d.). Tea at Kemp's, White House, London Colney. Guide, Mr. Ernest A. Nash.

Saturday, *May* 16.—Ramble round Leatherhead and Mickleham. Take cheap return tickets to Leatherhead, 2s. Train leaves London Bridge (L.B. & S.C.Ry.), at 1.50 p.m., but the time must be verified from the excursion handbills issued in May. Guide, Mr. A. B. Wilkinson.

Saturday, *May* 23.—Gorhambury Park and ruins of Lord Bacon's house near St. Albans, by special permission of the Rt. Hon. the Earl of Verulam. Tea at cottage in the Park. Take cheap half-day excursion ticket to St. Albans (L. & N.W.Ry.), 2s. return. Train leaves Euston at 1.45 p.m., Willesden at 1.57, arriving at St. Albans at 2.45. *Enquire if change has to be made at Watford.* Return trains 8.15 and 9.15 Guide, Mr. W. Percival Westell, F.L.S., M.B.O.U.

Saturday, *May* 30.—Joint Botanical ramble with the Barnet Natural History Society and Field Club to Arkley Green Lane. Train leaves King's Cross (Met. Ry.), at 2.14 p.m. *Change at Finsbury Park.* Take return ticket to High Barnet, 1s. 3d. *Members only and number strictly limited.* Members

wishing to attend must apply to the Honorary Excursions Secretary before May 27, last post, enclosing stamped envelope.

Saturday, June 6.—No excursion, on account of Whitsuntide holiday.

PROJECTED ARRANGEMENTS, subject to alteration.

June 13.—Missenden and Great Hampden. Guide, Mr. Geo. Watts.

June 20.—Weybridge, St. George's Hill and Fox Warren. Guide, Dr. Henry Willson.

June 27.—Theydon Bois and Upshire. Guide, Mr. A. B. Hornblower.

July 4.—Pyrford Church and Newark Abbey. Guide, Rev. R. Ashington Bullen.

July 11.—West Drayton and Iver. Guide, Mr. Wilfred Mark Webb.

July 18.—Mr. W. Percival Westell will conduct an excursion.

July 25.—The Brent Valley Bird Sanctuary. Guides, The Sanctuary Committee.

August 8.—Rickmansworth and Chorley Wood. Guide, Mr. Geo. Watts.

August 15.—Ightham. Guide, Mr. K. W. Mumford.

All communications with regard to Excursions should be addressed to Mr. H. H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

Belgravia Junior Branch.—The following excursions have also been arranged for members of the Branch only:—

Wednesday, May 6.—Northwood.

Saturday, May 23.—Burnham Beeches.

Wednesday, June 17.—Chingford.

A lecture to children, by the Hon. Edwin Montagu, will be given on "Children's Pets," by kind permission of Mr. and Mrs. Campbell Newington, at the Holme, Inner Circle, Regent's Park, on June 18, at 5 p.m. There will also be an exhibition of the children's pets in the garden and conservatory at 4 p.m., before the lecture, when cards of commendation will be given to those pets showing the best results of care and affection, and also for beauty, intelligence, &c. Admission for non-members of the Belgravia Junior Branch (Natural History Club) will be: Adults 1s., children 6d., and entrance fee for exhibits 6d. As the numbers are limited, preference will be given to children bringing exhibits. Other applicants will receive their tickets later according to date of application.

Admission by tickets only, obtainable from Mrs. Almeric Fitzroy, 55, Lower Belgrave Street, London, S.W.

Saturday, June 27.—Iver.

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1. All communications for NATURE NOTES must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for NATURE NOTES (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. BOULGER, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. JOHN BALE, SONS AND DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership, should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, WILFRED MARK WEBB, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 222. JUNE, 1908. Vol. XIX.

IMPORTATION OF PLUMAGE PROHIBITION BILL.

It has long been the wish of the Council of the Selborne Society to take some decided steps towards checking the wholesale destruction of the most beautiful birds of the world for millinery purposes. Much can be done—something, perhaps, has been done—by persuasion; but legislative methods alone can deal with wholesale trade methods. Our President, therefore, after consulting representatives of kindred societies, has introduced into the House of Lords a Bill intituled "An Act to Prohibit the Importation of the Plumage and Skins of Wild Birds," and it has been read a second time and referred to a Select Committee. It is prefaced by the following memorandum:—

"The object of this Act is to check the wanton and wholesale destruction of birds which is being carried on everywhere throughout the British Empire, and in all parts of the world, without regard to the agricultural, educational, and æsthetic value of birds. As a proof of the extent of the destruction that at present goes on, and which is threatening the extinction of some of the most beautiful species, it may be mentioned that at the plume auctions held in London during the last six months of 1907 there were catalogued 19,742 skins of the birds of paradise, 1,411 packages of the nesting plumes of the white heron (representing the feathers of nearly 115,000 birds), besides immense numbers of the feathers and skins of almost every known species of ornamental plumaged bird. At the June sale, held at the Commercial Sale Rooms, 1,386 crowned pigeons' heads were sold, while among miscellaneous bird-skins one firm of auctioneers alone catalogued over 20,000 kingfishers. A deplorable feature of recent sales is the offer of large numbers of lyre birds' tails and of albatross quills. The constant repetition of such figures as the above—and these plume sales take

place at least every two months—shows that the Legislature must choose between the extermination or the protection of the birds in question.

"A precedent for legislation on this subject exists in the law that now obtains in the State of New York, where the entire feather trade of the United States has its centre; according to which law no wild birds, other than certain species named therein, and birds for which there is an open season, can be taken or possessed at any time, dead or alive, except under the authority of a certificate, and no part of the plumage, skin, or body of any protected bird can be sold or had in possession for sale. It is greatly to be desired that the British Parliament may follow the example thus set by the Legislature of the State of New York, and not delay taking action until it is too late."

The Bill itself runs as follows:—

"Be it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

"(1) Any person who, after January first one thousand nine hundred and nine, shall import or bring into the United Kingdom for the purpose of sale or exchange the plumage, skin, or body, or any part of the plumage, skin or body, or any dead wild bird which is not included in the schedule of exemption to this Act, shall be guilty of an offence, and shall on summary conviction be liable to a penalty of not exceeding five pounds, and for every subsequent offence to a penalty not exceeding twenty-five pounds, and in every case the court shall order forfeiture and destruction of the articles in respect of which the offence has been committed.

"Provided that this section shall not apply—

"(*a*) to anything done by virtue of a licence issued from time to time by the Board of Trade under such conditions and regulations as they may prescribe for the purpose of supplying specimens of any birds not included in the schedule to any particular natural history or other museum or for the purpose of definite scientific research; or

"(*b*) to the plumage, skin, or body, or to any parts thereof, of any bird not included in the schedule to this Act and forming part of the wearing apparel being *bona fide* the property of and either actually in the use of or accompanying any person entering the United Kingdom and not being for the purpose of sale or exchange. Every such person shall if so required made a written declaration to this effect.

"(2) On the advice and with the consent of the Privy Council the name of any other foreign wild bird may at any time be added to or removed from the schedule to this Act by notice published in the *Gazette*, and thereupon the provisions of this

Act shall take effect as if such bird had been included in or removed from the schedule to this Act.

"(3) Section forty-two of the Customs Consolidation Act, 1876, shall be read as if there were included in the Table of Prohibitions and Restrictions therein contained the following words, viz. :—

"Birds which are not included in the schedule to an Act intituled 'An Act to prohibit the Importation of the Plumage and Skins of Wild Birds.'

"(4) All offences under this Act may be prosecuted and penalties and forfeitures under this Act recovered—

"(i.) In England, in manner provided by the Summary Jurisdiction (England) Acts; and

"(ii.) In Scotland, before the sheriff in manner provided by the Summary Procedure Act, 1864, and any Acts amending the same; and

"(iii.) In Ireland, within the police district of Dublin metropolis, in manner provided by the Acts regulating the powers and duties of justices of the peace for such district or of the police of such district, and elsewhere in Ireland before two justices in manner provided by the Petty Sessions (Ireland) Act, 1851, and any Act amending the same.

"(5) This Act may be cited as the Importation of Plumage Prohibition Act, 1908."

SCHEDULE.

Birds Exempted.

(1) Ostriches.
(2) Eider ducks.
(4) Wild birds used as articles of diet.

THE ANNUAL CONVERSAZIONE.

ON the evening of Friday, May 1, the Annual Conversazione was held in the Theatre and Halls of the Civil Service Commission, Burlington Gardens. It was by far the largest gathering yet held under the auspices of the Selborne Society, as there were upwards of 1,000 guests. Among those present were Lord Avebury, D.C.L., F.R.S. (President), Miss Amy Astbury, Mr. and Mrs. F. Watson Baker, Mr. E. J. Bedford, Mr. E. Bidwell, Professor Boulger, F.L.S., F.G.S. (Editor of NATURE NOTES), Dr. and Mrs. James Buckland, Dr. Dudley Buxton (Chairman of Council), Mrs. Dudley Buxton, Mr. Miller Christy (President of the Essex Field Club), Mr. and Mrs. J. Shaw Crompton, Miss Ethel Crompton, Mr. J. F. Davie, Mr. Fred Enock, F.L.S., F.E.S., and Mrs. Enock, Mrs. Almeric Fitzroy, Miss Fitzroy, Colonel Hendley, Mr.

and Mrs. F. W. Hewitt-Ketley, Mr. and Mrs. Bryan Hook, Mr. John Hopkinson, F.L.S. (Honorary Secretary of the Ray Society), Mr. Rashleigh Holt-White, the Rev. H. N. Hutchinson, B.A., F.G.S., and Mrs. Hutchinson, Mr. T. H. W. Idris, M.P., Dr. Robert Jones, Mr. and Mrs. A. S. Kennard, Miss Latham, Mr. T. A. Lehfeldt, Mr. and Mrs. Montague Lubbock, Sir Charles, Lady and Miss Winifred Lyall, Miss Lyle, Dr. and Mrs. Maples, Lady Martin, Mrs. Ord Marshall, Mrs. McKay, Miss Dorothy Meihe, Mr., Mrs., and the Misses Mühlberg, Mrs. Percy Myles, Mr. E. A. Nash, Mr. Myddelton Nash, Mrs. Nash, Mr. Philip Norman, Mr. Milton Offord, Mr. Alfred W. Oke, Mr. and Mrs. G. K. Paley, Mr. H. H. Poole (Honorary Librarian), Mr. F. W. Rudler, I.S.O., F.G.S., Mr. F. McNeil Rushforth, Dr. and Mrs. Dukinfield Scott, Councillor and Mrs. H. W. Simpson, Miss Tench, Mr., Mrs., and Miss Castle Turner, Mr. and Mrs. R. Marshman Wattson, Mr. and Mrs. C. O. Waterhouse, Mr. Wilfred Mark Webb, F.L.S. (Honorary Secretary), Mrs. Wilfred Mark Webb, Mr. and Mrs. W. Percival Westell, Miss Wood, Mrs. J. H. Yoxall, and Miss Stella Yoxall.

At 8 o'clock Dr. Dudley Buxton, the Chairman of Council, received the guests in the Theatre, and half an hour later the President, Lord Avebury, took the chair. He said :—

"We all look forward to the Annual Meeting of the Selborne Society as one of the most delightful and interesting evenings of the year, thanks to the excellent arrangements of the Council and our indefatigable Secretary, Mr. Wilfred Mark Webb. It comes at the most delicious moment of the year. As Christina Rossetti said :—

> The days are clear
> Day after day,
> When April's here
> That leads to May,
> And June
> Must follow soon.
> Stay, June, stay !
> If only we could stop the moon
> And June !

"This year the Selborne Meeting seems to have brought the spring with it.

"I sometimes think we might take as a motto for the Selborne Society the beautiful text in Philippians : 'Whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report ; if there be any virtue, and if there be any praise, think on these things.' That injunction the members of the Selborne Society do their best to follow.

"The object of the Society, moreover, is to preserve. Unfortunately, as population increases, there is a tendency to root up beautiful flowers and to destroy the most beautiful birds.

"We have done our best to counteract this. The use of the so-called Egret feathers has been abandoned in the Army because

the authorities were satisfied of the cruelty involved. Unfortunately, ladies continue to wear them. I do not say that ladies are less humane than soldiers, because they do not, I think, realize the cruelty. It does not, however, the less exist.

"The destruction of the so-called Egrets and other beautiful birds unfortunately continues and, indeed, increases. During the last six months of last year, at the plume auctions held in London, there were catalogued no less than 19,712 Birds of Paradise, and 1,411 packages of the nesting plumes of the White Heron, representing nearly 115,000 birds. At the June sale 1,380 Crowned Pigeons' heads were sold, and one firm alone sold 20,000 Kingfishers. If this goes on for only a few years more, some of the most beautiful birds in the world will be practically exterminated.

"A few weeks ago I was urged by some of those who were most interested in the subject to invite the Societies concerned—the Zoological, the Linnean, the Society for the Protection of Birds, and of course, our own Society—to appoint delegates to consider the subject. They were good enough to do so; we had a conference on the subject, and a Bill, mainly on lines suggested by Mr. Buckland, has been agreed on. It has been approved by most of the societies, and I have every reason to hope that it will also be supported by the Zoological Society. It is hoped that it will be introduced into the House of Lords forthwith, and we hope you will endeavour to induce any of your friends in either House to give it their support."

As Sir Harry Johnston was unfortunately prevented from coming to town through illness, Lord Avebury called upon Mr. E. A. Nash, a Member of Council, to read his address, as follows:—

The Preservation of Beauty in English Scenery.

The other day I took the walk of a convalescent in the first glory of the spring, in a corner of one of the most beautiful southern counties of England, a county which, from the point of view of scenery and historical associations, stands in the first rank amongst such of the divisions of England as are famed for their landscapes and the buildings of their towns and villages. My hour's stroll was to lead me through a wood famous for wild life and displays of spring flowers, and, after crossing a piece of common remarkable for its almost arborescent gorse and its birch copse, was to return through a group of farm buildings celebrated amongst those who are fond of red-tiled roofs covered with golden lichen and of flint-walled, thatched-roofed cottages.

In the wood we found nailed up against tree trunks by a zealous keeper, owls, stoats, magpies, and a sparrow-hawk (the same keeper, by the by, seems to be indifferent to the destruction

of wild flowers and ferns which is going on at the hands of gypsies, trippers and villagers). The long green path, set with countless daffodils, which is one of the beauty spots of the neighbourhood, had been literally deflowered. The preceding Saturday or Sunday a small horde of ravagers from the neighbouring seaside town had come here. They had been preceded by a riding school, which had cut the turf and many of the clumps of primroses and daffodils to pieces; but the greatest damage had been done by school children and visitors to the seaside, who had been seized with a wild desire to uproot the daffodils, though they could hardly have got more than a few pence at most by selling them (it might be mentioned in parenthesis that all this was private property, though its owner does not oppose its being used by the public). In the farmstead great alterations had been going on during the winter, and the more picturesque buildings with their tiled roofs had been replaced by unsightly structures in corrugated iron, gleaming with all the frightful inharmoniousness of its grey-white metal and sharp edges. The farmer told us that this was due to a desire for economy on the part of the landlord. Personally, he rather preferred it to the tiles—I cannot say why—but his own thoughts ran a good deal more in another channel. The foxes had again raided his wife's poultry farm. He said it was a mockery for newspapers to advocate poultry farming in this or any other county where foxhunting was theoretically carried on. (He did not use the word "theoretically," I supply that from my knowledge of the very hollow nature of the foxhunting in this particular district. It is generally kept up by recently enriched people of considerable wealth, alien to the county, and in some cases to the country, who appreciate—but not quite rightly or proportionately—the varied and remarkable charms of English country life, and who ordain that there shall be foxhunting, and subsidize it accordingly.) The farmer went on to state that although complaints like his were met by the counter-assertion that the Hunt paid for the damage done by the foxes, it was well known, firstly, that when payment was made it was on a miserable scale, utterly disproportionate to the possibly prize birds the fox had destroyed; secondly, that you were looked upon disagreeably by the "gentry" if you made any claim for compensation at all; while thirdly, if you dared to take the law into your own hands and trap, shoot or poison the marauding fox . . . well, you might just as well give up your tenancy of the farm, which, like most of the land round here, was only let on a yearly lease.

We tried to console ourselves for these shadows on the beauty of the countryside by walking home through what we thought an unfrequented lane, rich in all the charms of spring flowers and budding foliage. This, however, was strewn with paper, chiefly by picnicking motorists, so obtrusive an object that one could not take one's eyes off it.

This rather peevish description of what were really the incidents of an hour's walk in a part of England once famed for its rural beauty seems to me to epitomize the troubles which must be borne (I hope not patiently) by many a fellow-member of the Selborne Society who walks, rides, bicycles or motors about England. Well, I have long since come to the conclusion that the interest of the educated mass of the English in the beauty and history of their own country is *very small*, while on the part of those who, under our present social organization, are still the uneducated classes, a sense of beauty seems to have completely disappeared. That it was there once is obvious from the style of cottage which existed prior to 1840, the style which, happily, still lingers in many parts of England. A love of beauty for beauty's sake, a sense of proportion and of fitness in the distribution of things must have been present in the minds of the peasantry long before it learned to read and write. For this peasantry furnished many a mute, inglorious artist as mason, joiner, wood-carver, carpenter, hedger, or ditcher. I have watched rural England somewhat attentively for over thirty years. I can remember what it was like before the reign of paper, when it was possible to take walks through woods, over commons and downs, along the seashore, up the Welsh mountains, by the English Lakes, and not see paper, paper, paper, everywhere; to sink down to rest among the pine needles or on some soft carpet of dead beech leaves and not put your hand on to a broken bottle which had contained beer, ginger-beer or whiskey.

No part of England now seems secure from the paper curse, unless it be parks that are enclosed within high walls, the right of ingress to which having been possibly withdrawn from the general public because that public could go nowhere without strewing paper, flinging bottles, tearing down the branches of trees, or uprooting wild flowers and ferns.

The devastation which is caused now year by year, owing to an ill-regulated love of botany, is deplorable. Between April 1 and July 1, people of town and country origin alike sally out into the wild places, pick armfuls of blossoms, and then a little later, in their weariness, strew them over the dusty roads. The indigenous flora is being rapidly exterminated, or perhaps I should say transferred from the wild places where it grew naturally, appropriately and beautifully, to more or less artificial gardens where it dies away, when people weary of it after a time, and naturally prefer the gaudy products of the florist.

As to the wild fauna, I have remembrances on both sides of the balance. I can remember the south coast of England before there was any protection of birds, when it was very difficult to get a close view of a gull, a rock-pigeon, cormorant, or guillemot; while on some recent visits to the same coast I have actually been able to sketch or photograph these wild birds from close proximity. The success which has attended the

legislation so strongly urged by the distinguished Chairman of to-day's proceedings ought to be some encouragement to him not to relax his efforts or his great influence, but to wage battle with the forces of snobbery quite as much as with the inertia of public bodies in favour of what remains of the British fauna.

I have just referred to the rage which seizes people, chiefly of the—as yet—uncultivated classes, for deflowering the country-side when it is at its most beautiful. The other day I walked alongside two plump, comfortable town women, down for a day in the country, who had entered one of the woods in this neighbourhood, and were gazing with rapture on a carpet of primroses. "Why, I should like to *roll* on 'em, I should," remarked one woman to the other. I do not know that she actually carried out this threat, but when I passed by half an hour later the place had lost much of its beauty. Many of the roots had been dug up, and an inordinate number of the blossoms had been picked. There it was, ravaged, ruined from the point of view of the artist for at least another year. Some of the primrose roots carried away may have blossomed in the woman's back-yard or little garden, and if so, I hope they did her soul some good. The better ideal to have aimed at, however, would have been to have brought that woman (or her children, who are perhaps more teachable) to realise that the primroses looked far better, were far more appropriate, growing in their own way, in their own surroundings; and further to have so worked and arranged things that this woman and her like should be able by a cheap train service and by easier hours of work to come and gloat over this beauty; as the leisured classes, if they have any spiritual leanings, are able to do at the present time. It is not now the people of leisure and education who go round digging up ferns and plants, and picking enormous quantities of flowers. The fashion has descended several steps in social rank, like other fashions that the poor are unthinking enough to copy from the rich.

The leisured classes, however, still wreak their wicked will on what should be regarded as the national beauty of Britain. There are plenty of ways of obtaining a sound knowledge of horsemanship and indulgence in that most healthful of all exercises—riding—without the excuse of hunting a fox or a stag with hounds. I certainly do not advocate the extirpation of the British fox; if I had my way I would reintroduce the wolf, the bear, and the other items of our lost mammalian fauna, but not for the purpose of pursuing them over the countryside, often under conditions of great cruelty, and to the sore damage of useful crops. Neither would I keep them as the fox is now kept, so that it is a source of the greatest inconvenience to those who try to earn a living by poultry farming, or who desire to introduce swans or other aquatic birds agreeable to the eye into lakes and ponds. The fox, like the wolf and the bear, various kinds of deer and bison, might be kept in sanctuaries,

forest reserves, and poisoned or shot when he strayed from them. Anyone wishing then to get a glimpse of wild Nature could do so, with no more personal danger than occurs to them in the Yellowstone Park or in the game reserves of Africa; For if you leave wild beasts alone, they leave you alone.

A movement, moreover, should really be promoted for the maintenance and extension of the beauty of England in town as well as in country. A Board should sit on the subject of corrugated iron, and pronounce as to whether it is really fit for exposure to the human eye. No doubt by painting it and finishing off its sharp edges, corrugated iron could be easily worked into our social economy without danger to our artistic morality.

Another crying iniquity is the advertisement board. No one has the courage to grasp this nettle, because there are so many vested interests at stake, including those of the distiller. Look at the Sussex country round Brighton. When you get within twenty miles of Brighton, if you have any sense of appropriateness or love of beauty left in you, it is better to shut your eyes. Nature has shaped this land of weald and down in such a way that it was once scarcely exceeded in picturesqueness by any other part of England. What is it now? Simply a dumping ground for the most hideous advertisement boards to be found anywhere within the three kingdoms. Surely this is not practical? This must lessen the passengers and sightseers carried by the Brighton Railway; this must in some way affect the vogue of Brighton? I have little or no fault to find with Brighton itself. I like a town to be a town, and Brighton is a very engaging town, with many attractions. Its museum alone is worth a visit. But I do feel that some legislative body should be brought into existence to determine what shall be town and what shall be country, that the towns shall be built not only to suit the latest ideas of sanitation, but to please the eye and inspire the mind; that the country shall be kept as the country, and that anyone who destroys and ravages the beauty of the countryside shall be dealt with as the abominable, if unconscious, malefactor that he or she is—at any rate from the point of view of those who think there is any mental and moral value in beautiful scenery and the interesting wild life of birds and beasts.

Unhappily, I am conscious that even if the present audience is good enough to listen with patience to these few remarks, outside the circle of the Selborne Society they will find no echo at all. The whole rest of the English world is either perfectly indifferent or actively malevolent where scenery or the preservation of wild beasts and birds is at stake.

To appreciate and to wish to maintain the beauty of English landscapes is thought to be either the professional peculiarity of a landscape painter (though landscape painters are nearly dead of inanition whilst the fashion is in for the purchase and re-purchase of Old Masters and the sneering at Modern) or of minor poets—since there are no major ones—or of cranks:

generally unpractical people, who are supposed to leave out of account the needs of the populace, on the one hand, for more houses and small holdings, or the claims of the well-to-do to erect certain games and pastimes into a society religion, and to pursue this religion recklessly, to the detriment, if need be, of the indigenous fauna and flora.

I am sorry to be so much out of touch with the spirit of the age, so old-fashioned as to love the English landscape in its natural condition, and to wish to see it still peopled to a reasonable degree with birds and beasts characteristic of the country and its climate. It is no consolation to me that the rhododendron or the azalea should replace the osmunda fern, the rarer kinds of British orchids, the box and the fritillary.

Why need we push to extremes the culture of the fox, which at most amuses about ten thousand people, or that of the pheasant, which may interest a hundred thousand? The fox is a beautiful and interesting mammal; by all means let it have its due place in our fauna; like the badger, weasel, stoat, polecat, marten—in short, every beast except the non-indigenous brown and black rats or the exceedingly destructive voles or field-mice.

In the case of creatures like unduly destructive rats, mice and voles, or the sparrow, we need raise no voice in defence. On the contrary, we should join the Society for the Destruction of Vermin. I would exterminate the brown and black rats altogether, because in every particular of their lives they are the foes of man and of many other mammals and birds. Neither the rat nor the sparrow is conspicuous or beautiful. The rhinoceros, the tiger, and even the bullfinch, on the contrary, atone for whatever annoyance they may cause by imposing bulk or beauty of coloration.

Surely there must be other ways of learning to handle a shot gun than the almost mechanical slaughter of pheasants, and other incentives to good riding than the pursuit of a fox? The pheasant is delicious as an article of food, and a joy to the eye from its beauty of plumage. It has been so long naturalized in Great Britain that it may well be regarded as having every claim to citizenship. Let it henceforth take its chance in our woods with the rest of the bird fauna, while in the poultry farms which we could maintain at great profit if the fox nuisance were abated, we could breed pheasants by the million for the table, without necessarily seeking for the extermination of owls, weasels, stoats, hawks, kites, crows, or even foxes, provided the latter kept to the places assigned to them.

The preferable course to follow would be to create, in various parts of the British Islands, National Parks—reserves in which all wild creatures (except rats and sparrows) might be encouraged to increase and multiply—miniature Yellowstone Parks. A very suitable locality for such a paradise would be Achill Island, off the west coast of Ireland, to which already

many interesting birds resort on account of its secluded position and mild climate. There are many other peninsulas, islands, mountain valleys, moorlands and marshes which could be marked off for the same purpose. In these there should be no asphalt paths, no band-stands, no refreshment kiosks (so dear to the heart of a municipal council), no azaleas or rhododendrons, no foreign beasts or birds. There must be guardians of these national parks who have the right to punish with the utmost severity the strewing of paper and bottles, the killing of any bird or beast, or the digging up of plants. Otherwise there shall be as little interference with the liberty of the subject as possible. No band shall play, no advertisement shall be permitted, nor shall any alcohol be sold therein.

Perhaps I might venture to make one last appeal, this time not to our enemies, but to our friends. A number of enthusiastic men record month by month the arrival—and almost simultaneously the death—of *rare birds*. A perfunctory remark of regret appears in announcing the killing, but almost immediately afterwards a sort of apology is inserted to the effect that the creature was killed for identification to ascertain whether it was the Greater or Lesser Redpoll, whether it was Snooks' Wren or Brooks' Wren. Now is not all this a little ridiculous? Do we not *quite sufficiently* know how to classify our fauna, at any rate, in birds and mammals? It is the rather attenuated remains of the fauna of North-western Europe with, on the part of the birds, occasional arrivals from the other side of the Atlantic, or from Scandinavia or Holland. Having put it at that, could we not all band together to punish any further slaying of new or rare birds that arrive on these shores? Would it not be preferable to put aside the bird gun in favour of the telephotographic lens? Does it *really* matter very much whether it is Jones' Warbler or Robinson's Fly-catcher, provided it is a new or rare kind of *Sylvia* or *Muscicapa* which, with absence of persecution, may take up its abode in these islands?

May I venture to hope in conclusion that Lord Avebury, who has done so much already to save our beauty of landscape and what remains of our wild beasts and birds, will not relax in his efforts to secure protection for both?

On the motion of the President, a hearty vote of thanks was returned to Sir Harry Johnston for his address, and to Mr. Nash for reading it. Mr. Rashleigh Holt-White proposed, and Professor Boulger seconded, a vote of thanks to His Majesty's First Commissioner of Works and to the Civil Service Commissioners for permission to hold the Conversazione in the offices of the latter. Dr. Dudley Buxton, in a few well-chosen words, proposed a vote of thanks to Lord Avebury for presiding; this was seconded by Mr. J. Shaw Crompton, R.I., Chairman of the Conversazione Committee, and was carried unanimously.

As usual, there was a large series of exhibits brought together,

which Lord Avebury proceeded to examine, while the Honorary Secretary gave a lecture on "The History of Punch and Judy," illustrated by lantern slides and the actual show as now presented by Messrs. Jesson Brothers. The subject was treated from an archæological point of view, and in the lecture the story of Punch and his old associates, when he was an actor in the old farces of Italy, was dealt with, as well as the antiquity of Puppet Shows, the origin of the name of Punch, his squeaky voice, his gay clothes, and a number of other topics of similar interest.

Upwards of sixty microscopes were exhibited by the following: Mr. Sydney C. Akehurst, Messrs. C. H. Baker and Co., Messrs. R. and J. Beck, Ltd., Mr. D. L. Chapman, Mr. Thomas N. Cox, Mr. T. D. Ersser, F.R.M.S., Mr. H. E. Freeman, Mr. E. C. Coulton. Mr. W. E. Gwinnell, F.G.S., Mr. Ernest Hinton, Mr. J. T. Holder, the Rev. H. N. Hutchinson, B.A., F.G.S., Mr. Peter Lawson, F.R.M.S., Mr. Richard T. Lewis, F.R.M.S., Mr. K. I. Marks, F.R.M.S., Mr. Milton Offord, F.R.M.S., Mr. H. Palmer, B.A., Mr. Max Poser, F.R.M.S., Mr. Charles F. Rousselet, Mr. Charles D. Soar, Mr. A. T. Spriggs, Mr. Alfred W. Stokes, F.G.S., F.I.C., Mr. George A. Stokes, Mr. J. Swift, Mr. H. Taverner, Mr. W. R. Traviss, Mr. Charles Turner, Mr. J. Walker, Messrs. W. Watson and Sons, Mr. J. Cooper Webb, and Messrs. Newton and Co.

The Rev. H. N. Hutchinson, B.A., F.G.S., exhibited his compound pendulum at work. Cameras and field-glasses suitable for natural history work came from the London Stereoscopic Company, as well as a number of framed photographs. Messrs. Kamm and Co. sent a new form of cinematograph, and Messrs. Newton and Co.'s gyroscope attracted a good deal of attention. Under the heading of Physics came also the tellurians, calendars and time dials of Messrs. George Philip and Son, Ltd. Dr. Russell, F.R.S., sent photographs of dust deposits, and the high frequency electrical apparatus of Messrs. H. W. Cox, Ltd., proved a very great attraction.

A selection of old water-marks from the collection of Mr. Clayton Beadle may be mentioned in connection with a model machine lent by Messrs. T. J. Marshall and Co., which actually made paper during the evening, while Messrs. W. H. Smith and Son sent an interesting exhibit illustrating the production of a modern magazine; the series included original drawings made for *The Country Home*, three-colour blocks for printing the cover, proofs, and matrices for casting the type.

Natural history was well represented. The exhibit made by the Rev. R. Ashington-Bullen. B.A., F.L.S., illustrated colour variation in shells; Mr. G. B. Sowerby also had a striking series of Molluscs. Birds and birds' skins came from Messrs. Rowland Ward, Ltd., and Mr. W. F. H. Rosenberg, F.Z.S. An interesting specimen was the skull of the hippopotamus which was for many years in the Zoological Gardens, and which was contributed by Messrs. Edward Gerrard and Sons.

The series of models of whales, made in proportion of one inch to the foot, by Messrs. W. R. and T. V. Sherrin, attracted attention in the Hall. Live animals and ants' nests formed the exhibit of Messrs. A. W. Gamage, Ltd. Exotic butterflies were brought by Mr. W. Dannatt, otoliths by Mr. B. Allan Frost, F.L.S., and nests of Indian birds by the Rev. W. A. Hamilton. Flying fish and other natural history subjects were lent by Miss Janet Eastwood. Messrs. Watkins and Doncaster illustrated protective resemblance and seasonal dimorphism in insects. The weather plant, which predicts weather and atmospheric disturbances, was shown and explained in detail by Professor Nowack.

Lantern slides of the Bird Sanctuary were shown by the Brent Valley and Richmond Branch, and Messrs. C. H. Baker and Co. gave demonstrations on a small screen suitable for class work.

There was a good display of archæological specimens. Mr. E. Bidwell showed the evolution of the candle-snuffer; mummy cloths came from Eton College Museum. Objects from the Red Hills in Essex, with a series of maps, were exhibited by Mr. Francis Reader on behalf of the Red Hill Exploration Committee. Two collections of brass farmhouse ornaments were shown, one by Lady Dorothy Neville and the other by Mr. J. H. Yoxall, M.P. A fine series of horse amulets were got together by Mr. C. V. A. Ottaway and Mr. Bernard Weaver. Several Fire Insurance Companies showed marks and plates. Some exhibits illustrating survivals in dress were arranged by the Honorary Secretary. Other exhibitors in this section were the Rev. R. Ashington-Bullen, Mr. A. S. Kennard, F.G.S., Mr. F. W. Rudler, I.S.O., F.G.S., and Mr. William Lawrence.

Gems and gem stones formed the exhibit of Mr. B. J. Tully, and specimens of these in the rough, as well as the minerals used in industrial arts, were lent by Mr. George H. Richards. Forest Bed fossils were brought by Mr. K. W. Mumford, and ammonites by Mr. James Francis, F.G.S.

Out of doors an astronomical telescope was mounted by Messrs. W. Watson and Sons, while in the South-West Hall Messrs. C. H. Baker and Co. showed a new star-finder, while an example of a new sundial globe invented by Professor R. A. Gregory came from Messrs. Newton and Co.

The following ladies and gentlemen formed the Conversazione Committee: Mr. J. Shaw Crompton, R.I. (Chairman); Dr. Dudley Buxton, Mr. John F. Davie, A.M.I.E.E.; Mr. William Lawrence, Mr. C. M. Mühlberg, Mr. Oscar J. Parker, M.A.; Mr. H. H. Poole, Mr. Bernard Weaver, and the Hon. Secretary. And they fulfilled the duties of stewards with the help of Miss Amy Astbury, Mr. W. Bickerton, F.Z.S., M.B.O.U.; Mr. T. S. Fox, Mr. Sidney J. King, Miss Lawrence, Mr. E. A. Nash, Mrs. Oscar Parker, and Mrs. Wilfred Mark Webb, to whom the thanks of the Society are especially due.

As on previous occasions, Mr. Franz Zeidler's Bijou Orchestra provided music, Messrs. J. and J. Hopkinson kindly lent the grand piano, while Mr. F. T. Dormer lent a number of glass cases, and the refreshments were provided by Messrs. Moon, Field, and Company.

NATURAL HISTORY NOTES.

622. "A House in a Wood."—In answer to your correspondent, C. Nicholson's questions about the nightjar destroying the goat-moth: The general belief in this neighbourhood is, I fancy, chiefly drawn from the fact that the woods where the nightjars abound are freer from the depredations of the goat-moth's larvæ. A farmer who has lived close to the woods described, and whose hop-gardens adjoin the woods, had never seen a goat-moth till last summer. Three miles off from these woods he discovered one and brought it to Mr. Craven to ask what it was. Woods belonging to friends some miles off are frightfully ravaged by the goat-moth larvæ, and the owners deplore the absence of nightjars and the scarcity of owls, which are also said to prey on the goat-moth.

Mr. Craven, who once examined a nightjar that had been shot, thinks its gape is quite equal to seizing the body of a goat-moth. I have myself seen small birds carrying butterflies to feed their young, much larger in proportion to their size than a goat-moth would be for the nightjar. But, of course, as both the nightjar and the goat-moth are nocturnal in their habits, it is very different for an ordinary observer to produce actual evidence.

As to the second part of C. Nicholson's question, regarding the ants, I believe the stoats and rats remove the bones of dead birds and rabbits. The ants clear up every particle of flesh and skin, as only little heaps of fluffy fur remain.

Brogues Wood, Biddenden. EMILY CONYBEARE-CRAVEN.

623. **Wood-mouse Transporting Young.**—While recently engaged in removing a rubbish heap in my garden, I disturbed the nest of a pair of wood-mice (*Mus sylvaticus*), which made for a hole in the ground near a fence a few yards off. The peculiar and retarded movements of one of the animals (the female) attracted my attention, and I first thought she had been injured by the garden fork, but on closer examination I found that she had a family of six young ones firmly holding on to the maternal breasts, and in this condition, in spite of some obstacles, they were borne to a place of safety. Somewhat earlier in the season I unearthed the nest of another pair of the same species, near which was a *cache* of acorns, stored up for winter use.

Byfleet, Surrey, JNO. FITZWATER.
May, 1908.

624. **Bird-names.**—Referring to the subject of bird-names, I would wish to thank Mr. Otter for his able and withal straightforward criticism of my paper on this subject. Nevertheless, I trust you will allow me to reply to a few of his remarks. First, I would premise that Mr. Otter's letter comes as no surprise to me, for there are few subjects over which one may more easily dispute, and on which two opinions are more easily tenable, than this of etymology, especially that relating to names of birds and flowers.

In some cases, as in the derivations of "lark" and "kestrel," I stand corrected, and beg to thank your correspondent for putting me right. Yet I cannot say I am convinced with regard to certain other names, of which I beg leave to submit a further note on "fieldfare," "knot," and "chaffinch."

That "fieldfare" should mean "field-goer" is at empting explanation, and, on the face of it, seems correct enough, yet there are strong reasons for supposing it to be derived from A. S. "fealo," yellow. In M. E. there are many variations, as "feldefare," "felfare," and "felfur," and from this it would appear that the word has been subjected to corruption in popular usage. "Fallow," as a colour,

was once the regular term to express the colour of an animal (cf. fallow-deer), but as this particular adjective soon became obsolete, it was exactly the term to become changed when books were rare. A consonant like D or B is often introduced between two others (as in thunder and cinder) and this, added to the nearly obsolete term, and confused with "field," would readily change "felfur" into "fieldfare." Surely a word so understanded of the people as "field" would continue without change. Next as to the word "knot," Mr. Otter states that he has never heard that Canute had a fondness for the flesh of this bird. Surely he does not advance this as an argument against any such derivation; if so, I can but pass it as the weakest of his arguments. Drayton, in his "Poly-olbion," written a little after Camden's "Britannia," writes :—

> "The Knot that called was Canutus bird of old
> Of that great King of Danes, his name that still doth hold.
> His apetite to please that farre and neere was sought
> For him (as some have sayd) from Denmark hither brought."

Willughby also quotes the same reason. The old Household Books, like that of Northumberland, tell us that the knot was customarily eaten by the great, and was considered a very passable dish. Till the end of the seventeenth century they were regularly fattened for table. I stated previously that this derivation might be accepted for want of a better, and even now it seems to me to be no strain to connect with a popular and great king, a bird which was eaten by a lord and noble, and was commonest on the Danelagh shores. This derivation seems more feasible than that connecting it with the word "gnat."

As to "chaffinch," the derivation from "chatterfinch" must seem possible to anyone hearing this bird in the hedgerow. Its note has made a great impression upon the rustic mind, as is shown by its local names of "spink" and "twink," and by the French and Celtic "pinçon" and "pinc." The bird's chirp is more striking than its food, and it therefore seems likely that the name should be derived from the former. As Mr. Otter draws my attention to the Latin name "furfurio," I would call his to the English "chiff-chaff."

Station House, Oxted, Surrey. C. S. HOLDER.

ASTRONOMICAL NOTES FOR JUNE, 1908.

Mercury will be well visible as an evening star during the first fortnight of the month. On the 7th he will be only one-third of a degree N. of Mars.

Venus will be brilliantly displayed as an evening star at the beginning of June, setting on the 1st at 11.11 p.m., but at the end of the month will have drawn too near to the sun for observation. Near new moon on the evenings of 1st and 2nd.

Mars is scarcely perceptible, but sets two hours after the sun at the opening of June. Very close to Mercury on evening of 7th.

Jupiter will be a conspicuous evening star, setting at 11.53 p.m. on 1st, and at 10.17 on 28th. Near moon on 3rd. After June the planet will be invisible until the mornings of September.

Saturn will be visible before sunrise, and rises at midnight at the close of June. Near moon on 21st.

Uranus is well visible in the morning hours. In conjunction with moon on June 16, when at 3.13 a.m. he will be half a degree N. of our satellite.

There will be a small partial eclipse of the sun observable on June 28, the times of occurrence being: Commencement 5.14 p.m., middle 5.38 p.m., ending 6.2 p.m.

At the time of the middle of the event, about one fifteenth of the sun's diameter will be hidden.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

Central Society.—The following members were elected at the last meeting of Council: Miss A. E. Agnew; Miss D. E. Allen; the Rev. G. E. Asker, M.A.; Miss Asker; Theodore Bell, Esq.; G. Binyon, Esq.; W. H. Blaber, Esq.; J. Buxton, Esq., R.C.S.; John W. Board, Esq.; Walter Buxton, Esq., F.Z.S.; A. Campbell, Esq.; James Campion, Esq.; Arthur F. Charrington, Esq.; Claude E. Collins, Esq.; Miss A. de Anson; Miss E. B. Dickens: Dr. A. E. C. Dickinson; the Rev. L. H. Dixon; L. W. Dunton, Esq.; H. D. Everington, Esq.; F. R. Farrow, Esq., F.R.I.B.A.; Miss M. Featherstonehaugh; Frederick M. Gillett, Esq.: C. Herbert Goodman, Esq.; the Hon. Mrs. Leveson Gower; L. C. Harwood, Esq.; Mrs. S. Henson; S. Henson, Esq.; the Rev. R. W. Hoare; W. Holman, Esq.; J. A. Hughes, Esq.; Edward S. James, Esq.; the Rev. G. R. Macaulay: John C. McCarroll, Esq., M.B.; F. J. Meadows, Esq.; Lady Katharine Morgan; C. W. Owen, Esq., M.R.C.S.Eng.; the Rev. E. D. S. Ram; Miss C. B. Rankine; the Rev. Canon Robinson: Richard Say, Esq.; H. R. Schön, Esq.; Charles H. Stanley, Esq.; Greville Toppin, Esq.; B. J. Sully, Esq.; John Ward, Esq.; Lt.-Col. Warde; the Hon. Mrs. Warde: C. H. E. West, Esq., F.S.I.; John H. Witty, Esq.; Mrs. W. P. Wynne.

Brighton Branch.—C. H. Thwaites, Esq.

Brent Valley and Richmond Branch.—Mrs. Adamson; Robert E. Addey, Esq.; D. Allport, Esq., jun.; Albert A. Barkas, Esq.; Dr. Carol L. Batteson; Miss Annie Baxter; Col. Beckett; Mrs. S. Beckett; Francis J. Beirne, Esq.; the Rev. M. Binney, M.A.; Walter R. Booth, Esq.; G. H. Breadmore, Esq.; John H. Brierley, Esq.; A. E. Buckhurst, Esq.; Cecil R. W. Chapman, Esq.; Miss E. A. Chipchase; Martin J. Cole, Esq.; J. H. Crocker, Esq.; Chas. J. Cross, Esq., J.P.; Bertrand N. Crowther, Esq.; J. Morgan Davis, Esq., J.P.; Dr. A. D. Deane: W. Barclay Dick, Esq., L.R.C.P.; Mrs. B. Dick; W. C. Dickey, Esq.; Frederick J. G. Dimbleby, Esq.; George W. Duncan, Esq.; C. W. Edy, Esq.; Mrs. C. W. Edy; Arthur J. Furbank, Esq.; Mrs. A. J. Furbank; A. W. Furbank, Esq.; the Rev. G. Goldney; H. P. Gordon, Esq.; M. S. Gosling, Esq.; B. G. Gott, Esq.; Harry Graham, Esq.; George F. Greening, Esq.; H. Knight Harris, Esq.; G. F. Harwood, Esq.; J. B. Hilditch, Esq.; Miss Hoare; Mrs. E. W. Hodgskin; W. L. Jenner, Esq.; Arthur Lay, Esq.; Thomas Layton, Esq.; Miss S. E. Lyndon; Percival Mallinson, Esq.; Miss Rita May; J. McDougall, Esq.; E. Miller, Esq.; James Murray, Esq.; R. Y. Murphy, Esq.; George H. Newman, Esq.; Herbert J. Norman, Esq.; the Rev. W. Owen; H. W. Palmer, Esq., B.A.; E. W. Peck, Esq.; Robert Peirce, Esq.; H. C. Poole, Esq.; R. H. Porter, Esq.; A. N. F. Postans, Esq.; A. Ramsay, Esq.; Henry Richards, Esq.; A. E. Robinson, Esq.; Arthur Ruston, Esq.; Frederick V. Ruston, Esq.; F. Sanguinette, Esq.; A. F. Sargeant, Esq.; E. Cubit Sayers, Esq.; Mrs. C. Scarisbuck; H. Pruit Shanks, Esq.; W. George Smith, Esq.; Mrs. P. C. Stallworthy; Percy C. Stallworthy, Esq.; Captain E. Stracey-Clitherow; Miss Laura E. Symonds; the Rev. F. Taylor; Mrs. Eugénie Thompson; W. Tomalin, Esq.; Fred Turner, Esq., F.R.H.S.; G. H. Ward, Esq.; Miss Jane Wood; Frank Wood, Esq.; Mrs. Wood; Francis C. Woodbridge, Esq.; E. J. Wright, Esq.

Rother Valley (Midhurst) Branch.—Mrs. Coombe.

Subscriptions.—Subscriptions of greater value than 5s. have been received from the following members: Theodore Bell, Esq., 10s.; Miss Honora Taylor, 7s. 6d.; and a donation of £1 1s. from Greville Toppin, Esq.; £1 from G. Binyon, Esq.; and 5s. from B. J. Tully, Esq.

New Junior Branch.—At the Council Meeting held on Tuesday, May 26, a warrant was granted for the formation of a Junior Branch to be called the

Lancelyn House School Junior Branch, at the request of Miss C. B. Rankine and Miss E. B. Dickens, of Lancelyn House, Kew Road, Kew Gardens, S.W.

Library.—The Honorary Librarian will attend at 20, Hanover Square, from 6 p.m. to 6.30 p.m., on the evenings of June 15 and July 20, for the purpose of issuing books to members.

The Honorary Librarian has pleasure in announcing the following additions to the library: "The Insect Book," by W. Percival Westell, F.L.S., M.B.O.U.; "Our Woodlands, Heaths and Hedges," by W. S. Coleman, F.E.S., kindly presented by the Editor.

NEWS FROM THE BRANCHES.

Farnham.—By the invitation of the Honorary Secretary, Mrs. Marindin, the Branch met at Hammondswood, Frensham, on the afternoon of Saturday, May 9. Professor Boulger, Editor of NATURE NOTES, attended and delivered a lecture on Insectivorous Plants, with special reference to the Sundews and other representatives of this remarkable type of plant-nutrition which grow in the neighbourhood. The lecture was illustrated by models. After some discussion, the Professor, at the request of those present, gave some account of the Bill to prohibit the importation of birds' plumage which the President of the Society has introduced in the House of Lords.

Belgravia Junior.—The following letter has been received from Mrs. Douglas Wilson:—

"*May* 6, 1908.

"DEAR MRS. FITZROY,—No one put in an appearance to go rambling this afternoon. On Saturday last I went to Northwood and over the ground I had intended taking the children to-day, to get an idea of the bird and plant life best in evidence at present. To-day my disappointment was a little relieved by meeting a lady friend, who lives at Northwood, and she and I re-traversed the ground I had gone over on Saturday. The rain kept off, fortunately, and the sun shone out at times. I had a favourite haunt of the nightingale as my chief feature for this afternoon, and cowslip gathering I had thought would make an ideal ending to the expedition. However, as I said, no one came to allow me to carry out my plan. So my friend and I went to the haunt of the nightingale, and there were three of these beautiful birds in full song trilling one against the other, and two of them were so obliging as to allow us to see as well as to hear them. We found a partridge's nest with one egg in it while searching for the nest of a nightingale. We also heard many wrens, whitethroats, chiff-chaffs, chaffinches, cuckoos, hedge-sparrows, larks, thrushes, and blackbirds; indeed, the bird chorus this afternoon was very beautiful. Evidently the birds prefer showery weather, judging by their song power to-day.

"Although my friend lives in Northwood, she had never before, to her knowledge, heard the nightingale, and was very charmed with it. We gathered a quantity of cowslips, and then I went home and had tea with her, and arrived back at Brondesbury about 7.15.

"I am so sorry no one ventured, for the rain kept off, and the weather improved as the afternoon advanced, although there was a heavy downpour while I was in the train on my way to Northwood.

"Let us hope we shall be more fortunate in our next ramble. I fear the birds will all be silent by then, for the nesting season will be over. This is a pity."

Note by Mrs. Almeric Fitzroy, Honorary Secretary of the Belgravia Junior Branch.—It is a great pity that the wintry weather in April and the present unsettled weather prevented anyone taking advantage of Mrs. Wilson's kindness. There is so much to be seen in any ramble, even on an unpromising day, under so able and sympathetic a guide as Mrs. Douglas Wilson.

EXCURSIONS.

Saturday, April 25.—A small party of eight members assembled at West Wickham in most wintry weather. An hour's walk through the wood to Addington was enjoyed, and the visit to this tiny but most ancient and noteworthy village proved very interesting. The Cricketers' Inn, with its tenure of 300 years by one family, was pointed out, also the tomb of a blacksmith whose family had an even longer history in the same village. Addington having been for a century the residence of the Archbishops of Canterbury has, of course, many ecclesiastical memories. In its church and churchyard, which were duly visited, are the mortal remains of no less than five Primates—Tait, 1878; Longley, 1868; Sumner, 1862, Howley, 1848, and Manners-Sutton, 1828. The ancient chancel, dating from Roman times, with its round-headed windows as well as the curious side-window, were pointed out. The brasses and memorials to the Leigh family (John Leigh, 1509) also proved interesting, and the handsome Tait window was noticed.

The sexton provided tea in his summer-house, and the return walk was through the woods to Shirley, where a visit was paid to the grave of John Ruskin's father and mother, with its beautifully worded inscriptions from their famous son's pen. The walk should have ended here, for here winter overtook the Selbornians, and for the remainder of the walk a most severe snowstorm, a unique experience in Selborne walks, was encountered.

The walkers finally reached Croydon, and were unanimous in their thanks to Mr. Hunt for the very interesting and beautiful ramble he had so successfully carried out.

Saturday, May 2.—The Honorary Excursions Secretary, Mr. H. H. Poole, conducted seventeen members of the Society over Farthing Down and Devilsden Woods. Typical representations of flowers found in calcareous soil were seen. In the hedge-row the mealy guelder-rose (*Viburnum Lantana*) was in bud, and beneath it the moschatel showed its cubical pale green inflorescence. Yellow dead nettle was found in a copse, and the violet blossoms of ground ivy were abundant there. A few stray catkins still hung on the hazels, though the leaves had all burst through their scales and showed their delicate green serrated edge. Bees were busy gathering honey from willows, which showed not only leaves but catkins in good condition. Thrushes and blackbirds kept up a chorus of song, and occasionally, as the woods were neared, the nightingale was heard. Chiffchaffs were abundant in Devilsden Woods, and the cockoo could he heard at intervals also. On the grassy banks leading to the wood grew stitchwort and violet, and in the pasture land were many cowslips, but most were only in bud. In the woods the wood anemone, the primrose, wood spurge, dog's mercury, and the bluebell were found.[1] Two robins' nests were seen by the party. The first nest discovered contained four eggs, and the second held four young birds.

Before the party separated, a vote of thanks was passed to Mr. Poole.

Saturday, May 9.—In lovely spring weather a small party, under the guidance of Mr. E. A. Nash, left Smallford Station and walked by field-paths and green rides along the banks of the Colne to London Colney.

After tea the ramblers walked by way of Littlehanger Park and Colney Heath to Hatfield. In spite of the lateness of the season many spring flowers were found, and an ornithologist in the party pointed out nests of the thrush, blackbird, hedge-sparrow and partridge.

FORTHCOMING EVENTS.

COUNCIL AND COMMITTEE MEETINGS.

Monday, June 15.—General Purposes Committee at 5.30 p.m.
Tuesday, July 28.—Council Meeting at 5.30 p.m.

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[1] "Oh, bother the flowers that bloom in the Spring."
W. S. GILBERT.

The Annual General Meeting.

The Annual General Meeting will be held at 20, Hanover Square, on Friday, June 26, at 8 p.m. The Annual Report and Balance Sheet will be presented, and the President, Vice-Presidents and four Councillors elected for the ensuing year.

As the meeting is of considerable importance it is hoped that members will make a point of attending.

The following is a list of those recommended by the Council for election :—

As *President.*—The Rt. Hon. Lord Avebury, D.C.L., F.R.S.

As *Vice-Presidents.*—O. V. Aplin, F.L.S.; Professor G. S. Boulger, F.L.S.; The Hon. Mrs. R. C. Boyle; The Rt. Hon. James Bryce; The Rev. H. E. U. Bull, M.A.; The Rev. R. Ashington Bullen, B.A., F.L.S.; Charles Burt, J.P.; Dudley W. Buxton, M.D.; His Grace the Archbishop of Canterbury; The Hon. Sir John Cockburn, K.C.M.G., M.D.; Alfred T. Craig; J. Shaw Crompton, R.I.; Fred Enock, F.L.S., F.R.M.S.; W. Warde Fowler, M.A.; The Right Hon. Sir Edward Fry; The Right Hon. Sir Edward Grey, M.P.; The Rev. Professor Henslow, M.A., F.L.S.; Rashleigh Holt-White, Esq.; Sir Robert Hunter, M.A.; Sir Harry Johnston, G.C.M.G., K.C.B.; Peter Lawson, F.R.M.S.; G. B. Longstaff, M.D.; The Rev. the Hon. Edward Lyttelton, M.A.; A. Holte Macpherson, M.A., B.C.L., F.Z.S.; William Henry Maw, M.I.C.E., F.R.A.S., F.R.M.S.; The Rt. Hon. Lord Montagu of Beaulieu; G. A. Musgrave, F.Z.S., F.R.G.S. (*Founder*); Mrs. G. A. Musgrave (*Founder*); Mrs. Percy Myles; J. L. Otter; Earl Percy, M.P.; Mrs. E. Phillips; H. H. Poole; W. P. Pycraft, A.L.S., F.Z.S.; The Rev. Canon H. D. Rawnsley, M.A.; His Grace the Duke of Rutland; R. Bowdler Sharpe, LL.D., F.L.S.; The Rt. Hon. the Earl of Selborne; the Rt. Hon. the Earl of Stamford; R. Marshman Wattson; Wilfred Mark Webb, F.L.S.; W. Whitaker, B.A., F.R.S., F.G.S.

As *four Councillors under Rule IX.*—Mrs. Almeric Fitzroy; Dr. Appleton; Hugh Boyd Watt, M.B.O.U.; George Watts.

The Election will be by ballot, and it is open to any member to suggest the name of any other person as President, Vice-President or Councillor, or, in the case of Vice-Presidents, the number of whom is not limited, to propose any additional names.

The Council has nominated the following six Vice-Presidents to serve upon it under Rule VIII.: The Rev. H. E. U. Bull, M.A.: J. Shaw Crompton, R.I.; A. Holte Macpherson, M.A., B.C.L., F.Z.S.; Mrs. Percy Myles; W. P. Pycraft, A.L.S., F.Z.S.; W. Whitaker, B.A., F.R.S., F.G.S.

EXCURSIONS.

Saturday, June 13.—Missenden and Great Hampden. Train leaves Baker Street (Met. Ry.) at 2.20 p.m., arriving at Missenden 3.29. Return fare 3s. 4d. On account of the difficulty of arranging for tea for an uncertain number in outlying villages, members intending to join this ramble are requested to send in their names to the Hon. Excursions Secretary by June 10. If a sufficient number apply, a reduced fare of 2s. 9d. will be arranged. Guide, Mr. Geo. Watts.

Saturday, June 20.—Ramble by the Rivers Wey and Thames. Train leaves Waterloo (Central) at 2.28 p.m., Clapham Junction at 2.27, arriving at Weybridge at 3.10 p.m. *Passengers from Clapham Junction change at Surbiton.* Return fare to Weybridge 2s. 10d., but if a sufficient number send in their names to the Hon. Excursions Secretary before June 16 (stating from which station they will start) a reduced fare of 2s. will be arranged. Guide, Dr. Henry Willson, J.P.

Note.—Mr. A. G. Humphries, Chairman of the Home-grown Wheat Committee of the National Association of Millers, has kindly consented to give a short lecture on "Some of Nature's Ways with Wheat," with illustrations, at the experimental plots on New Haw Farm. Afterwards, by permission of E. Rodakowski, Esq., Clerk of the Course, the party will be admitted to view the Brooklands Automobile Racing Track. Tea will be served by Mr. Wiltshire at the

Holstein Hall, Weybridge, charge 1s. In case the weather prove unfavourable, nearly all the programme will be carried out under shelter, so it is hoped that Selbornians and their friends will attend in large numbers. Members will find it advantageous to read up the subject "wheat" beforehand.

Saturday, June 27.—Upshire *viâ* Copt Hall. Take cheap day return ticket to Theydon Bois, 1s. 4d. Fast train leaves Liverpool Street at 2.41 p.m. Walk across Epping Forest to Cobbin's Hall Farm (four miles). Tea at the farm, 10d. each, including Cornish cream. Guide, Mr. A. B. Hornblower.

Saturday, July 4.—Pyrford Church and Newark Abbey. Train leaves Waterloo (Central) at 2.28 p.m., Clapham Junction 2.27, arriving at Byfleet at 3.18 p.m. *Passengers from Clapham Junction change at Surbiton.* Return fare 3s. 3d., but if a sufficient number send in their names to the Hon. Excursions Secretary before July 1, a reduced fare of 2s. 3d. will be arranged. Guide, the Rev. R. Ashington Bullen, B.A., F.L.S., F.G.S.

PROJECTED ARRANGEMENTS, subject to alteration.

July 11.—West Drayton and Iver. Guide, Mr. Wilfred Mark Webb.

July 18.—Mr. W. Percival Westell will conduct an excursion.

July 25.—The Brent Valley Bird Sanctuary. Guides, The Sanctuary Committee.

August 8.—Rickmansworth and Chorley Wood. Guide, Mr. Geo. Watts.

August 15.—Ightham. Guide, Mr. K. W. Mumford.

All communications with regard to Excursions should be addressed to Mr. H. H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

BELGRAVIA JUNIOR BRANCH.

The following excursions have also been arranged for the children of any members of the Selborne Society:—

Saturday, June 27.—Iver. Paddington 2.33, West Drayton 2.59. Return from West Drayton 6 p.m., reaching Paddington 6.35. Applications for motor 'bus from Belgravia to West Drayton to be made to Mrs. A. Fitzroy, three days before date (for address see below).

Wednesday, July 8.—Chingford. Liverpool Street 2.3, Chingford 2.39. Return from Chingford 6.4, reaching Liverpool Street 6.27. Applications for motor 'bus from Belgravia to Chingford, to be made to Mrs. A. Fitzroy, three days before date (for address see below).

A lecture to children, by the Hon. Edwin Montagu, on "Children's Pets," will be given by kind permission of Mr. and Mrs. Campbell Newington, at the Holme, Inner Circle, Regent's Park, on June 18, at 5 p.m. Mr. Wilfred Mark Webb, F.L.S., Honorary Secretary of the Selborne Society, will take the Chair.

There will also be an exhibition of the children's pets in the garden and conservatory at 4 p.m., before the lecture, when cards of commendation will be given to those pets showing the best results of care and affection, and also for beauty, intelligence, &c. Admission for non-members of the Belgravia Junior Branch (Natural History Club) will be: Adults 1s., children 6d., and entrance fee for exhibits 6d. As the numbers are limited, preference will be given to children bringing exhibits. Other applicants will receive their tickets later, according to date of application.

Admission by tickets only, obtainable from Mrs. Almeric Fitzroy, 55, Lower Belgrave Street, London, S.W.

ANSWERS TO CORRESPONDENTS.

E. M. Nicholson.—The gall you describe is almost certainly the Currant Gall, produced by the Cynipid, *Spathegaster baccarum* L (=*Neuroterus lenticularis* Olivier).

A Modern St. Francis.
(By special permission of *Punch*.)

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 223. JULY, 1908. Vol. XIX.

TWENTY-SECOND ANNUAL REPORT, 1907-1908.

Adopted at the Annual Meeting, June 26, 1908.

I.—General.

Gilbert White.—The manuscript of "The Natural History of Selborne," which was exhibited at the Soireé in 1907, and then insured for £1,000, changed hands at Sotheby's a couple of months later for £750.

In Nature Notes for April, 1908, a letter from Gilbert White to Sir Joseph Banks, which had hitherto only been published in part, was through the courtesy of Mr. Rashleigh Holt-White printed in full.

The Annual Conversazione.—In the June number of Nature Notes a detailed account was given of the Conversazione at which more than a thousand members and their friends were present. The President's remarks on The Importation of Plumage Prohibition Bill and the address by Sir Harry Johnston on "The Preservation of Beauty in English Scenery," printed in the same number of the Magazine, are of special importance.

Illness of Mrs. Percy Myles.—Owing to a serious illness, Mrs. Percy Myles was not present as has been her custom for very many years at every meeting of the Council, but members will be glad to hear that she has so far recovered as to take her usual place once more.

II.—The Study of Natural History.

Nature Study.—The Honorary Secretary has continued to serve on the Executive of the Country in Town Exhibition, which has now become an annual affair, and the Honorary Librarian retains his position as a member of the Executive of the School Nature Study Union. Mr. Webb also has been elected as a member of the Executive of the Parents' National Educa-

tional Union, which has done much to forward the Nature Study movement. It is hoped that before very long another Nature Study Exhibition may be held in London.

The South-Eastern Union of Scientific Societies.—The Delegates at the twelfth Congress of the Union, held at Woolwich last June, were Mr. J. L. Otter (Honorary Treasurer), Mr. H. H. Poole (Honorary Librarian), Mrs. Wilfred Mark Webb and the Honorary Secretary. The Congress was specially notable for the energy displayed by the local Officers and Committee. The presidential address by Professor Sylvanus Thompson was also a particularly happy one, and well calculated to interest not only the members and delegates of the various constituent societies, but also the general public who very wisely were allowed to attend the inaugural meeting.

Excursions.—Mr. Hubert H. Poole, the Honorary Excursions Secretary,who is now appointed directly by the Council, arranged twenty-five summer excursions, one of which was in conjunction with the Essex Field Club, which for some years has courteously invited members of the Selborne Society to take part in its Annual Fungus Foray. Exclusive of this, the attendance was 419, giving an average of eighteen, which is one less than that of last year. Then, however, there were but twenty-two rambles, and the weather was more propitious than in 1907, when there were many wet Saturdays.

There were but nine excursions, or one less than last year, arranged in the winter, and here again the average attendance was one less than last year, being thirty-six instead of thirty-seven. A full list of the excursions, with their conductors and the number of members present, is printed below.

Summer Excursions, 1907.

Date.	Place.	Guide.	No. of Members present.
1907			
April 6	Warlingham ... ... (Hamsey Green and Farleigh Common)	Mr. Matthew Hunt	14
13	Eton ... ... (The College Chapel, Library, Hall and Museum)	Mr. Wilfred Mark Webb, F.L.S. ...	43
20	Rickmansworth ... (Harefield and Northwood)	Mr. George Watts	27
27	Epping Forest ... (Theydon Bois and Epping)	Mr. A. B. Hornblower	10
May 4	St. Albans ... ... (Hill End, Cromer Hyde and Brocket Hall Park)	Mr. W. Percival Westell, F.L.S., M.B.O.U.	10
11	Bookham ... ... (Bookham Common and Leatherhead)	Miss Giberne	14
25	Pinner ... ... (Pinner and Ruislip)	Mr. E. A. Nash	15
June 1	Woldingham ... (Marden Park and Oxted)	Mr. Matthew Hunt	13
8	Oxshott ... ... (Esher Common and the Black Pond)	Mr. Hubert H. Poole	19
15	Weybridge ... ... (Caneswood and New Haw)	Dr. Henry Willson, J.P.	7

Date.	Place.	Guide.	No. of Members present.
1907			
22	Burnham Beeches ... (Stoke Poges and East Burnham Park)	Mr. Wilfred Mark Webb, F.L.S. ...	35
29	Iver ... ... (West Drayton and Iver)	Mr. Wilfred Mark Webb, F.L.S. ...	17
July 6	Watford ... ... (Cassiobury and Whippendale Wood)	Mr. W. Percival Westell, F.L.S., M.B.O.U.	9
13	The Brent Valley Bird Sanctuary	The Committee	38
20	Coulsdon ... ... (Farthing Downs and Chaldon Church)	Mr. Matthew Hunt	11
27	Marlow ... ... (Fingest and Skirmett)	Mr. A. HeneageCocks, M.A., F.S.A., F.Z.S.	12
Aug. 10	Epping Forest ... (Loughton to Chingford)	Mr. C. Nicholson	14
17	Clandon ... ... (Clandon and Newlands Corner)	Mr. A. B. Wilkinson	12
24	Winchmore Hill ... (Enfield and Winchmore Hill Woods)	Mr. Oliver G. Pike, F.R.P.S. ..	8
31	Chorley Wood ... (Chorley Wood and Chalfont St. Giles)	Mr. George Watts	17
Sept. 7	Wanstead ... ... (Wanstead Park and Bush Wood)	Mr. A. B. Hornblower	15
14	Bickley ... ... (Roundabout Wood and Pauls Cray Common)	Mr. C. M. Mühlberg	13
21	Mill Hill ... ... (Totteridge and Mill Hill School)	Prof. G. S. Boulger, F.L.S., F.G.S.	35
28	Wrotham ... ... (Wrotham and Ightham)	Mr. Kenneth W. Mumford	11
Nov. 2	Theydon Bois and Epping. (Fungus Foray in Epping Forest)	Joined the Essex Field Club ...	—

Winter Excursions, 1907-08.

Nov. 23	British Museum (Natural History) (Memorials of Linnæus)	Dr. A. B. Rendle	26
Dec. 7	The Royal Society, Burlington House	Joined the Autumn Meeting of the South Eastern Union of Scientific Societies	19
1908			
Jan. 11	British Museum (Egyptian Galleries)	Mr. Spencer	52
25	Bethnal Green Museum (Economic Collections, Food and Animal Products)	Mr. T. A. Lehfeldt	10
Feb. 22	The General Post Office	Members of the Staff	28
Mar. 7	British Museum (Ethnographical Galleries)	Mr. T. A. Joyce, M.A.	26
14	Kew Gardens ...	Dr. Otto Stapf, F.R.S.	50
28	St. Laurence Jewry, Gresham St., E.C.	Rev. J. Stephen Barrass	49
April 11	Tilbury, Orient-Royal Mail Steamship "Orontes"	Various Officials	62

III.—The Protection of Animals.

Protection of the Australian Fauna.—The Council has been much interested in the suggestion made by the Royal Society of South Australia, for making a big reserve on Kangaroo Island, and they invoked the aid of the Press in support of the application for the allocation of 360 square miles by the Government of the Colony.

The Use of Feathers for Ornament.—The Council is happy to record that Lord Avebury has introduced into the House of Lords a Bill, of which the text was printed at the beginning of the June number of Nature Notes. The Bill met with a cordial reception in the House of Lords, and passed its second reading, while a select committee has been appointed to consider it. The original draft was drawn up by Mr. James Buckland, who is a member of the Selborne Society, and its general principles were approved at a Conference of representatives from the Linnean and Zoological Societies, the Royal Society for the Protection of Birds and the Selborne Society which met at Lord Avebury's house. It was agreed unanimously (on the advice of some ornithological experts, amongst whom were Mr. Holte Macpherson and Mr. Pycraft), that the schedule of the Bill should contain a list of such birds as might be imported rather than the names of a host of others which might not. Mr. Montagu Sharpe, who has had great experience in the matter of Bills, kindly undertook to revise the draft. The mentioned societies have also given their support to Lord Avebury and petitioned the House of Lords in favour of the Bill.

The Brent Valley Bird Sanctuary.—It was with the idea of preserving the nightingales which bred in the wood which is now used as a sanctuary, that the work of maintaining it was originally to a large extent begun. It was therefore greatly deplored by the Committee that during the years 1902 to 1907 the song of the nightingale was not once heard. During the present spring it is pleasant to chronicle that the nightingales have returned to the sanctuary, and that there are now two, if not three, pairs in residence there. There is no doubt but that the larger funds which have been at the disposal of the Committee enabled them to carry out the work much more thoroughly. The wood is now very effectively guarded and the Committee hopes to include in a second edition of their pamphlet, a number of new records, and an account of several interesting occurrences. There are still a number of copies of the first edition left which may be obtained at the price of sixpence each from the local Honorary Secretary or from the Honorary General Secretary, to whom also donations towards the upkeep of the Sanctuary should be addressed.

IV.—The Protection of Plants.

Your Council is not losing sight of the question of legislation for the protection of plants, but does not think it advisable to

attempt anything of the sort during its promotion of the Importation of Plumage Prohibition Bill.

V.—Places of Antiquarian Interest and Natural Beauty.

Crosby Hall.—To anyone having the least share of the historic sense, it must be a matter for deep regret that so valuable a relic of old London as Crosby Hall should have been sacrificed to the demands of modern commercialism. Such a piece of Philistinism is little short of a national disgrace, and suggests that some general steps should be taken to secure for the nation such antiquarian treasures. The wide general interest in the preservation of the building evoked among all classes, from His Majesty the King downwards, seems to indicate that a public appeal, if better organized, might have had a happier result. Among the causes which lead to the failure seems to be a desire on the part of some persons in the City to keep the matter entirely in their own hands. So much of the value of such a historical monument depends upon its site, that it is but small consolation to learn that the building is likely to be re-erected elsewhere.

Purley Beeches.—The piece of woodland which goes by this name has been secured for the public by the help of voluntary contributors, amongst whom was the Selborne Society.

It is with great pleasure that your Council record the purchase and dedication in perpetuity to the public of the charming, though small, piece of primitive woodland so near the advancing bounds of our great city. Several members of our Society took active part in securing this open space, and the Council voted a contribution towards the cost.

VI.—Publications.

"*Nature Notes.*"—The Council once more takes the opportunity of thanking Professor Boulger for his editorship of the Magazine, which has now extended over a period of eleven years.

The continued inability of the Postmaster-General to relax in any way the present rules as to the classification with reference to postal rates of magazines and newspapers, prevents, for the time being, any enlargement of *Nature Notes.*

Prospectus.—Members who would like to have copies of the illustrated prospectus for the coming session should apply to the Honorary General Secretary after the Annual General Meeting. The chief object of this prospectus is to make known the work of the Society to those who are in sympathy with its objects, and who are therefore eligible for membership.

VII.—Library.

Library.—During the year copies of three editions of "The Natural History of Selborne" have been added to the Library.

It is hoped that in the near future members may have greater facilities for borrowing books, and that they may be able to read the serial publications which are received by the Society. Mr. Hubert H. Poole has, in addition to the heavy work in connection with the excursions, fulfilled the duties of Honorary Librarian again, so that the Society is doubly indebted to him for his services.

VIII.—Organization.

Membership.—The Society has now 1,990 members on its list, and there are eighty-four candidates waiting for election. There is, however, no reason why, if every member were to take a little trouble in the matter, the membership should not be doubled in a very short time.

Branches.—During the year the Council has had under consideration the areas of many of the branches, and the districts which they now cover are indicated in the following list:—

Abinger and Shere (the parishes of Abinger, Shere, Abinger Hammer and Peaslake).—*Local Honorary Secretary*, Miss Agnes Hill, West Hackhurst, Abinger, Dorking.

Bath (the City of Bath and ten miles round).—*Local Honorary Secretary*, Mrs. Allon Tucker, 9, Green Park, Bath.

Midland (the Counties of Worcester, Warwick, Stafford and Leicester).—*Local Honorary Secretary*, Miss Archer, 87, Hagley Road, Edgbaston, Birmingham.

Croydon and District (the North-east Parliamentary Division of Surrey, with the exception of Wimbledon and Putney).—*Local Honorary Secretary*, E. A. Martin, F.G.S., 58, Whitworth Road, South Norwood, S.E.

Brent Valley and Richmond (West Middlesex, including the Parliamentary Divisions of Ealing, Harrow, Brentford and Uxbridge, and the Borough of Richmond, Surrey).—*Local Honorary Secretary*, Mrs. Wilfred Mark Webb, Odstock, Hanwell, W.

Brighton and Hove (the Boroughs of Brighton and Hove).—*Local Honorary Secretary*, Mrs. Griffith, 59, Montpelier Road, Brighton.

East Riding (East Riding of Yorkshire).—*Local Honorary Secretary*, Rev. W. D. Wood Rees, Barnby Moor Vicarage, Yorks.

Farnham (the parishes of Farnham, Churt, Rowledge, Hindhead, Telford, Frensham, Boune, Hull and Aldershot).—*Local Honorary Secretary*, Mrs. Marindin, Frensham, Farnham.

Hammersmith and Fulham (the Metropolitan Boroughs of Hammersmith and Fulham).—*Local Honorary Secretary*, C. W. Cooke, F.R.H.S., 82, Bishop's Road, Fulham, S.W.

Hampstead (the Parliamentary Borough of Hampstead).—*Local Honorary Secretary pro. tem.*, Vincent J. Hull, 83, Mansfield Road, Hampstead, N.W.

Kensington and Bayswater.—*Local Honorary Secretary*, Mrs. Oscar Parker, 25, Castellain Mansions, Sutherland Avenue, W.

"*Richard Jefferies*" (Worthing).—*Local Honorary Secretary*, Captain J. Chippendall-Healey, 25, Lorna Road, Hove.

Rother Valley (*Midhurst*) (the North-west Parliamentary Division of Sussex). *Local Honorary Secretary*—Miss Richards, Easebourne, Midhurst, Sussex.

Wimbledon and Putney (the Borough of Wimbledon and the District of Putney).—*Local Honorary Secretary.*—Miss Ada Smith, Walcot Lodge, Putney.

Branch Reports.

Abinger and Shere Branch.—The chief work done by this Branch is amongst the Bands of Mercy affiliated to it. Last August children belonging to these bands spent an afternoon at West Hackhurst, and listened with much interest to

an account of how the birds and squirrels are tempted to the drawing room window.

In January an interesting lecture entitled "Studies in Spider Life" was given at Shere Village Hall, by Mr. H. Hill, who showed a wide knowledge of his subject. The habits of trap-door spiders were amusingly told, and the children were given minute instructions for the keeping of garden spiders in jam bottles, and shown by lantern slides what charming webs they make in captivity.

In March Mr. Hill again lectured to a large audience. This time his subject was "Flies." The lantern slides were of great interest, and many mistaken ideas as to the habits of flies were corrected by Mr. Hill's instructive address.

Bath Branch.—The Bath Branch of the Selborne Society held its annual meeting on Thursday, June 20, at Inwoods, near Bradford-on-Avon, by the kind invitation of Mr. and Mrs. Harcourt Skrine. Mr. M. H. Scott presided, and read the annual report, which was as follows:—

Since the last report thirty-nine members have died or left the Society, and seven new ones have joined. The excursions held since the last annual meeting had been well attended, and enjoyed by the members. The first was to Stonehenge on July 14, when Mr. M. H. Scott explained the stones. The first this year was a visit to St. Catherine's on May 18, when fifty-three members attended. By the kindness of the Hon. Mrs. Paley, the Court and grounds were inspected. This was followed by a visit to Dyrham Park on May 26, by the kind invitation of the Rev. Wynter and Mrs. Blathwayt, who hospitably entertained sixty-nine guests. On June 6 twenty-three members went to Box Quarries, and were conducted through them by Mr. T. Sturge Cotterell, who explained the method of working.

The first lecture in the winter session was given by Mr. Balch on November 9, who took for his subject "The Antiquities of the Caves of Mendip," which was well illustrated by lantern slides. The chair was taken by Mr. Trice Martin. Miss Pedder lectured in the afternoon of November 29 on "Mosquitoes" and "Malaria." Mr. Norman was chairman on that occasion. Mr. Scott, in the absence of the President, took the chair at the annual soiree, which was held on January 24. A feature of this function was the presentation of an oak bookcase and library chair to Mr. Ellwood, the late Secretary, on the occasion of his marriage. The presentation was much appreciated by him. Mr. Allon Tucker exhibited and explained some lantern slides of Ancient and Modern Bath, and Miss Meta Rogers and Miss Beatrice Jones contributed music and recitations. The next lecture was by Mr. Trice Martin on February 14, on "Caerwent," presided over by the Rev. H. L. Maynard, and the last was an afternoon lecture about "Spiders" on March 7 by Miss Heaven, the chair being occupied by the Hon. Treasurer.

The Committee are pleased to record the fact that Mrs. Hann, of Bloomfield Avenue, has presented the Society with a valuable collection of botanical specimens, which are in the Selborne Society's room at the Institution, and are worthy of inspection by anyone interested in this department of the Society's work. Three new district secretaries have been appointed, viz., Miss Verrier for Lower Kingsmead, Miss Reynolds for Partis College, and Miss Hooper for Bathampton and Batheaston.

Birmingham and Midland Branch.—The work of the Branch has been carried on successfully during the past year. Several lectures have been delivered, one by Mr. Fred Enock, F.L.S., on "The Wonders and Romance of Insect Life," to a large audience in the Town Hall, in March. Mr. T. H. Russell, F.L.S., lectured in November on "A Short Chapter of Plant Life: the Liverworts," besides giving many other lectures to schools and institutions in various parts of the city. An excursion was made to Droitwich in July, under the guidance of Mr. John Humphreys, who pointed out many interesting plants growing in the locality.

In connection with the Children's Country Holiday Society, upwards of 700 leaflets "Spare the Birds and the Flowers," were distributed. Through the kind co-operation of the district superintendents of the railway companies 150 of the notices, "For the Preservation of Wild Birds" and "For the Preservation of Wild Plants" have been placed in the waiting halls at various stations throughout the district.

The finances are in a satisfactory state, but with an increased subscription list, more might be done to further the aims of the Society.

Brent Valley and Richmond Branch.—The large increase in the membership of this Branch, which now reaches the number of 361, is no doubt largely to be attributed to the interest aroused by the Bird Sanctuary. Some remarks about this undertaking appear under the third heading of this report. A very successful annual meeting was held in the Spring, at which the president of the Branch, The Hon. Sir John Cockburn, K.C.M.G., M.D., took the chair. On this occasion Mr. Robert H. Read gave a lecture on the birds of the district, and a number of slides made from photographs taken in the Sanctuary by members of the committee were exhibited.

Junior Branches.

Belgravia.—Mrs. Almeric Fitzroy, 55, Lower Belgrave Street, S.W.

Bromley (*Quernmore School*).—G. Loly.

Chippenham Secondary School.—E. Newall Tuck, The County School, Chippenham, Wilts.

Clapham High School (*Field Club*).—Miss A. Robertson.

Dover College.—C. R. H. Castellain.

Epsom College (*Natural History Society*).—H. E. Gardner.

Haileybury College (*Natural Science Society*).—F. W. Headley.

Hulme Grammar School.—A. C. Pickford.

Kensington, Roland Houses (*Nature Study Society*).—Miss G. E. Southwell.

Kew, Lancelyn House School.—Miss C. B. Rankine, Lancelyn House, Kew.

North Middlesex.—C. M. Hall, 33, Goring Road, Bowes Park, N. Children's Section.—Miss E. M. Grint.

Seaford.—Miss W. Poole, Queen's Park House.

Totnes, King Edward VI. School (*Natural History Society*).—M. G. Clark.

Warrington Training College.—The Rev. Canon Morley Stevenson, M.A.

Clapham High School.—The following points illustrate the work of the Branch: Frequent meetings have been held, at each of which papers have been read by members. Among the subjects treated were "Cacti," "Pond-life," "Insectivorous Plants," "Reproduction of Plants," "Crocodiles." These readings are supplemented by remarks from the president, followed by a discussion of the subject by the members. In the summer rambles and pond-hunting expeditions are organized, Epsom being a favourite resort for the latter. In December there was an interesting exhibition of some geological slides lent by the British Association.

Haileybury.—In some ways the year has been a decidedly prosperous one. The number of members for the three terms have been 102, 116, 117. There has been an increased amount of out-of-doors observation, though the recordable results may not have been very great. The attendance at lectures has been fair. The audiences have been keen, and also, as a rule, remarkably young. There is a tendency now among the Sixth Form to consider that they have done their duty by the Society when they have recommended the younger members of their houses to join it. Among the lecturers from outside have been Dr. Hanson, an Old Boy, who is doing good scientific work; Mr. Bickerton, who has attained to excellence of a high order as a photographer of birds; and Mr. Pycraft, the distinguished ornithologist.

The following general meetings were held during the year:—

Date	Lecturer	Subject
February 4 ...	The President	"Corals and Coral Islands."
,, 25 ...	L. R. Lempriere, Esq. ...	"Iceland."
March 18 ...	R. J. E. Hanson, Esq., O.H.	"Fatigue."
May 27 ...	The President	"The Movements of Plants."
June 17 ...	R. Hornby, Esq.	"The Volcanic Rocks of Antrim and the Eiffel."

Date	Lecturer	Subject
July 13 (Saturday)	W. Bickerton, Esq.	"With a Camera in Bird Land."
September 30	The President, A. A. Lea, Esq., H. B. Salmon	"Holiday Experiences."
October 26 ...	W. P. Pycraft, Esq., F.Z.S.	"Fishes."
November 11	Rev. A. Ellison	"Storms and Storm Warnings."
December 2...	The President	"Wind and Flight."

The average attendance was between 60 and 70.

Hulme Grammar School.—During the course of a year the Natural History Society but seldom comes to the front, yet continuous work is carried on by a few enthusiastic members of the various sections, although this work is not so popular as that done on rambles and for exhibitions. The Meteorological Section makes daily observations of the barometer, the thermometers and rain-gauge. The members who are so interested as to do this every day, make up a weather chart for each month, and these are records well worth preserving. We should like a sunshine recording apparatus.

The photographers also do their work thoroughly but unostentatiously. Several members exhibited very good photographs at the last exhibition. What we are endeavouring to do is to collect photographs of every place of interest in the neighbourhood, whether from the artistic, architectural, archeological or historic point of view, and to enter these in our record album. The purely natural history side is by no means neglected, as during the last year our members have supplied us with really good photographs of birds' nests and nesting places.

The biennial soirée and exhibition of work done took place in December, and was as usual very popular.

With the exception of the exhibition, the most important affairs in connection with the Society had been the two rambles, the first to the Roman Camp at Castleshaw in September last, and the second to Romiley and Marple in April.

The first ramble was very interesting. Mr. Andrew and some other well-known antiquaries were excavating a Roman camp discovered on the moors. The outline of the camp was clearly shown, and the various points of interest about it were explained by Mr. Andrew. Several coins and pieces of Roman pottery had been found there and conveyed to Springhouse Farm near at hand, where they may be seen. The camp lies on the old Roman road (now turned aside) from Manchester to York, and inscriptions on pieces of pottery would seem to indicate that the legion stationed at this newly found camp was part of the same one which also had camps at Manchester and York.

The ramble to Marple Dale took place at the beginning of spring: it was almost the first indication of coming summer. The party consisted of about forty members. Perhaps the most interesting fact about the ramble was that we passed through the farm and land occupied by the unemployed. Unfortunately, we did not find this out until after we had passed through.

During the last year the membership has increased, but there are comparatively few enthusiastic workers, and it is these enthusiasts who are the mainstay of the Society.

Totnes.—The King Edward VI. School Natural History Society, which some three years ago was affiliated to the Society, has existed for four years. It is pleasant to say that there has been an improvement in the number of entries for prizes which were competed for, and also in the work generally. The endeavours of some of the junior members of the Society are encouraging, and some very creditable collections have been made.

A new feature was commenced at the beginning of the session in the way of public observations made in properly ruled-up books, there being a total of 570 records of specimens entered with their scientific names, in the following four sections, viz., Botany, 261; Entomology, 63; Ornithology, 189; and Zoology, 57.

Balance Sheet.

Dr. RECEIPTS AND PAYMENTS FOR THE YEAR ENDING MARCH 31, 1908. **Cr.**

	£	s.	d.
To Cash at the Bankers, April 1, 1907—Current Account	185	8	11
On Deposit	115	15	0
To Sundry Receipts—			
Subscriptions	283	14	3
Sales of NATURE NOTES	50	9	4
Contributions from Branches	16	10	8
Donations	3	14	6
Sale of Tickets for Soirée	30	10	6
Miscellaneous	2	14	6
Interest on Deposit Account	3	7	8
	£692	5	4

	£	s.	d.	£	s.	d.
By Sundry Payments—						
Printing and Postage of NATURE NOTES and cost of Index for the Year				195	4	6
Expenses of Annual Soirée				56	12	1
Editor				30	0	0
Clerical Assistance and Telephone				35	0	0
Rent				15	15	0
Stationery and Printing				25	16	0
Petty Payments				36	15	0
By Contributions—						
Bird Sanctuary	10	0	0			
"Country in Town" Exhibition ...	1	1	0			
Federation of Rambling Clubs ...	0	10	0			
				11	11	0
By Balance at the Bankers (*less* outstanding cheques), March 31, 1908				169	16	9
By Cash on Deposit at Bankers, March 31, 1908 ...				115	15	0
				£692	5	4

I have examined the above Cash Account with the Vouchers, and certify that it is correct.

2, GRESHAM BUILDINGS,
BASINGHALL STREET, E.C.
June 23, 1908.

FREDERIC M. GILLOTT,
Chartered Accountant.
Honorary Auditor.

	£	s.	d.
Balance	285	11	9
	£285	11	9

	£	s.	d.
Liability to Members for NATURE NOTES to December 31, 1908	130	0	0
Balance	155	11	9
	£285	11	9

SUMMARY OF BRANCH PAYMENTS.

Made during the Financial Year ending March 31, 1908.

Branch.	Paid for *Nature Notes*.	Contributions.
Abinger and Shere	£1 14 8	£0 8 6
Bath (1906)	—	3 0 0
Birmingham	9 6 8	3 6 2
Blackburn (1906)	1 19 0	0 9 0
Brighton	2 18 6	0 10 0
Croydon (1906)	4 19 8	0 10 1
,, (1907)	4 17 6	—
Brent Valley and Richmond ...	7 11 8	3 17 6
Farnham	2 7 8	1 2 0
,, ...	—	(Donation) 10 0 0
Hammersmith and Fulham (1906) ..	—	0 5 9
Hampstead	4 19 8	1 2 6
Rape of Lewes (1907)	1 8 2	0 6 6
,, ,, (1908)	1 6 0	—
Rother Valley (Midhurst)	1 10 0	0 12 0
,, ,, ...	—	(Donation) 1 0 0
Wimbledon and Putney	1 13 4	1 0 8
	£46 12 6	£18 10 8

The subscriptions from the Kensington Branch have been received in full for 1907, and these are included under the heading of subscriptions.

SELBORNIANA.

Our Frontispiece.—The first volume of Nature Notes had for frontispiece a picture of St. Francis of Assisi, under the title of "A Mediæval Selbornian"; the last volume had a portrait of our President, Lord Avebury; and now, by permission of the Proprietors of *Punch*, we have the two combined in a picture of our President as "A Modern St. Francis," *à propos* of his introducing the Plumage Bill.

NATURAL HISTORY NOTES.

625. Curious Nesting Places.—It is interesting to record the strange and, in some cases, unthinkable places which have been chosen for nesting purposes by many birds during the present close season. There is no doubt that the backwardness of spring has had much to do with it, as the following instances will show:—

At Lindfield, Sussex, a thrush's nest, in which were four eggs, was found in a policeman's helmet. Peculiar as the place may seem, might one not think the bird sought this thick headgear—which had been discarded—as a more sheltering refuge from the devastating elements than the bare hedge or tree. But there is no like excuse to be made for a mistle-thrush, who utilised the ledge of a monument in the cemetery at Dunstable, Bedfordshire, on which to build her nest. In spite of the visitors who passed by her, the bird was reported to be sitting on four eggs.

Starlings, I believe, are possessed of erratic natures. It is well known they

will build their homes wherever possible—beneath the slates of house-roofs, or in any crevice where they can drag their conglomeration of nesting materials. It is, however, something out of the ordinary course of proceedings for a pair of these birds to nest in a truck-load of coal. On arrival at Bourne, Lincolnshire, a nest of young starlings was discovered among the fuel which had come from one of the collieries near Nottingham. There is no doubt that the young birds were hatched during the journey, for the parent birds were in attendance on their offspring. Another nest that travelled some miles before being found was that of a blackbird, which was lodged under a North-Eastern Railway meat waggon, having come from Edinburgh to London with goods, and back again to Edinburgh and Tweedmouth. The nest, which contained two eggs, was only discovered when the waggon was being cleaned ; but in this instance neither of the birds were present.

In the tool-house of Mr. Culpin, an inhabitant of the Garden City, Letchworth, a wren chose to build its domed edifice on a clothes-line suspended from a hook. From Brackley village, Northamptonshire, we hear of our confiding friend, the robin, having its nest in a nail-box. This was hung on the wall in a forge, within a foot of the bellows, and, apparently undisturbed by the noise of the anvil, the bird flies in and out with the confidence of a welcome guest.

65, *Cowley Road, Brixton, S.W.* CHAS. E. J. HANNETT.
May 9.

626. **Birds in Kew Gardens and Richmond Park.**—An afternoon ramble through the above-named places on May 9, in the company of Mr. M. J. Fletcher, showed bird-life to be at full tide, vigorous and abundant. I did not, however, quite realise the number of species which a few hours of a "London afternoon" at this season of the year may yield, until I made up the annexed list, which may be of interest to *Nature Notes*. I should say that we did not make any special search for birds, but simply kept our eyes and ears open as we went along. This explains the absence of some species which could have been found with a little trouble, and we also exclude the *Wheatear*, *Blackcap*, *Wood Wren*, and *Spotted Flycatcher*, as these were not quite unmistakeably spotted by ourselves. As it is, the list contains forty-six species. The names in italics are those of summer visitants, and square brackets [ ] enclose introduced species.

LIST.

Song Thrush
Blackbird
Redbreast
Garden Warbler
Chiffchaff
Willow Wren
Hedge Sparrow
Great Tit
Coal Tit
Blue Tit
Common Wren
Pied Wagtail
Yellow Wagtail (Penn Ponds)
Swallow
House Martin
Sand Martin
House Sparrow
Chaffinch
Yellow Bunting
Starling
Jackdaw
Rook
Skylark
Swift
Cuckoo
Grey Heron (in Richmond Park there are more nests than in recent years, but several seem unoccupied)
[Canada Goose and three other foreign species of geese]
Common Swan
[Black Swan]
[Black-necked Swan]
Shellduck
Mallard (a brood of twelve young on the Penn Ponds)
Pintail Duck
Wigeon
Tufted Duck
[Mandarin Duck]
Ring Dove
Turtle Dove
Pheasant
Moorhen
Herring Gull (pinioned) and
Great Crested Grebe (nesting on the Penn Ponds)
Cormorant

3, *Willow Mansions, West Hampstead, N.W.*, HUGH BOYD WATT.
May 11, 1908.

627. Bird-names.—I have evoked an interesting note from Mr. Holder. "Fealo" might, so far as I know, become "felde" or "field" or "fel"; but surely not "feldefare," "fieldfare," "felfare" or "felfur." Mr. Holder leaves the second syllable unexplained. Some further investigation enables me, I think, to throw some light on the word, favourable to both of our contentions. There were, in fact, two Anglo-Saxon words for the bird, namely, "feldefare" (Wright's Vocabulary), and "feala-for" (Bosworth's Dictionary). The former must unquestionably be from "felde" (field), and "faran" (fare), and mean the field-goer. The latter seems to be from "fealo" and "faran." But not from "fealo" in its primary sense of yellow, or reddish, but in its secondary sense of fallow (land). A fallow was originally not untilled, but freshly ploughed land, showing the *colour* of the soil. If this be right, the senses of the two names are very near, one being "field-goer," the other "fallow-goer." "Feldefare" and "fieldfare" may very well represent the one name, and "felfare" and "felfur" the other. "Fealo-for" might, no doubt, be interpreted as "yellow-goer," taking "fealo" in its primary sense, but the comparison of "feldefare" and the habits of the bird make such an interpretation unlikely.

Mr. Holder does not definitely accept the derivation of Knot from Canute, nor do I definitely reject it. I was not aware of any tradition that Canute delighted in eating its flesh (I am glad to have the reference to the passage in "Polyolbion"), and thought that if Knot is derivable from Canute at all it would be for some other reason. Camden gives another, and he is the earliest authority. There is also a third, that it is "on account of its habits of feeding on the margin of the sea-shore close to the advancing waves" ("Birds of Sussex," W. Borrer).

That the Knot was esteemed a great delicacy is, however, quite true. Camden, in the passage of which I quoted part in my note, writes rapturously. Puittes, Godwitts, Knotts and Dotterells are, he says, "ipsissimæ mensarum deliciæ, et heroum dapes, gulæ Proceribus expetitæ."

J. L. Otter.

628. With regard to the word "field-fare" we have the name "felty" in constant use in Cumberland for this bird. The strong infusion of Norse in the dialect suggests a derivation from "fjeldt."

Professor Skeat, in his "Etymological Dictionary," gives two Anglo-Saxon forms, "feldefare" and "fealo-for," but takes "fealo" as "reddish, yellowish, also fallow-land," and thence "fealo-for" as the fallow-wanderer, expressing much the same as fieldfare.

Cumberland, June, 1908. E. H.

629. Changes in the London Avi-fauna.—In 1852 the late Duke of Argyll bought Bedford Lodge (re-named Argyll Lodge), Campden Hill, as a town house. On going to see it he was amazed to find wild bird life so abundant, including nut-hatches, fly-catchers, and warblers. To a lover of birds like the Duke, this settled the purchase of the house. Writing forty-five years later, in 1897, he says: "The reed-wren no longer hangs its beautiful pensile nest amongst our lilac bushes. The black-cap and the willow-wren and the nut-hatches have all deserted us; but the starlings are as lively and busy as ever, and the cushat has become so tame and so familiar that its delicious voice is soothing at almost all hours" ("Autobiography and Memoirs of George Douglas, Eighth Duke of Argyll" (1823-1900), London, 1906). What changes have a further eleven years brought with them?

Hugh Boyd Watt.

630. Where Nightingales are Banned.—A paragraph with this heading has been going the round of the newspapers, on the authority of the *Essex County Chronicle*, to the effect that nightingales do not sing at Havering, the legend being that the singing of the birds disturbed the devotions of St. Edward the Confessor when at his Havering palace, and he therefore placed them under a bann, from which they have never recovered. During the years 1856 to 1863 I frequently visited friends then living at Havering, and it was my constant habit during the warm nights of May and early June to sit at the open bedroom listening to the luscious songs of nightingales in a neighbouring wood. I also occasionally heard these birds sing during the afternoon.

R. T. Lewis.

631. **Missel-Thrushes.**—On the 5th inst. I found at the base of a tall pine tree in my garden a young dead missel thrush, without feathers. The lower branches are thick and spreading and rest on the ground. Two days later, also within the branches, were the remains of a second young one, which had evidently been partly eaten by a cat, and the following day I found a third, larger than the other two, but also devoid of feathers. This one was alive, and I placed it in a flat open box on one of the lower spreading branches. It was at first difficult to know where they had come from, as no nest could be seen in the tree, but at length, with the aid of a field-glass, the nest was discovered, quite at the top, at least 50 ft. from the ground. I fed the young bird in the box with worms at intervals during the day until nightfall. It devoured these greedily, making a great noise when fed, which always brought the parents to the spot with much clamour; but although they knew perfectly well the whereabouts of the young one, they made no attempt to feed it themselves, but continued to carry food to the nest, where there must still be a fourth young one. It is, of course, impossible to investigate owing to the great height, but it occurs to me that it may be a young cuckoo which has thrown out the rightful owners. It would be interesting to know if any of our readers have experience of a cuckoo placing its egg in the nest of a missel-thrush.

The last young bird was found dead in the box next morning, the night having been cold and damp. This would appear to be the second brood of a pair which successfully reared a first brood in a spruce fir close by, where they have regularly rested for the last four or five years. W.

632. **Owls, Nightjars, Goat Moths.**—Goat moths are not kept in check to any extent by either owls or nightjars. They are very sluggish, and move about but little on the wing. Nor are they largely preyed upon by birds in any stage of their existence, there being no British bird of sufficient power to tear away the living wood in which the larva bores, and on which it feeds. During its three years existence the larva does not leave the tree in which it was born, and only quits it when full fed, to pupate at a distance. The chief enemies of the goat moth are ichneumon flies, which search out and attack the larvæ in their tunnels. Owls, nightjars, and trees destroyed by goat moth caterpillars, are common here.

Judging by the capabilities of moth-eating soft-billed birds, I should say that the body of a goat moth is not too large a morsel for a nightjar. Many a time have I seen swallows pursue yellow underwings (*Triphæna pronuba*) when disturbed in mowing grass by the scythe. The swallow makes many a swoop at these large, stout-bodied insects before a capture is effected, and sometimes in trying to evade its enemy the moth ascends to a considerable height, thus affording a beautiful exhibition of the powers of flight of both bird and insect. The common yellow underwing is larger in proportion to a swallow than a goat moth to a nightjar.

I have hardly ever seen birds feed their young on butterflies. And my experience is that butterflies, in contra-distinction to moths, are very rarely attacked by birds unless they are crippled or in a feeble state.

South-acre, Swaffham. EDMUND THOS. DAUBENY.

633. **Tubers of Orchis maculata producing Heads Two Years in Succession.**—Two years ago I searched for and dug up several plants of *Orchis maculata* with abnormally well-marked leaves, and planted them in the garden. One of these is a splendid variety, with the "spots" so developed that the leaves are best described as purplish-black divided into large irregular patches by narrow green streaks. This, and another of my plants, appeared this year to be sending up two spikes close together. I dug one of these pairs up to investigate it, and discovered that one of the spikes was being produced from the old and apparently almost decayed rootstock, and quite separate from the plant growing from the new tuber. Each is producing a fresh tuber for next year's growth, and each has four long, fleshy roots. The other case, which I am leaving undisturbed, I suppose is similar to the one examined. Bentham's Handbook, in referring to the genus *Orchis*, says that the rootstock produces "each year a fleshy tuber by the side of the decaying one of the preceding year, the following year's stem shooting from the top of the new tuber." So I presume it is unusual

for a tuber to produce heads two years in succession. I am wondering if the wet summer last year had anything to do with it. Perhaps some reader of NATURE NOTES who has studied this group will give me some information.

The Nurtons, Tintern, Mon. J. F. BIRD.
April 30, 1908.

634. Russian Thistle.—A correspondent, who has lived twenty years in Colorado, writes of this troublesome weed: "With regard to the Russian thistle, it is a plant of altogether different character from the Scotch thistle, which stays at home and attends to its business, merely disseminating itself with a little harmless down. The Russian, when full-grown, is globular in form, composed of innumerable hard stems, with thousands of prickles and millions of seeds. When dry it detaches itself from the ground and rolls before the wind, climbing fences and seeding the cultivated ground within; so that however thoroughly a man works his place he is liable to visits from the thistle from windward at any season. I have seen a single plant 4 feet in diameter, and travelling five miles an hour."

[The so-called "Russian Thistle," which has attracted considerable attention of late years as an agricultural pest throughout Western North America, is no thistle but *Salsola Kali* var. *Tragus*, one of the *Chenopodiaceæ*, a typical halophyte. extending its area from the sea-shore into salt deserts or steppes, but by no means exclusively Russian.—ED., *N.N.*]

NATURAL HISTORY QUERIES.

144. Silver Fish.—The kitchen part of this house is invaded by those little insects which are about the size of an earwig, are of a silvery grey, and shaped like a tiny fish. I cannot find them in any book I possess. Can you tell me what they are, and whether they are in the habit of frequenting houses? Do they live in old stone walls? And are they destructive in any way—as weevil in wood, or plaster? Is it likely to be merely a temporary incursion, or will they dwell and multiply in the house? I have been four years in this house and have not found them indoors until quite lately.

Milverton, Somerset, E. M. BEECHEY.
June 8.

[*Lepisma saccharina*, one of the Thysanura, one of the latest orders of insects, will live in old sash-frames, brick floors or damp sculleries, feeding on crumbs, sugar, or other vegetable matter. They apparently do little harm, but are not easily dislodged. Their bodies are covered with minute scales, which have long been used as tests of the penetrating and defining powers of the objectives of microscopes.—ED. *N.N.*]

ASTRONOMICAL NOTES FOR JULY, 1908.

Mercury will be visible as a morning star during the last week of July arriving at his greatest elongation west of the sun on the 25th. He will be close to Neptune on 28th.

Venus, *Mars*, and *Jupiter* will be practically invisible in July owing to their proximity to the sun.

Saturn rises just before 11 p.m. at the middle of the month and, coming above the horizon four minutes earlier each night, will soon be perceptible throughout the evenings. He will be near the moon on the morning of the 19th, on which occasion he will be 3 degrees to the northward of our satellite.

Uranus will be in opposition to the sun, and very favourably visible, on July 7. He will be in conjunction with the moon on the morning of the 13th, when the distance separating the two objects will be only half a degree.

On July 16 a *star* of $4\frac{1}{2}$ magnitude will be occulted by the moon between 10.59 p.m. and 12.3 a.m.

Shooting Stars will be numerous from the direction of Aquarius and Perseus during the last week of the month.

W. F. D.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

Central Society.—The following were elected Members at the Council Meeting on June 26th: The Rev. C. T. Aston, M.A.; Alfred Barnard, Esq.; Chas. E. Baskett, Esq.; Herbert F. Baskett, Esq.; Miss Buttercup Bedwell; Miss E. D. Boodle; Mrs. Seward Brice: Frank J. Burgoyne, Esq.: the Rev. L. H. Burrows; Colin Campbell, Esq.; Arthur B. Carpenter, Esq., M.B.; Captain A. Carpenter; Ernest A. Carr, Esq.; Mrs. Murray Carson; H. J. Cash, Esq.; W. C. Charlewood, Esq.; E. Chichester, Esq.; Miss E. Clutterbuck; Dr. W. J. Coles; Dr. B. Collyer; James T. Crockett, Esq.; Miss M. Cross; G. Dent, Esq.; Dr. P. T. Duncan: Dr. W. R. Etches; C. Everatt, Esq.; S. Rowland Forsey, Esq.; Mrs. Patrick R. Green; Miss M. Grove; Stanley A. Hall, Esq.; Miss A. Hasthorpe; Daniell Hill, Esq.; the Rev. Francis W. Hobbs; S. F. Hurnard, Esq., J.P.; F. S. Geffrey, Esq.; Gilbert Jenner, Esq.; the Rev. G. E. Graham Jones, M.A.; J. S. Killick, Esq.; Henry Laver, Esq., F.S.A.; Henry M. Lemon, Esq.; George A. Lonsdown, Esq.; Charles McDermid, Esq.; G. Newby, Esq., F.R.C.S.; John W. Patterson, Esq.; H. Whitby Phillips, Esq., M.D.; E. Mumford Preston, Esq.; H. Preston, Esq., F.G.S.; H. Rutherford Purrell, Esq.; F. W. T. Rees, Esq.; Miss B. Rodda; Percy Rowland, Esq.; John Sharpe, Esq.; Francis Shipton, Esq.; the Rev. Cecil E. Smith; Chas. Spencer, Esq.; Miss P. F. H. Stewart; Miss Ethel Stokes; G. H. Stratton, Esq.; the Rev. W. Champion Streathfield; H. C. A. Timins, Esq.; Daley Worts, Esq.

Birmingham Branch.—Dr. Donald Amphlett; Mrs. George Cadbury; Chas. H. McPherson, Esq.; Miss L. M. Pumphrey; Mrs. Stewart; Mrs. W. H. Sturge: Miss Tilley: Miss May Tropman.

Brent Valley and Richmond Branch.—Dr. Lionel D. Barnett; Frank Bazeley, Esq.; Miss E. Birdwood; Dr. Thomas H. Bishop; Mrs. A. Cockburn; Chas. T. Druery, Esq., F.L.S.; C. S. S. Dunn, Esq.; Mrs. C. S. S. Dunn; Miss Florence M. Dunster; Miss E. Fox: G. Fryer, Esq.; Major-General Guyon; H. P. Headley, Esq.; S. F. Higgins, Esq.; S. F. Holloway, Esq., M.R.C.S.; W. P. Johnson, Esq.; James Johnson, Esq.; W. J. Winter Joyner, Esq.; E. Blair Leighton, Esq.; E. I. Blair Leighton, Esq., Sen.; Miss F. Blair Leighton; W. B. Maxwell, Esq.; Miss N. Orpin; Miss M. E. Palmer; Sutton Palmer, Esq.; Dr. R. Pollock; Septimus Pullman, Esq.; George T. Riddulph, Esq.; Miss L. Rose; Mrs. E. E. Rowney; Mrs. E. D. Salter; T. Seymour Tuke, Esq., M.A., M.B.; E. J. Winter Joyner, Esq.

Brighton Branch.—Miss Ridley.

New Junior Branches.—Warrants for the formation of the new Junior Branches were signed:—Colchester School, F. S. Jeffrey, Esq.; Colchester High School, Miss M. Grove; Coombe Hill School, Miss M. Cross; and Hazelwood, Gilbert Jenner, Esq.

Library.—The Honorary Librarian will attend at 20, Hanover Square, from 6 p.m. to 6.30 p.m., on the evenings of July 20 and August 17, for the purpose of issuing books to members.

EXCURSIONS.

Saturday, May 16.—A small party of Selbornians met Mr. A. B. Wilkinson at Leatherhead Station, and skirting Fetcham Lake proceeded along footpaths to Mickleham, following the course of the River Mole. The weather was perfect, and the spring flowers were in their full beauty. Cowslips were in golden profusion at Norbury Hill. After tea the party visited Mickleham Church, and then had another pleasant field-path walk to Boxhill, passing the cottage which formerly belonged to Madame Vestris. At Boxhill Mr. Wilkinson was cordially thanked for his genial helpfulness in conducting such an enjoyable ramble with a minimum amount of high road.

Saturday, May 23.—Thirty-five Selbornians and others met Mr. W. Percival Westell at St. Albans Station, and were favoured by delightful weather. A

move was at once made for St. Michael's Church, the party passing *en route* several men, women and children engaged in felling osiers for the purpose of making baskets, cages, &c., an industry that has been carried on at St. Albans by the same man for a great many years. Crossing over the ancient British Causeway the party came to very historic ground, and the route traversed was within the area of Roman Verulam. The guide pointed out the site of the St. Albans Pageant of last year, the portion of Roman wall still in good preservation, and known as St. Germain's Block, and other interesting mementoes of Verulam. Before reaching St. Michael's Church, Mr. Westell read lengthy abstracts from Mr. C. H. Ashdown's admirable book, "The City of St. Alban, its Abbey and its Surroundings," concerning the Church and the illustrious philosopher, Bacon, who is buried there. The verger took the party in hand when the Church was reached, and pointed out with commendable brevity the salient features of the same. It was built by Abbot Ulsinus in A.D. 948, and tradition asserts that the Church stands upon the very stones that once supported the heathen Temple of Apollo. The Roman Forum is believed to have been quite near the spot where the Church now stands; the Roman theatre lies under a field on the opposite side of the road, and a line of trees not far away denotes the site of the Watling Street of Roman times.

On arriving at Gorhambury House (built in 1780), Mr. Newberry, the head gardener, very kindly conducted the Selbornians and friends through the gardens and grounds, after which tea was partaken of in the park, under the cool shade of some heavily-foliaged trees, and almost under the ruins of Bacon's house, built in 1563.

After tea the party proceeded across Gorhambury Park, noting among the birds singing, cuckoo, chiff-chaff, willow wren, lesser whitethroat, and several commoner kinds, whilst those botanically inclined found several common, but none the less interesting, plants. The various forms and characteristics of several trees were commented upon and noted. The guide gave several little dissertations upon birds to those members of the excursion with whom he was able to keep in touch, and much information was elicited of a useful nature. A fine view of St. Albans Abbey, St. Peter's Church, and other parts of the City was obtained as the entrance gates were reached, and the party proceeded through St. Michael's, along quaint old Fishpool Street, to the Abbey Gateway (now the Grammar School), by the side of the Cathedral and thence to the station. This is about the fifteenth ramble of the Society conducted by Mr. Westell, and all seem agreed that it was one of the most successful that he has piloted. To the Right Hon. the Earl of Verulam the Society are greatly indebted for the readiness with which he granted permission to visit his beautiful estate and gardens.

Saturday, May 30.—A small party of Selbornians met at High Barnet and joined, by kind invitation, the botanical ramble through Arkley Green Lane, arranged by the Barnet Natural History Society and Field Club. A *détour* was made to the old Fold Farm, to see the moat—all that now remains to mark the site of a Saxon, or more probably Norman, Castle. Mr. Cruickshank, of the Barnet Society, gave a short and interesting address on the moated sites of the neighbourhood. Arkley Green Lane, a long and very narrow strip of common land, chiefly now used by gipsies as a camping ground, proved somewhat of a disappointment to the botanist, but to the lovers of fine trees, streams, and open country a great pleasure. A wayside pond white with the bloom of water crowfoot was passed, and hedges still snowed with the hawthorn's flower. In places the lane was very swampy, but owing to the forethought of Mr. C. G. Kiddell, F.L.S., the local secretary, who had secured two men with planks, everyone crossed these patches easily. After the long walk the party were delighted by the kindly welcome they received from Mr. and Mrs. Giles, who had provided tea for them in their charming house and garden, putting their tennis and croquet lawns and bowling-green at the disposal of any members of the party who felt inclined to play.

FORTHCOMING EVENTS.

COUNCIL AND COMMITTEE MEETINGS.

Monday, July 20.—General Purposes Committe at 5.30 p.m.
Tuesday, July 28.—Council Meeting at 5.30 p.m.

Saturday, July 4.—Pyrford Church and Newark Abbey. Train leaves Waterloo (Central) at 2.28 p.m., Clapham Junction 2.27, arriving at Byfleet at 3.18 p.m. *Passengers from Clapham Junction change at Surbiton.* Return fare 3s. 3d., but if a sufficient number send in their names to the Hon. Excursions Secretary before July 1, a reduced fare of 2s. 3d. will be arranged. Guide, the Rev. R. Ashington Bullen, B.A., F.L.S., F.G.S.

Saturday, July 11.—West Drayton and Iver. Meet at West Drayton Station on arrival of train leaving Paddington at 2.33, Ealing (Broadway) at 2.46 p.m. Return fare 1s. 5d. Guide, Mr. Wilfred Mark Webb, F.L.S.

Saturday, July 18.—Serge Hill and Bedmond. Train leaves Euston (L. & N. W. Ry.), 1.40 p.m., Willesden 1.58, arriving at St. Albans 2.45 p.m. *Change at Watford.* Return fare, 3s. 4d., but if a sufficient number send in their names, with a stamped addressed envelope, to the Honorary Excursions Secretary by July 16, a reduced fare of 2s. 1d. will be arranged. Tea at the "White Hart," Bedmond. Return train 8.15. arriving at Euston 9.20. Guide, Mr. W. Percival Westell, F.L.S., M.B.O.U., who will read a paper on "Lessons from Nature."

Saturday, July 25.—The Brent Valley Bird Sanctuary. Members desiring to attend must apply to the Honorary Excursions Secretary before July 22, enclosing a stamped addressed envelope and a remittance of 1s. to cover cost of tea. As the Sanctuary Committee does not wish to publish the exact locality of the Sanctuary, details will be sent only to those who apply as above. Return fare, from Paddington, under 1s. Guides, the Sanctuary Committee.

Saturday, August 1.—No excursion, on account of the August Bank Holiday.

PROJECTED ARRANGEMENTS.

Saturday, August 8.—Rickmansworth and Chorley Wood. Guide, Mr. Geo. Watts.

Saturday, August 15.—Ightham. Guide, Mr. K. W. Mumford.

Saturday, September 5.—Addington Park and Hills. Guides, Miss Flint and Miss Latham.

Saturday, September 19.—"Where Ruskin loved to dwell." Guide, Mr. C. M. Mühlberg.

ANSWERS TO CORRESPONDENTS.

L. Copland.—*Crataegus Crus-galli L.*, the Cockspur Thorn, a variable species. This form agrees closely with the type of *C. lucida* of Philip Miller.

Mrs. Needham.—The plant appears to be the Wild Carrot (*Daucus Carota L.*) in a young state; the tree is not readily determinable from leaves only.

B. Hart-Synnot.—The white variety of the Bush Vetch (*Vicia sepium*, sub-var. *alba* Rouy) is uncommon.

1. All communications for NATURE NOTES must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for NATURE NOTES (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. BOULGER, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. JOHN BALE, SONS AND DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership, should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, WILFRED MARK WEBB, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 224. AUGUST, 1908. Vol. XIX.

THE THRUSH'S FUNERAL.

Here in Old Ranelagh I saw to-day
A simple child stop suddenly from play,
With tears upon her cheek;—"Poor thrush," she cried,
"To think in such full summer you have died!"
Then did she search with care each flowery bed
To seek rich covering for the songster dead,
—Here, soft rose petals, there, a poppy leaf,
And tenderly she laboured in her grief
To weave of laurel green a casket meet
For one so silent now whose song was sweet.
Then where a fountain seemed in pain to flow
I watched her bear the little body, slow,
And gazing round to see that none were near,
There on the fountain's rim she laid the bier,
And left 'neath poppy flowers and rose-leaf heap
The silent singer to his balmy sleep.
Oft looking back to gaze upon the shroud,
With tearful eyes she vanished in the crowd.
But one child-heart in all the world of play
Had touched the soul of Ranelagh that day,
And the dead thrush upon a fountain stone
Told of a love which keeps creation one.

H. D. Rawnsley.

NOTES ON LONDON BIRDS IN 1907.

MY first note records the appearance of a Fieldfare on New Year's Day by a shrubbery near the bridge across the Serpentine. Fieldfares are rarer in town than Redwings. I saw a bird of the latter species on February 1, near Hyde Park Corner, and another on February 7, which was hopping about not far from a hen Blackbird which had a good many white feathers on her head; while on the 20th there was a flock of about twenty Redwings in Hyde Park. The Black-headed Gulls on the Serpentine began to acquire their dark heads during the first week of February.

After the exquisite week at Easter, the weather became very bad, and I searched in Kensington Gardens and Hyde Park every day for Spring migrants without success until April 23, when I heard the welcome song of the Willow Wren near the Broad Walk in Kensington Gardens, and found about half a dozen birds of that species. A good many Willow Wrens were there next day, but on the 25th they seemed to have disappeared. On April 29 my sister saw a Tree Pipit in Cleveland Square. On May 2 I heard another Willow Wren singing by the Dell in Hyde Park, although it was a stormy morning, with a violent S.W. wind. My sister reported the appearance of a House-Martin on the Round Pond on the 5th; and several Wheatears near Stanhope Gate in Hyde Park, and a Spotted Fly-catcher in Kensington Gardens, on the 9th.

On May 8 I heard a Nightingale in full song in a small shrubbery nearly opposite Buckingham Palace. It was about 9.30 a.m., when swarms of people were passing on their way from Victoria Station to business. I have rarely been so astounded as by the sight of this continuous stream of men pouring past, and every one of them apparently deaf to the wild ringing notes of the bird.

I observed a brood of six newly-hatched Canada Geese in Kensington Gardens on May 14, and a few weeks later saw another brood of two. The nesting of the Black Swan has become so regular that it cannot any longer be considered a matter of interest.

On May 16 a Wood Pigeon took quite a long swim in the Serpentine. The bird did not alight on the surface because it was tired, nor in order to drink, but deliberately walked into the water until it was out of its depth, and then swam for several yards, flapping its half-opened wings greatly on the surface; after this it rose from the water without any apparent effort and flew to the Island. I had never seen such behaviour on the part of a Wood Pigeon before.

Four Sand-Martins and a Swift were flying over the Round Pond on May 22, and on the same day I observed Spotted Fly-catchers in Kensington Gardens and Hyde Park. There was

some blustery weather early in July, and Swallows were flying aimlessly about over the Serpentine on the 4th, 5th, 11th, 12th, and 13th; Sand-Martins on the 11th, 12th and 13th; and Swifts on the 4th, 11th, 12th and 13th. The sunless summer seemed to upset birds, dates, and arrangements altogether. I was, for instance, surprised on July 14, at Taplow, to hear a Cuckoo calling in a voice as clear as in early May.

On July 18, I was sitting on my balcony in Cleveland Square, after dinner, when a Heron flew overhead in an easterly direction at a height of about 200 feet.

On August 2 I saw a Sparrow-hawk dash across the Serpentine over the Island; possibly the Starlings, which had just assembled to roost there, were the attraction. On August 5 I heard a Stock Dove in Hyde Park; and on the evening of the 10th a Heron, possibly the same bird which I had seen on July 18, flew over Cleveland Square. I noticed a solitary Willow Wren in Kensington Gardens on the 21st of this month, and the following day saw some Sand-Martins flying over the Serpentine. On August 23 I saw a Cuckoo in Hyde Park, and believe it to have been a young bird, but could not get a good view of its colouring.

During the first week of October I saw a few Swallows and Sand-Martins over the Serpentine; and on October 15, and November 15 and 22, observed the Grey Wagtail there. On the morning of Sunday, November 24, while I was watching a Pied Wagtail on a rock in the Sea Lions' Pond at the Zoological Gardens, a Grey Wagtail which was flying over the Gardens at a considerable height dived down and settled on the same rock. The pair made a delightful picture.

54, *Cleveland Square*, A. HOLTE MACPHERSON.
Hyde Park, W.

THE ANNUAL GENERAL MEETING.

THE ANNUAL GENERAL MEETING was held at 20, Hanover Square, on June 26. The Chairman, Dr. Dudley Buxton, made some brief remarks with regard to the Report in moving its adoption, and then proceeded to give an interesting address, which is printed below. Lord Avebury was unanimously re-elected President, and the vacancies on the Council were filled by the following: Dr. Appleton, Mrs. Almeric Fitzroy, Mr. Hugh Boyd Watt, M.B.O.U., Mr. George H. Watts. The Vice-Presidents were re-elected with the addition of Mr. Peter Lawson, F.R.M.S. Mr. Mühlberg, Mr. Rudler, and Mr. Peter Lawson kindly acted as scrutineers. It was announced that the six Vice-Presidents who served on

the Council last year had been nominated to serve again by the Council. A vote of thanks to the retiring Councillors was proposed by Professor Boulger and seconded by Mr. J. Shaw Crompton.

Mrs. Wilfred Mark Webb, on behalf of the Council, presented to Mr. Ernest A. Nash, on the occasion of his wedding, a copper inkstand cast in the form of a lobster. Mr. Nash proposed a vote of thanks to the Chairman, which was seconded by Mr. Peter Lawson, and carried by acclamation.

A PLEA FOR INDIVIDUAL EFFORT IN THE SELBORNE SOCIETY.

An Address delivered at the Annual General Meeting of the Society by Dr. Dudley W. Buxton, *Chairman of Council.*

THE Annual General Meeting of the Selborne Society is in some sense like the statutory meetings of companies. The Report is read and received, elections take place, and the Society is started upon a fresh year of labour. In another way the meeting resembles those held in the City; it is peaceful and badly attended if the members are contented, but turbulent and thronged when the Society is rent by dissension or torn by controversy. Human nature being what it is, this state of things, although to be regretted, is natural. The duty of the Chairman is the conduct of the meeting; his it is to lay before the members what their Council has done, and to explain what they have omitted to do. But surely the Selborne Society must be imbued with the spirit of its titular deity Gilbert White of Selborne, and his wraith demands more than the dry bones of business, the monotony of a record of things done. It is fabled that Midas whispered his secret to the waving reeds, and that the voiceless leaves repeated through the endless ages Midas' plaint. So is it not true that the words of men and the incense of their lives are in a sense whispered to the leaves and wafted by the winds, and come reverberating down the ages? What we are to-day, what we know, that by which we are environed, are the result of a slow crystallization of the thoughts, of the words, and of the deeds of men long dead. The Selbornian of the twentieth century owes to Gilbert White, and such as he, all that is best in them. I think our pious founders, Mr. and Mrs. Musgrave, whom the Selborne Society honours to-day, meant to initiate a society which should undertake the work Gilbert White loved; but, further, they dreamed of a society composed of men and women who would be actuated by ideas such as found expression in the writings of White of Selborne—ideas which were the outcome of the life he led in his Hampshire home. I want to emphasize that the Selborne Society has, or should have, a dual life; the militant,

strenuous life, which is that of our Council, and the other life, which is led, or should be led, by each member of our body. It is necessary that the Selborne Society should stand in "the open" to fight the world, if need be, in the defence of natural beauty, the preservation of our flora and fauna, the rurification of towns, the protection of the countryside from Philistine sign-boards, the thoughtless vandalism of the tripper and dilettante collector. It must strive, even if in vain, to preserve intact the *lares* and *penates* of generations gone by, the stone monuments of builders who made history while they piled stone on stone, and cornices graved with the memories of those men who, for better or for worse, have created the England of to-day. The Selborne Society has done all this, and the value of its work is best attested by the fact that it has begotten quite a respectable family of young societies which have appropriated one or other of the aims the Selborne Society has striven to promote. The National Trust, the Bird Societies, and others are each emulating the mother organization and doing good work. May I say the Selborne Society is an indulgent mother; she rejoices in her offspring, and even if at times her work is ignored and the newer worker claims the laurels, she readily extends her indulgence provided that the work is well done. To her it is more important that the ends for which she strives are attained than that cheap applause should crown futile endeavour.

But, as I have said, there is another side of the Selborne Society—the personal, the intimate, "the soul." We can fight, we can achieve the objects of our corporate existence, the objects of the Selborne Society which are set forth in our prospectus, and having done all this we have not learnt "the soul" of the Selborne Society. This is the holy of holies of our work and of our world, and is hidden in each individual member of our organization. The freemasonry of Nature-love, the seeking for the essential beauty in the world and its indwellers, is involved in the Selborne Cult. To us, Pan and the Powers of the Air no longer typify a theocracy; they embody a solemn truth, that men who learn to live in touch with Nature may attain to a clarified atmosphere where even the furious raging of the peoples is as a vain thing. What I want to convey in these halting sentences is, that it is the individual rather than the Society who must do the ultimate work of Gilbert White in our day and in our generation. The man, be he humble or be he handicapped by affluence and the appliances for promoting his idleness and selfishness, if only he learns to commune with Nature, acquires the secret of peace and contentment, grasps the philosophy which books cannot teach, metaphysical methods cannot compass. I deplore that as a Society we do so little to inculcate this side of our work. We are militant, we are mildly scientific, but we are not whole-souled worshippers of Nature. We do a great deal, but may I venture to say we need do a

great deal more, in the sense of personal influence and effort, towards inculcating the true love of Nature? In our walks, in our gardens, in our museums those of us who know but little science will never fail to find the voices of Nature, the higher and better existence which belongs to things unswayed by man's petty influence. I do not wish to appear sentimental or vaporous; the ideal I have before me is Gilbert White, than whom no man was more sane. True, he had a very fair knowledge of science, and even ventured to extol Linnæus in days when it was the fashion to belittle that *savant*. But if you read White's journals and his letters you will see what I mean when I urge that we should seek Nature and ensue her. He was *imbued*, so should be every Selbornian. Mäeterlinck writes of the Bee, yet Mäeterlinck was no mere apiculturist. He was in the best sense a *Selbornian*. To him the life of the bees was a system of vivid philosophy; their work, their loves, their strivings, lifted a corner in the veil of Nature's inscrutable world and taught parables. Every child, each man and woman "who has passed Jordan," is at heart a philosopher. It is only the busy, keen, impassioned life between 20 and 40 which accepts things to be as they seem. The child finds pixies and brownies in his cowslips and harebells, the older man begins to suspect latent forces, undreamt-of meanings in the workings of Nature and the turmoil of the world's advance. Each, the child and the elder, is a little aloof from the throng, and studies and asks the meanings of things. So it is with us. We seek something more than classification from our flowers, to us a sunset is not a mere "effect," and Nature-study includes all the problems of the immutable laws of life, the hidden mysteries behind the succession of generation to generation, the cruelty and rapine of the world as we know it. I would plead then, that Selbornians should foster a larger and a wider appreciation of Nature, and enforce by example and precept a love of essential beauty alike in Nature and in social life.

The vulgarity, the sordidness, the snobbery rampant in the world to-day should be scouted by those who find comfort in the simple life of the hillside and quarry, and the repose of the woods at the dawn of day. There is only one life worth the living, and it is the life which is attuned to the countless voices of Nature, the divine diapason of wood and fell and stream. To teach to live such a life, I submit, is one, if not the chiefest, of the objects to be striven for by the Selborne Society.

SELBORNIANA.

The "Author's Copy" of the "Selborne."—Your readers will probably be interested to hear how time has dealt with Gilbert White's own copy of his book, some account of which has recently come to my knowledge. His library was, by his will, bequeathed between his two nephews, John White (Gibraltar Jack) and Charles Henry White, and this volume, in which its owner had, as in the case of other books of his in my possession, written his name on the fly-leaf, fell to the share of the latter. Many years ago, the book requiring re-binding, Mr. C. H. White sent it to a binder, who, unfortunately, returned it without the autograph of its author. Subsequently the volume became the property of Mrs. Gregorie, a daughter of Mr. C. H. White, who some few years ago gave it to her nephew, Mr. Frederick Gregorie, residing in New Zealand.

R. Holt-White.

Walker Miles Memorial.—Selbornians, in common with other Nature-lovers, are much indebted to the late Mr. Edmund Seyfang Taylor, better known as "Walker Miles," for his untiring efforts in the discovery and preservation of field-paths, and for the singular skill with which he described these pleasant routes for the pedestrian in his numerous guide-books. Soon after his death, which took place on Easter Day, a committee was formed to organize a suitable memorial, and it is proposed that this should take the form of a monolith over his grave in the quiet little churchyard at Godstone, and an indicator on Leith Hill or some other prominent view-point. An expenditure of about £50 is estimated, and the Editor will be happy to forward any sums which may be transmitted to him for this object.

Birds and Farmers.—A correspondent writes as follows:—"After waging a merciless war upon birds, whose destructiveness was scarcely ever doubted by the Kentish fruit-growers, we are suddenly informed, according to the *Standard* of July 6, that a change of front has taken place, for at a recent meeting of the Kent Fruit-growers' Association, held at Sittingbourne, a resolution was carried declaring the necessity of stopping the wanton killing of birds.

"It must be gratifying to all lovers of bird-life to know that this acknowledgment of the usefulness of birds in the 'Garden of England' comes from those who helped to massacre them. But for the fearful ravages of caterpillars and other insects in the orchards, our feathered friends would still be under the ban. It is to be hoped that the lesson the fruit-growers have been taught will influence the mistaken opinions of those who hold an agricultural interest in other counties."

EDIBLE SNAILS.—Miss Ethel G. Woodd, of Glenthorne, Eastbourne, having bred *Helix pomatia*, the so-called Roman snail, for many years, will gladly correspond with anyone requiring accurate observations on its ways and life-history. She also has young ones for sale at 2d. each, and fat mealworms at 7d. a hundred.

A CORRECTION.—On p. 137, in answer to the query on "Silver Fish," the printer has made me style the Thysanura "one of the latest orders of insects." I wrote "one of the lowest orders."—ED. *N. N.*

REVIEWS AND EXCHANGES.

The Country Home, Nos. 1-3, May-July, 1908. 10¾ × 7½ in. Messrs. Archibald Constable and Co. Price 6d. net, monthly.

We congratulate our Honorary Secretary on the first numbers of his new magazine. It is convenient in form, admirably printed and illustrated, and has a tasteful and appropriate wrapper, whilst the names of Sir John Cockburn, Mr. Yoxall, the Hon. Mrs. Evelyn Cecil, Mrs. Dukinfield Scott, Mr. Step, Mr. John J. Ward, Mr. A. D. Darbishire, and Mr. J. W. Odell as contributors are a guarantee of the excellence of its literary contents. The pictures of half-timbered houses, the reproduction of the brass of Sir John D'Abernon, the Exhibition supplement, and the photographs of water-gardens are first-rate, and the variety of interests to which the articles appeal should secure for the magazine a wide and lasting popularity.

The Nature Book. Part I. Profusely illustrated from photographs, with coloured plates. 10½ × 7½ in. Pp. 32. To be completed in 24 fortnightly parts. Cassell and Co. Price 7d. net.

Only now could such a work as the present be produced at the price. Introduced by an article by Mr. Walter Crane, there are papers by Douglas English on "The Mice of the Field," by Dr. W. J. S. Lockyer on "How to know the Clouds," and by Henry Irving on "How to know the Trees," each illustrated by the writer; one on "How to know the Birds," by the Rev. M. C. H. Bird, illustrated by the Messrs. Kearton, and one on "How to know the Wild Flowers," by the Rev. H. Purefoy Fitzgerald, illustrated by Mr. Irving; a coloured plate from a water-colour by Mrs. Allingham is the first of a series to include works by Mrs. Rawnsley, Mr. MacWhirter, Mr. Sutton Palmer, and others; and we are promised papers by Mr. John J. Ward on Insect Life, Mr. F. Martin Duncan on Life on the Seashore, and others.

The Little Naturalist at the Seaside. By the Rev. Theodore Wood. Illustrated by G. E. Collins and J. Halliday. 5⅝ × 4 in. Pp. 112. Ernest Nister. Price 1s.

The middle-aged reviewer, glancing through this dainty booklet for children, with its description of the sandy beach with starfish, scallop, whelk, jelly-fish and sea-urchin, of the muddy shore with cockle, razor-shell and lug-worm, of rocks and rock-pools, with limpets, barnacles and crabs, is irresistibly reminded of the "Common Objects of the Seashore" by Mr. Wood's father, which was a favourite companion of his youth, as that of thousands of his contemporaries. The nursery-governess may well find room for this little book when packing up for the holidays.

Nature Studies by Night and Day. By F. C. Snell. With about 90 photographs taken direct from Nature. 7½ × 5 in. Pp. 319. T. Fisher Unwin. Price 5s.

Mr. Snell has established his reputation as one of the best of our Nature-photographers, and in this volume, while he gives us some admirable daylight studies, he has especially devoted himself to that flashlight work which has as yet

BUFF-TIP MOTHS.
From "Nature Studies by Night and Day" (by kind permission of T. Fisher Unwin, Esq.).

SUMMER IN THE FOREST.
From "Nature Studies by Night and Day" (by kind permission of T. Fisher Unwin, Esq.).

not been much developed in this country. The gradual opening of the large white convolvulus, the protective markings of birds' eggs and moths' wings, and the architecture of the clouds, are among the most attractive subjects of the author's pen and camera.

A Cycle of Nature Study suitable for Children under Twelve Years of Age. By M. M. Penstone. $7\frac{3}{8} \times 5$ in. Pp. 399. National Society. Price 3s. 6d.

In spite of its title this book is written for teachers, its fifty-two chapters being reprinted from the *School Guardian*. They are eminently practical and are graduated according to season, from winter round to winter again, whilst they

BLUE TITS AND COCO-NUT.
(By kind permission of the National Society.)

seem to us to be commendably accurate throughout. With suggestions for the town teacher, there are several chapters on holidays by the sea, and the lessons are very evenly balanced between plant and animal life. But few illustrations are needed in such a guide book, though many teachers may like to attempt the reproduction on the blackboard of the charming little study of Tits which the publishers allow us to use here. The authoress has consulted the best pioneer

writers on the subject, and has produced a book which we can cordially recommend.

Romford (Essex) and its Surroundings. By H. G. Daniels. Illustrated by J. A. C. Branfill. 7¼ × 5 in. Pp. 76. With Ordnance map. Homeland Association, Price 6d. net.

THE STOCKS, HAVERING.
(By kind permission of the Homeland Association.)

Rapidly approaching the suburban fate which has overtaken Ilford, Romford itself has not the attractiveness of many of the places dealt with in the delightful handbooks of the Homeland Association. Within three miles of its railway

station, however, is Hainault Forest and the romantically-named Havering-atte-Bower, fragrant with the traditions of England's gentlest and most saintly king. In this secluded spot it is fitting that the old-world symbol of order—the stocks—should be preserved, and we are indebted to the Association for permission to reproduce their illustration of them.

Familiar Swiss Flowers. Figured and described by F. E. Hulme. With 100 Coloured Plates. $7\frac{3}{4} \times 5\frac{1}{4}$ in. Pp. 224. Cassell and Co. Price 7s. 6d. net.

"There are in Switzerland some 2,000 species of flowering plants, and about half of these are Alpine." Many of these latter are remarkable for their large and brilliantly-coloured blossoms, and this has led not only to the rage for the cultivation of alpines, but also to the preparation of several popular books, giving coloured plates of these floral beauties. Mr. Hulme's drawing is always good and, doubtless, his colouring also, whilst this last has suffered less in the process of reproduction than in some older books of the same class. By including two or more species on most of his plates, the artist has represented some 200 species, and—naturally, perhaps—he only deals with "conspicuosities"; but it is a pity that species not common to Great Britain were not selected in preference to those which are so. The fact that these species are common to the two floras is not always even mentioned in the somewhat meagre "descriptions." Indexes are given of so-called "popular" names, English and local—many of which are mere book coinages—of botanical names, and of the last in botanical sequence.

Mosses and Liverworts. An Introduction to their Study, with Hints as to their Collection and Preservation. By T. H. Russell. With Illustrations from Original Microscopical Drawings. $8\frac{3}{4} \times 5\frac{1}{2}$ in. Pp. 200. Sampson Low, Marston and Co. Price 4s. 6d. net.

A short time ago we reported that Mr. Russell had delivered an interesting lecture on the subject of mosses and liverworts before our Birmingham Branch, and now he has laid a wider public under an obligation by giving us this excellently got-up introductory manual. It is, as the author says, more especially meant for "the beginner and the uninitiated": English names and terms are therefore given, though a full glossary is added. No attempt at a synopsis of British species is made, as this is already available in excellent recent and inexpensive works, which are described in a very complete bibliographical chapter. Colour is of little consequence in the identification of these plants; so, with the luxury of a coloured frontispiece, we are given ten uncoloured plates of general anatomy. An eminently practical chapter on collecting and preserving completes the work.

The Open Air. By Richard Jefferies. With Illustrations by Ruth Dolman. $7\frac{3}{4} \times 5\frac{1}{4}$ in. Pp. 234. Chatto and Windus. Price 5s. net.

Everything that Jefferies wrote is, of course, well worth reading, but in these later papers we miss some of the spontaneity of his earlier Wiltshire work. Miss Dolman's illustrations seem to us too monotonously orange in tone, but the charming end-papers make this worthy edition a joy. It may, perhaps, however, be greedy, but why will publishers give us the same end-paper at each end of a volume?

Wee Tim'rous Beasties. By Douglas English. Third Edition. With 100 Illustrations from his Photographs. $8 \times 5\frac{3}{4}$ in. Pp. 223. Cassell and Co. Price 5s. net.

We are not surprised that Mr. English's delightful and delightfully-illustrated volume, first published in 1903, has reached a third edition.

One and All Gardening, 1908. Edited by E. O. Greening. Agricultural and Horticultural Association. Price 2d.

This thirteenth issue of this popular annual is as full, as varied, and as copiously illustrated as any of its predecessors. From an article on "Garden Teaching in Schools," by Mr. H. J. Wright, it appears that forty-two County

Councils have between them 600 school gardens and 8,300 pupils receiving garden lessons.

Soils: their Nature and Management. By Primrose McConnell. Illustrated. 7½ × 5 in. Pp. 104. Cassell and Co. Price 1s. net.

This is the work of a man who in his own person refutes the common fallacy of the opposition of theory and practice, he being at the same time a man of scientific training and a practical farmer on a large scale. The result is a thoroughly accurate and thoroughly practical handbook. It deals with the origin of the soil, with some mention of earth-worms and soil-bacteria, with the chemistry, geology and physics of the soil, the influence of the physical geography of the farm, and finally with the improvement and tillage of the soil. Every intelligent farmer should read this little book, and every rural schoolmaster should master its contents to make his teaching of real value to his scholars.

Hull Museum Publications, Nos. 45-52. By Thomas Sheppard. 8½ × 5½ in. September, 1907, to May, 1908. A. Brown and Son. Price 1d. each.

Is there any other museum curator who does as much single-handed to make known the treasures under his care as Mr. Sheppard? Here, by the cheap expedient of striking off reprints from a local paper, or from various journals which welcome his contributions, he gives us, in penny numbers, accounts of coaching times at Hull, of an old church library, of newly-acquired coins, of mementoes of Wilberforce, of British, Roman and Anglo-Saxon remains, of a British Chariot Burial at Hunmanby, of the Patrington Sun-dial, of the old whaling fleets, of mediæval encaustic tiles, of fossil fish from the Chalk, and of Bronze-Age celts. All are alike thorough and scholarly. Mr. Sheppard has also sent us a reprint from the *Transactions of the Hull Scientific and Field Naturalists' Club*, "In Memoriam John Roberts Boyle," in which a painful task is handled with exquisite delicacy.

Proceedings of the South London Entomological and Natural History Society, 1907-8. With 5 plates. Price 2s. 6d. net.

Both the Annual Address by the President, Mr. R. Adkin, and one of the papers included in this volume entitled "Our Authorities," by Mr. H. J. Turner. are of a historical character, the latter dealing mainly with the eighteenth century and the former with the work of local societies, and recent attempts to combine their efforts in Unions. Several purely entomological papers are also included in the volume.

Epsom College Natural History Society. Report for 1907. Andrew and Son. Price 1s. 6d.

This affiliated society continues to do good work. We note with pleasure the re-discovery of *Herminium Monorchis*, and hope that the newly-established botanical garden will benefit both the society and the school.

Haileybury Natural Science Society. Report for 1907.

This modest Report shows that the excellent Museum suffers increasingly from congestion. The Society hardly seems to number as large a proportion of the school as it should.

Kelway's Manual of Horticulture. Fifty-sixth Edition. 10¾ × 8½ in. Pp. 370.

This sumptuous and comprehensive trade catalogue, with copious illustrations, including coloured plates by Mr. A. P. W. Hayward, continues to proclaim the great Langport horticultural establishment.

Received: *The Fern Bulletin* for July 1907 and April 1908; *The American Botanist* for February; *Bird-Lore* for March-June; *The Journal of the Board of Agriculture* for April; *The Victorian Naturalist* for April and May; *Knowledge, The Humanitarian, The Naturalist, The Irish Naturalist, British Birds, The Animals' Friend, The Estate Magazine* and *The Agricultural Economist* for May, June and July.

NATURAL HISTORY NOTES.

635. **Jottings from East Suffolk.**—On the evening of June 28, while resting for a few minutes on a footbridge crossing a small stream, I noticed a swallow flying in among the boughs of an ash tree close by. Keeping an eye on the bird, I saw it hover for a second or so close to a horizontal bough of about 4 inches in diameter. Moving so as to get a clearer view of the spot, I caught sight of four young ones sitting close together on this bough near its junction with the trunk of the tree. After hawking awhile for insects near by, one of the old birds again approached, and, threading its way among the boughs and twigs, fed one of its young ones. This was repeated a third time before I left. On the way home, about a mile from this spot, a pair of swallows began mobbing my dog just as they will a cat. Knowing they must have young ones close by, I searched for them, and soon found three young birds sitting in a sallow bush overhanging a ditch. It may not have fallen to the lot of every-one to see the young house-martins, after they have left the nest, taking food on the wing from their parents' beaks. The act is performed with such exceeding quickness and dexterity that it needs pretty close watching to detect it.

With many species of birds the feeding of the young is a very pleasing and interesting operation to witness. Not long ago I fell in with a family of pied wagtails in the road. Both old and young birds were running nimbly about catching insects, often making short flights in pursuit of their active prey. Whenever the father or mother made a capture, a young bird would run up and take it from its parent's beak.

A row of young red-backed shrikes perched side by side on a rail or gate, patiently awaiting the arrival of the old birds with food, is a quaint and pretty sight. But I know of no bird concerning which the important business of feeding the young is more entertaining to watch than the common water-hen, and on ponds where ornamental water-fowl of various kinds are kept it is often the motherly old water-hen, with her family of little black chicks, which attracts the most attention.

A pair of gold-crested wrens built their nest this year in a yew tree near this house. It was placed near the end of a bough, at the height of about 12 feet from the ground. The young birds left the nest on July 4.

Blaxhall, Suffolk. G. T. Rope.

636. **Sand-Martins.**—Last year from fifty to sixty sand martins nested in a disused pit in this village. This year not one has returned. What can be the cause? It is not likely that the whole colony perished abroad or during their migrations. I looked for them day after day at the time they usually return in the spring. None turned up to inspect their old quarters; and so the falling of the earth at one end near their borings does not seem to be a reason for their disappearance. Edmund Thos. Daubeny.

637. **Long-eared Owls.**—Last night I heard five or six of these birds calling to each other in South-acre wood, where there is a quantity of spruce firs, which they much affect. It seemed to me it was a case of old and young birds talking to one another from different points, a hundred yards or so apart.

Edmund Thos. Daubeny.

638. **Double Nest of Great Tit.**—I have just seen a double nest, which, in its surroundings and circumstances, is quite extraordinary, and of which I send a rough diagram. Three large flower-pots had been placed inside each other bottom upwards. Two pairs of great tits made a double nest upon the outside of the bottom of the lowest pot; the access to the nest being through the holes of the two pots above. The double nest, which is circular to fit the pot, is like a flat piece of felt, composed of hair, wool, and moss. It is 8 in. in diameter, and 2 in. thick. In this are two cup-like depressions, similar to those in a bagatelle board, 2 in. broad and 1½ in. deep. These are the nests proper. They are 2 in. apart; there is no partition or screen between them above the level of the double nest; and they contain three eggs each. What adds to the strangeness of this arrangement is the character of great tits. They are fierce and unsociable in their habits, and very suspicious of each other; so much so that uniting together for nesting purposes is most unusual. As the

nest has been taken, the matter cannot be further investigated. It is, however, possible that three and not four birds combined together in the construction of the nest; that a male bird took to bigamy, and induced two lady-loves to set up an establishment side by side under his protection.

South-acre, Swaffham. EDMUND THOS. DAUBENY.

639. **Golden Oriole.**—I see in your interesting Magazine for May the golden oriole mentioned in Natural History Notes. I had the satisfaction of seeing one on May 30 last at Bacton, Herefordshire, where I was staying at the time. I am also told a pair of them nested in a field at Newlands, Malvern, in 1906.

Bewcroft, The Mount, Shrewsbury, VIOLET E. LINGEN BURTON.

640. **Swallow-tail Butterfly.**—Last summer I spent three weeks of my holiday living in a small boat up a quiet backwater in the Norfolk Broad country, and found six caterpillars of the swallow-tailed butterfly. They were all within a radius of some 30 or 40 square yards, feeding upon the seeds of a large umbelliferous plant, and although these plants were plentiful all along the water-side, an exhaustive search for more caterpillars was fruitless. I did not know what they were at the time, but, thinking they must be something uncommon, sent them by post to a small nephew in Devonshire. He brought two of the chrysalides back here to school with him this term, and the butterflies emerged early this month—both excellent specimens. The other four are at his home in Surrey, still in the chrysalis stage, I believe.

As I had always believed that the English swallow-tail was extinct except in one locality in Lincolnshire, I thought this note of its existence in Norfolk might be interesting. I do not want to describe the spot where I found them; and if I had known at the time what the caterpillars were I would certainly not have sent away all that I found. I have hopes that there may have been others already in the chrysalis stage, but I fear there were not, for I kept these under observation for a fortnight or more, finding that they never left the plants on which they were feeding.

Twyford School, Winchester, HUGH B. KITCHIN.

[The scarce swallow-tail (*Papilio podalirius*) no longer exists as a British species; but the species here recorded (*P. machaon*), the larva of which feeds on the milk-parsley (*Peucedanum palustre*), fennel, wild carrot, and other Umbelliferæ, is not uncommon in the Fenland. Before modern draining its distribution was more extensive; but the *Peucedanum*, its chief food-plant, occurs to-day from Yorkshire to Suffolk and Cambridgeshire. Our correspondent is quite right not to particularize as to the locality.—ED. *N.N.*].

641. **Caulescent Primroses.**—Have any of your readers noticed the tendency on the part of this year's primroses to develop umbels? In the woods here, between Walton and Headley, we have gathered an unusual number of umbelliferous primroses, in places where there are no cowslips. They are larger than the hybrids of the *Primula veris* and *P. vulgaris*, and have more the appearance of *P. elatior* of North-West Essex. Can this form be due to the unusual lateness of the season, and, if so, may it not be that *P. elatior* was at some distant date evolved from *P. vulgaris* during the occurrence of one or more very cold springs?

The sparrows, I may add, have this year treated my garden primroses as unkindly as the crocuses, beheading them, says my gardener, for the sake of a small fly with which they have been infested.

Walton-on-the-Hill, near Epsom, May 15, 1908. M. J. T.

[The true *Primula elatior* differs from a primrose in several other points besides caulescence, *e.g.*, leaf-form and perfume. It is as distinct a species as either primrose or cowslip, and, if sprung from some common ancestor of these species, has long become sharply differentiated.—ED. *N.N.*]

642. **Notes on Plants in a Disused Limestone Quarry in North Wales.**—It is a dry sunny spot, high on the hillside, sheltered by cliffs from the north and east. The feathery seeds of the traveller's joy (*Clematis Vitalba*) wafted into the chinks and crannies of stone-heaps made it evidently

an early settler, and its long, graceful trails and masses of cream-coloured flowers hang luxuriantly down the steep banks. Conspicuous on the low mounds of the foreground are tall teasel plants; with ample space for expanding, each stiff thorny stem with its crowning candelabra of flowers rises in stately isolation from the wide flat rosette of root leaves which curve into prickly edges, the whole like some fine design in old ironwork. On the flower-heads the first row of florets to expand is one half-way down the cone, those next above and below following, so that both the highest and lowest remain longest in bud. Is not this an unusual sequence, and what is the Darwinian reason for such an arrangement?

Scarcely less artistic are the lines of the musk thistle not far off, its heavy crimson flower-heads drooping with sudden curve of their thick upright stems amomg the waving edges and sharp spines of their long leaves. The air is scented with marjoram which has strayed in from the neighbouring mountain turf, where a dwarfer form as well as a white variety grows among thyme, rock-roses and harebells. The pale sulphur toad-flax, the bright blue and pink viper's bugloss, and the yellow spikes of the golden-rod stand out in bright colouring against the background of grey limestone. Among the less conspicuous plants are the wild mignonette, the carrot, and the aromatic wood-sage; the so-called *blue* flea-bane being perhaps the only rare plant in this rock garden.—L.C.

[The order of opening among the florets of the teasel is certainly interesting, and but little dealt with in ordinary text-books. The facts are mentioned in "The Country Month by Month," p. 291; and Mr. J. C. Willis, in his Flowering Plants and Ferns," ed. 1, vol. ii., p. 135, under "Dipsaceæ," says: "That the heads are also cymose is indicated by the fact that the flowers do not open in strictly centripetal order." To give a Darwinian or utilitarian explanation of the relative advantages of definite and indefinite branching is beyond us.—ED. *N.N.*]

NATURAL HISTORY QUERIES.

145. Thrushes.—A relative in Ireland mentions a peculiarity. The thrushes frequently knock beech-nuts on her paved garden-walk and on the hard road, producing quite an intermittent loud noise; and, watching the birds, she has invariably found them to be empty husks. Would some reader favour us with an explanation? C.

146. Cuckoo.—I send you a cutting from a Worcester paper which gives an account of part of a ramble of the Worcestershire Naturalists' Club. May I ask if there is any support for either of the ideas therein set out as to the way in which the hedge-sparrows' eggs and young are got rid of? I see that Yarrell alludes to both these ideas only to refute them. G. F. ADAMS.

"In Mr. Morris's garden at Martley was the nest of a hedge-sparrow. It had contained four eggs of the hedge-sparrow and a cuckoo's egg. On the day preceding the Club's visit the young cuckoo had hatched out, three of the hedge-sparrow's eggs had disappeared, and one was on the outer rim of the nest. It was perfectly obvious that the callow cuckoo could not have turned the eggs out of the nest. The young bird was in a perfectly feeble state, and there was considerable difference of opinion as to how the eggs had been removed. Mr. Morris favoured the idea that the foster-mother, impressed with the ahnormal size of her young, had herself removed the eggs in order to give the cuckoo room to develop; others favoured the idea that the mother cuckoo, solicitous for the welfare of her offspring, had waited for the hatching of the cuckoo and had then taken the eggs. No one who saw the condition of the young cuckoo believed that it could have had strength sufficient to do it even if it had possessed the intelligence. Moreover, if the young bird had done it the eggs would have been in the neighbourhood of the nest, whereas three of them had entirely disappeared."

ASTRONOMICAL NOTES FOR AUGUST, 1908.

Mercury will be visible as a morning star on the first few days of the month, rising nearly one and three-quarter hours before the sun.

Venus will attain maximum brilliancy on the 10th at 1.44 a.m., and about three hours before the sun. She will be situated in Gemini, and on the 8th is

placed 1° N. of the star Gamma in that constellation. She will be a beautifully lustrous object in the eastern sky amid the morning twilight of this month.

Saturn will rise on the 1st at 9.47 p.m., and on the 30th at 7.52 p.m., and will be visible after these times during the night. Near moon on 14th.

Uranus will be very favourably visible, and may be seen less than half a degree north of the moon on the 9th.

Ceres will be also near the moon and just half a degree north of our satellite on the 31st at 3 p.m.

The *meteoric shower of Perseids* will acquire its greatest apparent strength between the 10th and 12th, but the moon will be nearly full at the time and her light will veil much of the splendour of the meteors, even should they return this year brightly and numerously. But notwithstanding the presence of our satellite many meteors will be seen in the sky at the period mentioned by those who watch attentively for them. W. F. D.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

Central Society.—The following Members were elected at the Council Meeting held on July 28: Miss Dorothy Aldrick; Mrs. Dudley Buxton; G. N. Buxton, Esq.; Rev. A. Carr; Stanley M. Church, Esq.; Harry Collison, Esq. (Life Member); Uriah Cooke, Esq.; Michael Crowley, Esq., M.D.; Francis Dent, Esq.; T. A. Dukes, Esq.; Mrs. E. M. Esdaile; A. R. Forbes, Esq.; The Garden City Naturalists' Society; G. H. Glassington, Esq.; H. B. Gray, Esq.; Capt. M. P. A. Hankey; Mrs. Hankey; A. G. Hanson, Esq.; A. Butler Harris, Esq., M.A.; J. R. Hartshome, Esq.; Robert Hawe, Esq.; E. Brodie Hoare, Esq.; R. M. Hugo, Esq.; the Rev. G. A. Jones; Norman H. Joy, Esq.; T. A. Lehfeldt, Esq.; A. J. Maas, Esq.; J. MacFarlane, Esq.; Mrs. E. A. Nash; J. M. Newnham, Esq., LL.D.; The Rev. J. F. Osborne; H. Owen, Esq.; Frank Pacy, Esq.; J. G. Penny, Esq.; H. C. Playne, Esq.; J. Stewart Richards, Esq., M.D.; Walter Rosser, Esq.; W. Radcliffe Saunders, Esq.; George A. Streeten, Esq.; H. C. Strutt, Esq.; George A. Thomson, Esq.; the Rev. Canon Vere; J. H. Vince, Esq.; Percy Warner, Esq.; A. Hazzledine Warren, Esq., F.G.S.; George Wickham, Esq.; Mrs. G. Wickham; Miss C. Willis.

Brighton Branch.—Mrs. Iwiss.

Brent Valley and Richmond Branch.—Adolphus Dovaston, Esq.; Edward A. Smorthwaite, Esq.

New Junior Branches.—Warrants for the formation of the following new Junior Branches were signed: Bradfield College—Rev. H. B. Gray; Downe House School, Miss C. Willis; The Old Palace Secondary School, Croydon, Miss Dorothy Aldrick; Wellesley High School for Boys, Croydon, Robert Hawe, Esq.

Subscriptions.—The Council has pleasure in acknowledging subscriptions of greater value than 5s. from the following members: Alfred T. Craig, Esq., £1 1s.; W. Radcliffe Saunders, Esq., £1 1s.; Henry Laver, Esq., 10s. 6d.; Percy Warner, Esq., 10s. 6d.; G. N. Buxton, Esq., 10s.: G. Dent, Esq., 10s.; Mrs. Esdaile, 10s.; Capt. M. P. A. Hankey, 10s.; Mrs. Hankey, 10s.

Library.—The Honorary Librarian will attend at 20, Hanover Square, from 5.30 p.m. to 6 p.m., on the evenings of August 17 and September 21, for the purpose of issuing books to members.

The Honorary Librarian has pleasure in announcing the following additions to the Library: "A Cycle of Nature Study," by M. M. Penstone; "Familiar Swiss Flowers," by F. E. Hulme, F.L.S., F.S.A.; "Nature Studies by Night and Day," by F. C. Snell, all kindly presented by the Editor.

EXCURSIONS.

Saturday, June 13.—A party of a dozen Selbornians met at Great Missenden, and under the guidance of Mr. Geoge Watts rambled to the home of John

Hampden, at Great Hampden. After tea at the Chequers Inn the party visited the parish church, where the guide read a very interesting paper on the little-known details of the life of John Hampden, illustrating it by referring to the various brasses and monuments in the church. John Hampden was born in 1594, and three years later, by the death of his father, came into the great estates of the family, whose records date back to the Conquest. His mother was a daughter of Sir Thomas Cromwell, of Hinchinbrook, so John Hampden was cousin to Oliver Cromwell, and also to Edmund Waller, poet, who lies buried at Beaconsfield, some five miles from Great Hampden. At 19 Hampden became a student of the Inner Temple, and at 25 he married Elizabeth Symeon, of Pyrton, Oxon., by whom he had nine children. After fifteen years of marriage his wife died and was buried in Hampden Church in 1634. In 1639 he married the daughter of Sir Thomas Vachell, of Reading, and went to live in Gray's Inn Lane, near to his friend and Parliamentary leader, Pym. Hampden's own Parliamentary career started in 1621 and continued through six Parliaments until his death in 1643. He was not a great speaker, effected no striking reforms either social or political, yet the influence of his sterling honesty upon his contemporaries was so great that his name is written largely in the history of his period. In 1635 his opposition to the impost of ship money led to his trial before the Court of Exchequer, and although judgment was given in behalf of the Crown the feeling of the country was so strongly in his favour that the Long Parliament soon reversed the judgment. He lived on good terms with the local clergy, but was somewhat careless in practice, for in 1634 he was "presented" for two ecclesiastical offences: the one was holding a muster of the militia in Beaconsfield Churchyard, the other was non-attendance at his own parish church. When the Civil War broke out Hampden raised a regiment in his native Buckinghamshire. This force, known as the Green Coats, he led at the relief of Coventry and the siege of Reading, and at their head he received his fatal wound at Chalgrove Field, while attacking Prince Rupert. His shoulder was shattered by a carbine bullet, and he was carried to Thame, where he lay in the house of Ezekiel Brown. The house is known to-day as the Black Horse Inn. Here, after six days agony, he died, and the next day, June 25, 1643, his body was taken to Great Hampden, escorted by all the troops that could be spared, and buried in the church.

At the conclusion of the paper a hearty vote of thanks was passed to Mr. Watts for his pleasant and instructive guidance.

Saturday, June 20.—On this afternoon over thirty members and friends met Dr. Henry Willson, J.P., at Weybridge, and at once proceeded to the Brooklands Racing Track by the kind permission of Mr. Rodakowski, Clerk of the Course. Here the party was much interested in watching a car running at the rate of 78 miles an hour. The party next proceeded by pleasant field-paths and a quiet country lane to New Haw Experimental Farm, where they were met by Mr. A. G. Humphries, Chairman of the Home-grown Wheat Committee of the National Association of Millers—a Committee formed in 1901 to experiment with a view to discovering new varieties of wheat which should combine the high yield of English wheat with the hard qualities of foreign and colonial varieties. Acting on Mendelian principles and with the expert advice of Professor R. H. Biffen, the first occupant of the Chair of Agricultural Botany at the University of Cambridge, the Committee has made good progress in its aims. Mr. Humphries gave a most fascinating address on certain aspects of the experimental work, and illustrated his points by referring to the surrounding spots where many different varieties of wheat were growing. Those members of the party who had even a slight acquaintance with the principles of Mendelism found it easy to follow Mr. Humphries' arguments, while those who had previously had no such knowledge, went away with at least a fair idea of the scope and certainty that the application of Mendelian principles affords to all experimental cross-breeding. It is found that awnless florets, red tests, dense ears, hollow straw, and susceptibility to the attacks of rust are all dominant characters of allelomorphic pairs, the corresponding recessives being awned florets, white tests, loose ears, pithed straw, and immunity to rust. One interesting discovery has been made by Mr. Humphries in the course of

these experiments, viz., that bran resists the disintegrating influences of moisture and warmth for a much longer period than had been thought possible, for he had pulled up wheat plants nine months old and had found the seed-coat or bran still hanging to the root. Among other striking points in his remarks was the fact that the average yield of English wheat is from 30 to 32 bushels per acre, while in the great wheat-growing districts of the United States the average is no more than 13 to 14 bushels. Even virgin land in Manitoba yields less than the English average.

A cordial vote of thanks to Mr. Humphries was passed on the proposition of Dr. Robertson, seconded by Dr. Willson.

The party then returned to Weybridge for tea at Holstein Hall, and afterwards rambled along the river bank beyond Shepperton.

Hearty thanks were given to Dr. Willson for his guidance, and for the varied interests with which his untiring energy had filled the excursion.

Saturday, June 27.—A small party of members met Mr. A. B. Hornblower at Theydon Bois in glorious summer weather, and skirting the picturesque village green soon plunged into the heart of the Forest, crossing by unfrequented paths one of its most beautiful parts. Many interesting botanical specimens were found, which were named by one of the party. Open country was reached again by Copt Hall (once the resort of notorious freebooters), and thence, by pretty lanes and unconventional goose-greens, the route led to a farm kept by Cornish folk, where tea was provided, and a botanical ramble made into the home fields, the view from which was very "eye-able" (in the Cornish vernacular). Then a pleasant walk back past Warlies Park concluded a most enjoyable outing.

Saturday, June 27.—The ramble which the Secretary of the Selborne Society conducts every year to Iver and Thorney Weir is always appreciated, and this year an extra excursion along the same route was arranged for the benefit of the Associates of the Belgravia and other Junior Branches, as well as the children of Selbornians generally. The meeting took place on Saturday, June 27, at West Drayton Station, and the party afterwards walked along the lanes to the Ford at Iver. The young frogs in various stages of development, water snails and hedgerow plants, caused great interest on the part of the children. In one of the fields a snake was seized, but let go again, as the youthful captor was not sure whether it was a grass snake or an adder, and a large blindworm was seen. By the Water Splash a fine toad proved such an attraction that it was difficult to get the party under way again. At Iver the various points of interest in the Church were seen, and the whole party mounted to the top of the tower, after which Mr. William Lawrence demonstrated, to the delight of the children, the method of ringing a bell in the proper English style. He pulled the bell up and showed how it is rung with the mouth upwards, while the party stood round on the platform and beams of the belfry. On leaving the Church, the ramblers continued through fields and down the banks of the Colne to the Thorney Weir Fishery Club, where justice was done to a substantial tea, and finally the young Selbornians and their friends, after an enjoyable hour spent in a hayfield, walked along the pretty paths by the railway embankment to West Drayton Station again.

FORTHCOMING EVENTS.

Council and Committee Meetings.

Monday, August 17.—General Purposes Committee at 5.30 p.m.
Tuesday, September 22.—Council Meeting at 5.50 p.m.

EXCURSIONS.

Saturday, August 1.—No excursion on account of the August Bank Holiday.

Saturday, August 8.—Rickmansworth and Chorley Wood. Train leaves Baker Street (Met. Ry.) at 2.20 p.m. Return fare to Rickmansworth, 1s. 11d. Rickmansworth, Loudwater Park, Sarratt, tea at the White Horse Inn, Chorley Wood Common and Mill End. Walking distance between 4 and 5 miles. Guide, Mr. Geo. Watts.

Saturday, August 15.—Wrotham and Ightham. Ightham Church, the Fissures and Rock-shelters. Train leaves St. Paul's Station for Wrotham at 1.17 p.m. Special cheap return tickets, 3s. 2d. Members intending to join

must write to the Honorary Excursions Secretary before August 12, and be at the station to receive their tickets from him ten minutes before the departure of the train. Guide, Mr. Kenneth W. Mumford.

NOTE. *These cheap tickets will not be obtainable unless a sufficient number apply. Ordinary fare 5/- return. Members when writing to the Secretary will oblige by stating whether they will go in case this higher fare has to be charged.*

Saturday, August 22. Woldingham and Chelsham. Trains leave London Bridge (L.B. & S.C.Ry.) at 2.55 p.m., Victoria (L.B. & S.C.Ry.) at 2.25 p.m. Cheap day return tickets to Woldingham, 1s. 10d., available only by these two trains. *Enquire if it is necessary to change at East Croydon.* Tea at the Bull Inn, Chelsham. Walking distance, 5½ miles. Return trains, 7.31 and 8.28 p.m. Guide, Mr. Matthew Hunt.

Saturday, August 29.—Osterley Park and Heston. Train leaves Paddington (G.W.R.) at 2.25 p.m. Take return tickets to Hanwell, 10d. Walk through Osterley Park (the seat of the Earl of Jersey) to Heston Church, where a demonstration of bell-ringing will be given on the peal of eight bells. Guide, Mr. W. Lawrence.

Saturday, September 5.—Foxglove Woods and Addington Park (by kind permission of F. English, Esq.). Walking distance, 6½ miles. Meet at South Croydon Station at 3 o'clock. Trains leave Victoria (L.B. & S.C.Ry.) 2.35 p.m., London Bridge (L.B. & S.C. Ry.) 2.25, Charing Cross 2.12, Return fare, 1s. 8d. Tea at Park Hill House (East Croydon), by kind invitation of Mr. and Mrs. Baldwin Latham. Guides, Miss Flint and Miss Latham. Will those members wishing to attend this ramble kindly send their names to the Honorary Excursions Secretary before September 1?

PROJECTED ARRANGEMENTS.

Saturday, September 19.—"Where Ruskin loved to dwell." Guide, Mr. C. M. Mühlberg.

All correspondence respecting Excursions should be addressed to Mr. Hubert H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

ANSWER TO CORRESPONDENT.

L. M. A. Gibb.—(1) The Japanese Wineberry (*Rubus phœnicolasius*). Its habit of closing its calyx after pollination before the fruit has formed is certainly curious. Birds are so fond of the fruit that it requires netting. It makes delicious jelly. (2) *Asperula cynanchica* L., the Squinancy-wort.

1. All communications for NATURE NOTES must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for NATURE NOTES (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. BOULGER, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. JOHN BALE, SONS AND DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, WILFRED MARK WEBB, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 225. SEPTEMBER, 1908. Vol. XIX.

A SEPTEMBER RAMBLE.

IT is mid-September, and summer, long delayed, has come at last. Sunshine so brilliant never gladdened our hearts in June, and on this, the most perfect day of all this halcyon time, I have wandered into the New Forest, there to steep myself to the full in all the delight of God-given time and place.

How the sun blazed, and the air shimmered and throbbed with heat, as I tramped across the heath, and how pleasant to cross the threshold of the wood and gain the kindly shelter of its trees! With the shade a silence falls—a stillness absolute, unbroken, as though all Nature for a moment held its breath. Then, as if loth to mar the perfect hush, a little drowsy breeze goes sighing through the leaves, a wood-wren's plaintive call comes from the trees, a "yaffle's" laughing cry rings out, abrupt and startling, and the spell is broken.

Through enchanted glades a grassy path winds under the great trees: above my head is a canopy of sun-flecked green: a carpet of green is beneath my feet, while to right and left the sunlight falls in dappled patches on purple heather, on bracken, and on moss.

Presently the sound of many little bird-voices proclaims the presence of a travelling party of titmice, and soon I see them, flitting from branch to branch. Long-tailed tits perch confidingly on bare boughs just overhead, scolding the intruder in garrulous tones, then, with exquisite rustle of little wings, dart onward and away. Blue tits and cole tits follow, and there are nuthatches, too, amongst the wanderers, for soon their ringing, melodious calls drown the smaller cries.

Now the wood thins, and from dense masses of spreading bracken comes the loud, stridulating noise of many grasshoppers, who seem, when I try to find them, as elusive as will-o'-the-wisp. Dragonflies, with filmy transparent wings, dart hither

and thither, and one settles, as if sunning itself, on a silver birch. Many butterflies flit round me, and a great beetle, with sonorous sound, booms majestically by.

"Chiff-chaff," "chiff-chaff"—yes, there is no mistaking that monotonous, hammered-out little note. It has lost its vernal vigour, but what of that? Gladly I greet the humble song, which seems to tell me that the tiny warbler revels in this belated spell of summer, and rejoices in a departure deferred.

With its pellucid surface flecked with fallen leaves from an overhanging beech, a little stream winds into sight, running its lazy course between deep banks. Beyond is dense wood, and from somewhere close by—from trees or water, I know not which—comes a complaining call. At last, through a break in the bracken which fringes the stream, something moves. Creeping cautiously up, I see a tiny moorhen swimming and calling querulously to its busy mother, who is foraging far ahead. There is a rustle in the bracken, and an adder glides stealthily away into denser cover, looking brilliant and wicked, with a ray of sunlight catching the black zigzag on its back. From the oak trees wood-wrens call—stragglers, perhaps, from the main army of migrants, retreating before the coming cold.

On my right the forest breaks, and I come to a large grass field, in which a green woodpecker, looking strangely bright, is feeding. He thrusts his strong bill into the earth, and, after each probe, throws up his head to listen for alarms. He rises, comes straight towards me, with looping flight, alights on the trunk of a tall young oak, and, seeing me, with a wild yell takes flight into the denseness of the wood. Beyond the field a pair of kestrels hover, and a few yards away a magpie flies sneakingly along the hedge into an oak tree, chatters vigorously, then drops out of the tree and out of sight.

Now again comes absolute stillness—with one accord, it seems, all sounds cease. Even the insects are silent for a moment, and not a leaf moves. Then a beech-nut falls crashing through the leaves, a robin sings a wistful snatch, a sound of bees is heard, tits and nuthatches begin their conversation anew, and a blackbird, with agitated "chink-chink," flies low and in desperate haste through the oaks.

On my way back, in an open space where purple heather stretches to a line of sombre firs, and where the heat-haze vibrates and the grasshopper's note fills the air, I come upon a pair of dainty marsh-tits, dancing on fairy wings from thistle to thistle, stopping for a moment to explore each plant, then on again in airy, blithe, and never-ceasing quest of food.

Now the path winds once more through a grove of oaks, and here and there along the way robins are singing. In these days of late summer, the robin's song seems to be retrospective, reflective—"Alas! for the days that are no more"; and yet, through the sweetly mournful cadences, there rings, as it were, a note of hope, a note which, now that the other songsters are

dumb, brings solace, comfort, assurance that in due time the woods will again resound with the voices of all the feathered choir.

Where the forest ends, and the wide heath comes into sight, and the stream broadens, and goes gurgling and sparkling through banks of heather and moss, long-tailed tits fly one by one across the path, like little winged barbs, their many voices chattering farewells. From distant trees the *coo* of a wood-pigeon murmurs a benediction.

And so, across the wide heath to Brockenhurst, with the gorse popping, rabbits scuttling out of the path, and cheery little meadow-pipits bustling away with much simulated alarm.

Brockenhurst lies basking in the afternoon heat, whilst swallows and martins, as numerous and as busy as though summer had just begun, circle through the air. Under some eaves, a pair of martins still tend a family of clamorous and belated youngsters. In the thatch of the cottage roofs many holes bear witness to the swifts who have nested there and gone.

Close to the railway-station a robin sings, and with his gentle music in my ears I step into the train.

J. Rudge Harding.

SELBORNIANA.

Bad Taste.

"Why do certain people persistently disregard the proprieties when visiting private grounds thrown open to the public by their owners? Picnicking will not account for it, since the Continental workman taking his *al fresco* meal with his family at holiday time will leave no unseemly litter behind. At home, unfortunately, people who rank themselves much above the working classes in the social scale are by no means so careful. Evidence of this is to be seen in the rubbish strewn about the parks, open spaces, and public gardens. This is distinctly blameworthy when the offenders have a right of entry either as members of the general public or by payment. But it becomes far more reprehensible when it occurs in places to which they are admitted by the courtesy of the owners. It is an ungracious return for benefits freely bestowed, and likely to lead to the withdrawal of privileges highly appreciated by all right-thinking persons, who form the great majority of the visitors to private grounds generously thrown open to them. It would be a great loss to many Nature-lovers were Mr. Egerton compelled to refuse them access to St. George's Hill, near Weybridge, yet it seems as if he might be driven to take this step, since some people will not keep to the footpaths, and, not content with littering the place with paper, commit actual damage. It is to be hoped that his warning as to the consequences that will follow persistence in such conduct will be effectual. Last year a party of beanfeasters pulled up a number of young trees in the grounds of Reigate Priory, as they said, "to make walking-sticks"; and this wanton damage caused Lady Henry Somerset to close the place. Similar conduct constrained Lord Sheffield to take a like step at Uckfield some years ago. Other instances might be adduced, but these are sufficient to show that the owners were justified in their action. The pity of it is that the innocent suffer with the guilty. It is difficult to suggest a remedy for such conduct as that of which Mr. Egerton justly complains. Education in the true sense of the term would of course supply one. Unfortunately, at the present day manners are too often omitted from the curriculum."—*Field*, April 25, 1908.

A View-point.—Within about twenty-five miles of London lies the richly-wooded country between Edenbridge and Oxted, close to the meeting-point of the three counties, Kent, Sussex and Surrey. The ground here rises into a fine range of hills, the three summits of the range being named Crockham Hill, Toys Hill, and Ide Hill.

On Crockham Hill, a smooth green knoll rises above the wooded banks which surround it, and as one climbs through the low trees and makes one's way to the top, a magnificent view bursts upon one. For miles to the south and west stretches the Weald of Sussex, fading away into the blue distance. It is a place to sit and spend a summer's day, watching the ever-changing lights and shadows over the great wooded plain spread out below. It is this open space which has been secured for ever to the public by a subscription raised through the efforts of Miss Octavia Hill, the great pioneer of open spaces for the people for the last thirty or forty years.

Its nearness to London makes all this neighbourhood a great resort of holiday makers, but also brings a constantly increasing number of residents, who, by buying up ground for their houses, leave all the time less ground open for public enjoyment.

Three acres of land in the very best situation on the Hill will be a holiday ground all the time more precious to travellers who long to leave the dusty roads, and spend a few hours in the green shade of the woodland on the hill-sides, or sitting on the top enjoying the glorious view.

Though the purchase-money has been got together by great exertions on the part of Miss Hill and helpers, yet a balance of about £100 or £150 is wanted to complete the laying out of the land in necessary fencing, &c. If any of our readers should feel inclined to help in this, donations will be most gratefully received by the Secretary of The National Trust, 25, Victoria Street, S.W.

Thames Preservation League.—Mr. (now Sir Hudson) Kearley, M.P., the Minister in charge of the Port of London Bill, received a large and representative deputation, organized by this League, on which the Selborne Society is represented, urging the desirability of preventing sheep-washing in the river, securing for the public a right of foot-way along the banks, and empowering the new Board to acquire landing-places and fisheries. The deputation met with much sympathy, and the constitution of the proposed new Board has already been modified to some extent in accordance with the suggestions made.

Telegraph Poles.—A correspondent, with whom we feel most deeply, writes to as follows. From past experience we fear that the Post Office authorities will try to shift the responsibility on the economical *régime* of the Treasury. "A visit to North Wales has just led to the sad discovery that, within the last year or two, both the estuary of the Mawddach (between Barmouth and the neighbourhood of Dolgelly) and the renowned

Pass of Aberglaslyn have been disfigured by the poles of the Postal Telegraph Department. I have been to both places and can speak from experience of the shocking disfigurement caused by these poles. To me, indeed, the road by the estuary and the pass no longer exist. They cannot be visited by me again unless to get from one town to another. What can be thought of a Government which does such mischief, and of a people who cheerfully acquiesce, and all for a mere convenience? Will you kindly call attention to this? It *may* do good? "

Threatened Extinction of the Elephant Seal. — A correspondent of the *Field* wrote in April last:—

"I am glad that you have published my appeal on behalf of the sea elephants, and I sincerely hope that it may do some good. I have since received news which proves that matters are even worse than I believed them to be.

"Concerning the Island of South Georgia, I know now positively that another whaling company has commenced operations at that island. I have not, however, heard anything concerning the sea elephants, so that it is perhaps not too late to secure some strict legislation to prevent the killing of these rare and interesting animals and afford them sufficient protection. It is evident that this should be done with the least possible delay.

"The Crozet Islands, another British Antarctic possession, have quite lately been raided by Norwegian sealers. They have just returned and boast that they have brought home with them '1,800 skins of seals and sea lions.' How many are left?

"From Kerguelen Land sad news has arrived. It is said that a Norwegian sealing firm has obtained permission to hunt whales and kill seals there for twenty-two years. If no regulations have been made or will be made, it is evident that not a single sea elephant nor any other seal will survive these twenty-two years.

"I should be very grateful if you would draw public attention to these facts, and plead for the necessity of speedy legislation."

Birds and their Protection.—In an address given to the Ashmolean Natural History Society at Oxford, on Thursday, May 21, Mr. Wilfred Mark Webb, the Secretary of the Selborne Society, dealt with the subject of Bird Protection. In the first place, he considered the rarer foreign birds and spoke of the Bill to prohibit the importation of plumage which Lord Avebury, President of the Selborne Society, has introduced into the House of Lords on behalf of a number of societies interested.

Mr. Webb said that since the Plumage Section of the Selborne Society was inaugurated in 1885, the Society had striven in every way possible to influence those who follow the vagaries of fashion, which are rapidly bringing many beautiful birds to extinction. In June last, the Council of the Selborne Society was greatly in favour of an attempt being made to check by legislation the irreparable damage which is being done by the sale of birds' skins and plumage.

Public opinion and practically the entire Press are now greatly in favour of some action being taken, and Lord Avebury's Bill, though it might not go so far as some would like, will not only make a very good beginning, but will set an excellent example to other European countries.

In the second place, Mr. Webb alluded to the protection of birds at home, and while recognizing that this should not be done in too hard and fast a way, he urged that whatever is intended should be effectively carried out. The bird-lover may require too much sacrifice on the part of agriculturists or horticulturists. The latter, and even the preserver of game, may do themselves harm by the thoughtless slaughter of birds whose habits they have not taken the trouble to learn.

It is well worth while, from a practical as well as an æsthetic point of view, to encourage certain birds to breed, and near large towns we are glad to see almost any of them. In conclusion, Mr. Webb gave an illustrated account of the Bird Sanctuary which is successfully being carried on under the auspices of the Brent Valley and Richmond Branch of the Selborne Society not far from Ealing.

THE DESTRUCTION OF LAPWINGS.—Mr. James Buckland, one of our members, who originated the Plumage Bill now in progress, writes as follows:—

"A time like the present, when the subject of prohibiting the importation of the plumage of foreign birds is so much in the air, seems a fitting occasion to call attention to the necessity for some action to be taken to stop the export of our own wild birds. These thoughts are suggested by the fact that recently there were piled in one cold-storage house in Jersey City, New Jersey, 18,000 lapwings which had been imported from this country, it being the practice in the United States to use these birds for food in the hotels and restaurants of the large cities. All those who have studied the subject of birds in relation to man are agreed on the great value of the lapwing to agriculture. For this reason the above figures are most disturbing, for if this wholesale slaughter is permitted to go on the lapwing will be exterminated before any great length of time. Luxury ought not to be obtained at a loss to the public economy, and therefore legislation should be invoked to prohibit their export. It is a great pity that an international agreement cannot be entered into between the leading countries of the world regarding the inter-country traffic in the plumage and bodies of wild birds. But the time for that ideal state of bird preservation is not yet. In the meantime we might easily pass a law to prevent the export of our own wild birds. America has done so, and, moreover, enforces such law. In any case, if we do not take some prompt measures to prohibit the export of lapwings we shall soon have none left."

THE JABIRU STORK.—We take the following from the *Field*, May 9:—

"During the past six or eight years there has been a regrettable demand for the wing- and tail-feathers of the South and Central American jabiru stork for the decoration of ladies' hats. The result has been to cause a serious diminution in the numbers of these handsome and useful birds, and the desertion of former haunts by the survivors, which frequent the open Savanna country bordering the marshes and shallow-water lagoons in Venezuela, Guiana, and Brazil. Among the European population of Venezuela the jabiru is known by the name of "garson soldado," from the military appearance presented by a flock of these birds when marching in line. It is to be hoped that some legislation may be brought about, as in the case of the white egrets, to put a stop to the wanton destruction that is reported of the useful and inoffensive jabiru."

FISH-HOOKS FOR BIRDS.—Sir Frederick Banbury, M.P., introduced a short Bill amending the Wild Birds Protection

Act, by making the catching of wild birds by means of a line and hook, a barbarous West Country practice, punishable by a fine of 40s. for a first offence, and £5 for a subsequent conviction, and the measure was, we are pleased to say, enthusiastically adopted by the House.

THE PLUMAGE BILL.—The Select Committee of the House of Lords issued their Report as a Blue Book, of which the following is a summary:—

"The Committee see no reason to suppose that the exclusion from the market of the plumage of rare birds would materially affect the feather trade of the country as a whole. The great bulk of the imports in that branch of commerce consist of feathers of the ostrich and other birds, which are exempted under the Bill, and the feathers which would be excluded are of relatively small value. Any reduction, therefore, in the importation of feathers of birds protected by the Bill would, in the opinion of the Committee, be counterbalanced, or so far as employment in this country is concerned, more than counterbalanced, by the use of other feathers or of artificial flowers.

"On the question of the extermination of rare birds the Committee received valuable evidence from persons acquainted with the conditions in Australia, India, South America, and other countries from which plumage is sent to Great Britain.

"The evidence was such as to show conclusively, in the opinion of the Committee, that not only are birds of many species slaughtered recklessly, but also that the methods employed for slaughter are such as in many cases, and especially in that of egrets, to involve the destruction of the young birds and eggs. Birds are, as a rule, in their finest plumage at the time of nesting, and have been shown to be specially the prey of hunters at that season.

"The Committee have carefully considered the facts submitted to them, and they are satisfied that while many birds are being greatly reduced in number, others are in danger of being actually exterminated.

"They are also of opinion that the feathers of egrets imported into Great Britain are obtained by killing the birds during the breeding season, and that few, if any, are moulted plumes.

"The Committee have therefore had to consider if it is possible, by a Bill prohibiting the import of the plumage, skins, or bodies into Great Britain, to reduce the destruction of the birds within reasonable limits.

"It appears clearly from the evidence that the enactments of British Colonies and certain foreign countries, which provide a close season for wild birds, and of India, which prohibits their export, are to a considerable extent ineffective, partly on account of the open market in this and other countries.

"The Committee believe, therefore, that the Bill would not only be of general advantage, but would also render more effective the legislation of India, of Australia, and of the United States. While the Committee are strongly of opinion that the Bill would be useful in itself, they consider that it would be more effective if legislation of the same kind were adopted by other countries. They trust, therefore, that His Majesty's Government will endeavour to secure international action with a view to the preservation of rare and beautiful birds, and that the Bill may be made the basis of representations to other governments, in order to induce them to pass similar laws."

The Committee inserted a new clause in the Bill exempting feathers imported for fly-tying, and the Bill has now passed its first reading in the House of Commons and has been ordered to be printed. Opposition is threatened by some representatives of the "murderous millinery" trades for the coming autumn session; but we may confidently trust that due weight will be given by the Lower House to the expert evidence laid before the Lords' Committee.

Meanwhile, as a comment on one of our critics' demands, comes the welcome announcement from Melbourne that Mr. Deakin, Premier of the Commonwealth, has promised to introduce a Bill to prevent the exportation of bird skins and plumes. This should prove a valuable safeguard to the Birds of Paradise.

Wild Birds' Protection Orders.—We have received from the Home Office an Order, dated April 24, for the County of Glamorgan, protecting all birds and eggs on Worms Head, protecting all birds on Sundays throughout most of the county, and otherwise modifying the Schedule of the Act. We have also received an Order, dated April 28, for the County of Berks, protecting all birds on Abingdon Common, protecting all birds on Sundays in the districts of Abingdon, Bradfield, Cookham, Easthampstead, Hungerford, Newbury, Wallingford, and Wokingham, and adding various Hawks and other species to the schedule. A third Order, bearing date May 14, refers to the County of Cumberland, and protects the Goldfinch all the year round and adds many species of birds and their eggs to the schedule. The close time for Plover and Wild Duck remains as in the Act of 1880, viz., March 1 to August 1, and that for Plover's eggs from April 15 to July 1. Lastly, an Order, dated June 25, with reference to the County of Durham, extends the close time from the last day of February to September 1, protects the Goldfinch, Kingfisher, House Martin, Sand Martin, and Swallow throughout the year, protects all birds on Sundays throughout most of the county, and adds many species of eggs and some of birds to the schedule.

Photographic Competition.—We have been asked to call attention to a prize photographic competition announced by Messrs. Marion and Co., of Soho Square, W., from whom particulars can be obtained. There are scientific and beginners' classes, and the prizes offered are valuable. Entries must be received before November 1.

NATURAL HISTORY NOTES.

643. Birds in Richmond Park.—I read with interest Mr. Hugh Boyd Watts' account of birds seen in Kew Gardens and Richmond Park, and in addition to those mentioned I can add the Nightjar (*Caprimulga europæus*), heard near the Upper and Lower Lakes, or, as they are now called, the Penn Ponds, also the Redstart (*Ruticilla phœnicurus*), a male bird, feeding young one on rails between the Robin Hood and Roehampton gates; above noted June 21.

139, *Hamilton Road*, *W. Norwood, S.E.* Frank A. Arnold.

644. Cuckoo.—I do not think there is any support for the theory that hedge-sparrows remove their eggs to make room for the young cuckoo. Cuckoos feed on eggs. Whether the female would remove eggs with an intelligent purpose is perhaps among the "unproven" habits of this strange bird. Are we not misled in our search for reliable information by the idea that *intelligence*

always inclines birds in actions we find clever or touching? The young cuckoo has got to turn out the eggs: though born blind and naked, it is not feeble: it is at once active and restless. All observers of the cuckoo, I think, agree in saying that the eggs are ejected from the nest by the third day as a rule, sometimes by the first day; if in a nest of any depth the creature has to straddle up in order to heave the burden off its back. This, and the eerie way the blind thing feels about, has been described to me by the only person I have met who has seen the process. One cannot help a conjecture as to the "climb claw" (parrot-like) which the cuckoo possesses. The disappearance of the eggs ejected could be easily accounted for.

17, *Glover Road, Reigate.* HARRIET B. BLAIR.

645. **Thrushes.**—Is not the knocking of the beech-nuts, described as empty, caused by thrushes keeping their bills in order? Birds in captivity are constantly rubbing and scraping their beaks.

HARRIET B. BLAIR.

646. **Blackbirds' Novel Bath.**—The Vicar of Haywards Heath (the Rev. T. G. Wyatt), having received complaints of flowers having been taken from graves in the parish churchyard, directed a watch to be kept for the purpose of detecting the culprits, who were thought to be school children. After a prolonged stay in his hiding-place, the verger was about to retire when he noticed a number of blackbirds settle upon the graves. Very soon they started pulling the flowers from their zinc casings and then scattered them over the churchyard. Having got rid of all the flowers, the birds returned to the graves and bathed themselves in the water in which the flowers had been placed. The noise they made suggested that they greatly enjoyed their ablutions.—*Morning Post, July* 13.

647. **Goldfinch.**—While referring to Cowper's poems recently, I met with the name "Redcap," as applied to the goldfinch in "Pairing time anticipated." If Mr. G. A. B. Dewar, who in the February issue of NATURE NOTES asked about the name, has not already noted it, he will doubtless be interested in the reference.

Louth, Lincs. C. S. CARTER.

648. **Nightingales.**—I think it may interest some of your readers to know that a pair of nightingales made their nest this summer in the porch of a house standing in Warwick Crescent, Leamington, and brought their young ones to maturity, a most remarkable thing, as it seems to me, for so shy a bird as the nightingale to do. There are several other houses in the Crescent.

Emscote Vicarage,
Warwick, T. B. DICKINS, LL.D.
August 10, 1908.

649. **Double Nests.**—In the Natural History Notes for August (638), Mr. E. T. Daubeny describes a double nest of great tits built side by side in a flower-pot: he suggests the possibility of the male bird having two wives. If so, it may explain a case I observed in a verandah balcony off my bedroom. A pair of swallows built a nest at one end. The little mud house was hardly completed before some sparrows came and tried to turn the builders out. For three days war was waged over the little homestead, I doing all I could to help the swallows. However, the sparrows finally conquered and the swallows flew away in despair. Retribution visited the robbers two days after they had evicted the rightful owners, for the mud of the nest (probably loosened by the battle waged over it) fell down into the flower-box below. To my surprise the very day this happened *three* swallows arrived, and after inspecting the ruins of the nest they proceeded to build another nest at the *other* end of the verandah, and hatched out six little ones, who all learnt to fly from the balcony rail. I never could discover whether two of the three were females. Could it be another case of bird bigamy? I thought the three came together to enable them to fight and drive out the sparrows from the first nest.

Brogueswood,
Biddenden. EMILY CONYBEARE-CRAVEN.

650. "**The House Fly's Record.**"—Under the above head a terrible character has lately been given to the common house fly in one of the London daily papers. It is accused of carrying about dangerous bacilli on different parts of its body, and of spreading many diseases.

I cannot help thinking this indictment is overdrawn. How does the house fly convey "typhoid, intestinal diseases," and such like? Not by inoculation, for it does not bite us. Its proboscis ends in an enlarged sucker, which sips up sweets or liquids, and cannot pierce our skin or inject poison into our system like the gnats. The house fly is not to be confounded with a fly that is of the same size, and only too common, and may be distinguished by a sharp-pointed proboscis that stands out straight from the head. It is this fly that bites us through our socks and torments our horses. This methinks is a possible culprit, and not the house fly, though it does not affect putrid matter. Why are the bacilli on the house fly injurious to human life, and not those in a drop of water? That "public tips" are its "permanent breeding places" is non-proven.

We do read that its larvæ are to be found in manure and refuse of different kinds. Is even this really true? Has a house fly ever been seen to lay an egg on anything putrid or otherwise? I doubt if any living entomologist can give us its life history from personal experience. If he can, let him produce some specimens which he has bred.

South-acre, Swaffham. EDMUND THOS. DAUBENY.

651. **Moth Sembling.**—During a recent lecture by a well-known naturalist the subject of "moth sembling" was mentioned, and a description given of how the lecturer, in the course of a walk in the New Forest with a recently emerged female emperor moth in a cage, was beset by a large number of males of the species which had in some way become acquainted with the locality of the female. Observing that the wings of the female were in a constant state of vibration, the lecturer suggested that the information was conveyed to others of the species by means of these vibrations transmitted by the air.

Whilst admitting the possibility in this case, I remember, some time since, placing a recently emerged female vapourer moth in an open tray on a window-sill about 30 ft. from the ground, and in the course of an hour not less than twenty males were seen fluttering upwards towards the tray, which some of them eventually reached with considerable difficulty, owing to the strength of an adverse wind. As the female vapourer moth is wingless, it is clear that the information as to its whereabouts could not have been conveyed by impulses emanating from wing vibrations, and as the males all came up against the wind it seems more probable that this curious kind of wireless telegraphy is brought about by the diffusion of some odour too subtle for perception by human olfactory nerves.

The vibrations which are understood by us as perfumes are probably of shorter wave-lengths than those of light, our own appreciation of them, as in the case of sound and light, being limited within a certain compass; but it seems highly probable that vibrations of much greater frequency than we are capable of perceiving may be readily appreciated by the delicate antennæ of insects, specially attuned to vibrate in sympathy with them. R. T. LEWIS.

652. **Spiders.**—In No. 620 the opinion is held that "spiders can, but do not, bite human beings." It is easy to put this to the test. If a good-sized spider be held between the finger and thumb so that it can bring its jaws into play, it will at once attempt to bite, but has not sufficient power to pierce the skin. If, however, any one cares to hold a large garden spider between the lips, the effect would probably be different and a little startling.

EDMUND THOS. DAUBENY.

653. **The Rain Tree of Queensland.**—Amongst the last parcel of produce received at the City Office of the Queensland Government, 73, Basinghall Street, are some pods of the "Rain Tree" (*Pithecolobium Saman*), an importation into the Colony from Peru. It is a valuable shade tree in tropical pastures. The name of "Rain Tree" is given because so great is the volume of distillation of moisture that the ground is wet under its branches. The cicada (a creature which buzzes amongst the branches of trees all day long) sucks the juice of the young branches and leaves and "squirts forth slender streams of limpid fluid," as an old naturalist writer has it. The pods in question are sent from Port Douglas, North Queensland.

NATURAL HISTORY QUERIES.

147. A Tame Swift.—We have had lately an interesting pet—a young swift, which, having been rescued from the cat, was brought indoors and put into a cage. For some days we had difficulty in feeding it, the beak having to be opened with the fingers; but later, it took with avidity bits of raw meat, and water—drop by drop—off the finger-tip. Although fully fledged, the young bird had but little power in its wings at first, but soon it learnt to fly short distances, from chair to chair in the room, and so on; or it would creep along the ground, or along one's arm, with a motion resembling that of a large moth. A dark corner, or a patch of shade, attracted it most, or the inside of a coat sleeve to crawl up, when held in the owner's open palm. This novel pet would often cling to my sister's chest, holding on to the lace of her blouse, so tame did it become. She would walk some distance carrying it, apparently causing it not the slightest discomfort. We kept our small foundling about three weeks from the day it was taken from the cat, and on August 7, having been carried into the garden, it quite suddenly displayed an unsuspected power of flight. Over the bushes and then the tree-tops it rose, and disappeared from view, to our regret. Can anyone tell me whether such a bird would be likely to shift for itself and catch its food in the way natural to a swift, after captivity, or would it run the risk of being pecked by others of its kind? We are anxious to be reassured as to the fate of our small pet.

ELIZABETH N. GIBBS.

148. Golden Oriole.—Will someone tell me if the black feather in this bird belongs exclusively to the cock or hen?

HARRIET B. BLAIR.

149. Cuckoos and Saw-fly Larva.—Do cuckoos eat the larva of the saw-fly that attacks our currant and gooseberry bushes? Some say they do. This caterpillar is so easily seen that, were it not protected by being of nauseous taste, it would soon be exterminated by birds; and caterpillars that expose themselves to view are thus protected. However, there is no accounting for tastes, and the cuckoo, which in its ways and habits is so different to birds in general, may have its own peculiar views on the matter. There are not enough cuckoos to cause extermination of an insect. A friend writes to say that a cuckoo has frequently been seen on his gooseberry bushes and underneath the nets placed over them. As I have yet to learn that cuckoos are fruit-eaters, I am inclined to think this bird must have gone there to feed on the saw-fly caterpillar. My friend, however, could find very few caterpillars, and hardly any of the leaves were attacked by them.

EDMUND THOS. DAUBENY.

150. Mummy Wheat.—It is a common belief that grains of wheat retain the power of germination for hundreds, if not thousands, of years; and that different kinds of corn taken from Egyptian sarcophagi have been planted and grown. The same is said of peas, beans, lentils, vetches, and the like. On the other hand, we read that this belief is not based on fact, and that no seed retains its vitality for so long a period. Will someone tell us what the facts are, and what to believe?

EDMUND THOS. DAUBENY.

151. Scentless Musk.—This summer I have had some pots of the small-flowered trailing musk on my window-ledges in Kensington. The plants thrive well and are covered with yellow blossom, but are quite scentless. I commented on this to a friend, spoke of the sweet scent of the musk-bed I remembered in an old Scotch garden, and wondered if London air was to blame. "Oh, no," she said; "are you not aware that the musk plant has of late years become scentless in England? You will find many an old woman with a cottage garden to grumble along with you over this change since she was a girl." If this be true, what is the cause? "The Gardener's Dictionary" gives 1826 as the date of the plant's introduction into this country, and I can testify that in 1870 the scent was potent, so if affected by climate, why not sooner? It certainly requires a blazing Continental sun to *fully* develop the resinous odours of a pinewood, which looks as if

heat were a desirable factor. On the other hand, remembering the aromatic fragrance of the birch leaves in spring, so delicious on the Scotch hills, I have sought it vainly in any plantation of these trees in the South. They are apparently quite scentless. The bog-myrtle loses its wild moorland scent when transplanted to a garden, and a primrose in a sheltered nook in the North Country is sweeter by far than this flower—say in a border in Ealing. It would be interesting to hear from some expert among your contributors of the why and wherefore of these changes. L. C.

152. Spring Flowering of Erigeron acris.—Have any of your readers noticed a spring flowering of *Erigeron acris?* For some years I have noticed on the Dover Cliffs a small purple "daisy," stem simple, of 2 to 3 inches, which experts told me was *Erigeron alpinus*, saying it must have been sown at some time. This year I brought three of the small plants home and kept them under observation. They have all, to my astonishment, developed into the ordinary *Erigeron acris*. Thinking that, if this is not a well-known fact, it may be of interest to lovers of Nature, I venture to send you this note.

3, *Clarence Lawn*, MARGARET BAGGALLAY.
Dover, Kent,
May 8, 1908.

ASTRONOMICAL NOTES FOR SEPTEMBER, 1908.

Venus will be a brilliant morning star, rising at about 1.30 a.m. and some four hours before the sun. She will reach an elongation of 46 degrees west of the sun on the 14th, and may be seen 5 degrees S. of the moon on the 21st.

Jupiter, situated in Leo and near the bright star Regulus, becomes visible at the close of the month, rising at 2.48 a.m. on the 30th, or more than three hours before the sun. During the ensuing autumn this planet, and his more lustrous rival Venus, will make a fine display in the morning twilight.

Saturn will be situated in a position highly favourable to successful observation, being visible during the whole night. His beautiful rings are now apparently opening, so that the telescopic aspect of this magnificent object is improving. He will be due south on the 1st at 2.0 a.m., and on the 30th at midnight, at an altitude of about 39 degrees above the horizon.

Uranus will be perceptible in the evenings as a faint star in Sagittarius, but for satisfactory observations of this distant orb a telescope is necessary.

The *variable star Algol* will decline to minimum lustre on September 11 at 11.42 p.m., and on September 16 at 8.31 p.m.

Shooting stars are tolerably numerous in September, and the more brilliant class of these objects, known as fireballs, are frequently noticed. In all cases where meteors are observed, their paths amongst the stars in their region should be recorded as exactly as the conditions allow.

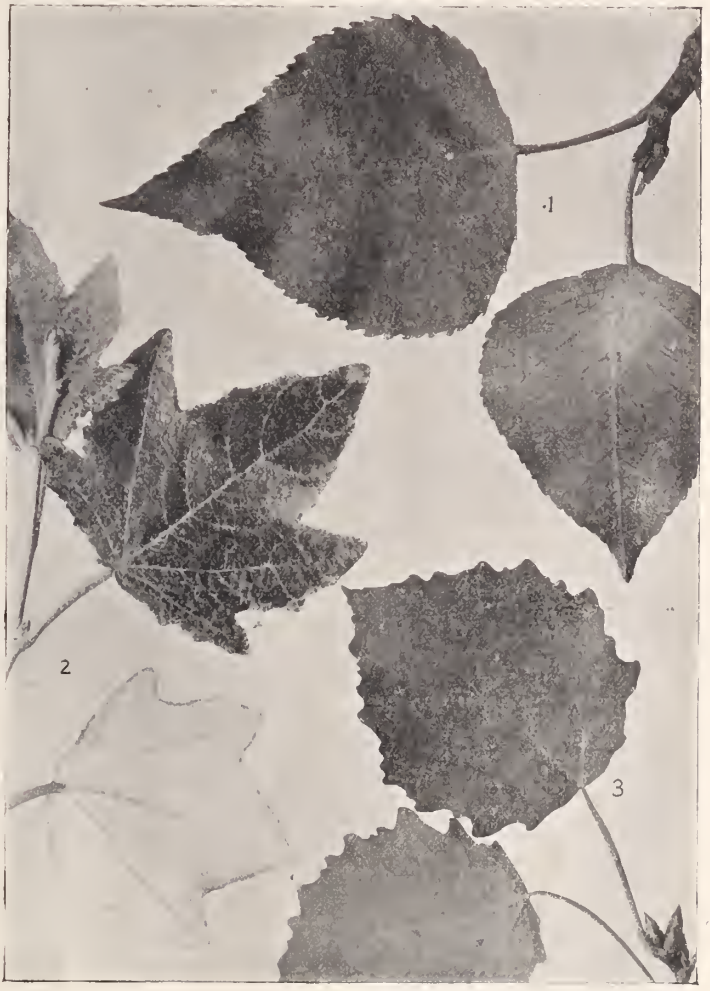
W. F. D.

REVIEWS AND EXCHANGES.

Nature Rambles in London. By Kate M. Hall. With Illustrations from photographs by Henry Irving, and a Preface by Beatrice Harraden. $7\frac{1}{2} \times 5$ in. Pp. 325. Hodder and Stoughton. Price 3s. 6d. net.

Few teachers have a more thoroughly practical knowledge of how Nature-study may be brought home to the child-mind of our towns than Miss Hall, the skilful Curator of the Stepney Museum. Arranged by seasons, and dealing mainly with plant life, her book keeps strictly to the London area. Teachers and pupils alike will rejoice in Mr. Irving's excellent illustrations, and the full list of trees in the various parks—commendably free from misprints—is a good notion. The format, and especially the rounded corners of the pages, suggest the use of the volume as a reading-book in town schools. Is the Magpie-moth (*Abraxas gros-*

sulariata) guilty of the larval attacks on our *Euonymus* bushes, or is it *Hyponomeuta euonymi?* Certainly the story, here quoted from Canon Benham, as to Raleigh's introduction and Bacon's planting of the Gray's Inn *Catalpa*, is pure fiction.



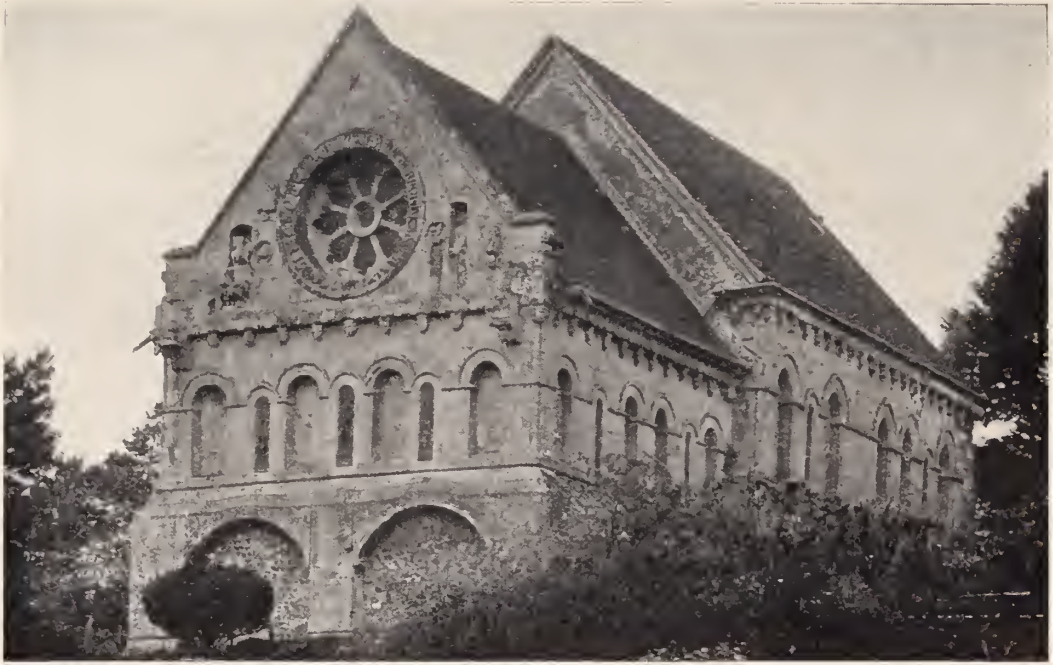
POPLAR LEAVES. 1, Lombardy poplar (*Populus fastigiata*); 2, Abele or White Poplar (*P. alba*); 3, Aspen Poplar (*P. tremula*).

From "Nature Rambles in London" (by kind permission of Messrs. Hodder and Stoughton).

Autumn Fruits. 1, Acorn (*Quercus pedunculata*); 2, Birch (*Betula alba*); 3, Linden (*Tilia vulgaris*); 4, Alder (*Alnus glutinosa*); 5, Ash (*Fraxinus excelsior*).
½ From "Nature Rambles in London" (by kind permission of Messrs. Hodder and Stoughton).

Philips' Meteorological Calendar. Consisting of 52 weekly sheets. 12½ × 8½ in. George Philip and Son. Price 2s. net.

These recording sheets, prepared to meet the suggestion of the Board of Education on rural education, are, for the most part, well adapted for their purpose, barometer, thermometer, rainfall and wind observations being provided for. Some errors, however, die hard, and we are very sorry to see perpetuated



BARFRESTON CHURCH.

From "Dover, with its Surroundings" (by kind permission of the Homeland Association).

here Admiral Fitzroy's delusive "'Wheel' Barometer Readings," in which 30 in. indicates fair ; 29·5, change, &c.

Homeland Handbooks: Minehead, Porlock and Dunster. By C. E. Larter. Illustrated by Gordon Home. 4th Edition. Pp. 123. Price 6d. net.
Dover, with its Surroundings. By Henry Harbour. Pp. 80. Price 6d. net.
Hove, with its Surroundings. By H. G. Daniels. Illustrated from Photographs. Pp. 76. Price 6d. net. 7¼ × 5 in. Homeland Association.

We are not at all surprised to find that the first of these three representatives of an excellent series is a fourth edition. The seaboard of Exmoor, with the picturesque village of Dunster, Cleeve Abbey, and the hunting of the wild red deer, the fox, the hare, and the trout in the neighbourhood, form an undeniably attractive group of subjects. The quaint yarn-market of Dunster will reach the tercentenary of its erection next year.

THE YARN-MARKET, DUNSTER.
From "Minehead, Porlock and Dunster" (by kind permission of the Homeland Association).

The numerous pageants of the last few years have drawn thousands of visitors to those smaller English towns which have played such signal parts in "our island story," and, if these visitors wisely determine to see something more of these places than the mere pageant ground, they cannot do better than take a "Homeland" guide. Each volume has an ordnance map on the scale of an inch to the mile, and architecture and archæology are always, and natural history generally, dealt with in full. In this Dover volume, for instance, we have not only the history of a Cinque Port, of the Priory in which Stephen died, of the stronghold whose record reaches from Roman Pharos to fortifications of our own time, and of less known and more distant treasures, such as the Norman Church of Barfreston; but, suggested by the Channel Tunnel scheme, we have also an illuminating chapter on local geology.

Hove is less interesting than Minehead or Dover, but all that the resident or visitor can want in a guide-book is here.

The Boy's Own Nature Book. By W. Percival Westell. With a chapter on Nature-Photography and 162 Illustrations from photographs by Rev. S. N. Sedgwick, and an Introduction by Sir John Cockburn. 8 × 5½ in. Pp. 374. Religious Tract Society. Price 3s. 6d.

We have often been told that—presumably in order to attract an attention which it is difficult to fix—Nature-study should be unsystematic. This volume

from the prolific pen of Mr. Westell, after some preliminaries, which will appeal to boys' love of "making" something, begins, it is true, with "Some British Mammals," and then devotes considerably more space to "Our Bird Friends"; but a chapter entitled "By the Riverside and Seashore," dealing, *inter alia*, with sticklebacks, water-beetles, newts, lobsters, sea-urchins, "and other marine creatures," then precedes one on insects (ants, ichneumon-flies, &c.) and one on the story of a grain of wheat. Two summer holidays are then described, and the volume concludes with descriptions by W. J. Gordon and the Rev. Theodore Wood of the caterpillars and butterflies depicted in the two excellently coloured folding sheets which are placed in a pocket of the cover. Most of Mr. Sedgwick's illustrations are good, and we have no doubt that the whole will form an attractive and a useful present to many a boy.

The Farm shown to the Children. By F. M. B. and A. H. Blaikie, described by Foster Meadow. With 48 coloured pictures. $6\frac{1}{2} \times 4\frac{3}{4}$ in. Pp. 91. T. C. and E. C. Jack. Price 2s. 6d. net.

This is a very good volume of a series already well known and appreciated. The drawings are unexceptionable, and if the colouring is sometimes rather crude, it may appeal the more to the young children for whom it is intended. The cat on Plate XLVIII. is somewhat terrific, and we doubt the justice of classing the rook with the wood-pigeon and sparrow among the farmer's enemies.

The Country Gentlemen's Estate Book, 1908. Edited by W. Broomhall. 10 × 6 in. Pp. 575. Country Gentlemen's Association. Price 21s.

This handsome annual maintains the diversified interest of its contents. Illustrated papers on week-end cottages, the Wisley garden, and rubber-plants, and articles on electricity and plant-culture, the hop trade, birds and cultivation, and the cost of tree planting, sufficiently attest this.

North American Fauna. No. 26. *Revision of the Skunks of the Genus Spilogale.* By Arthur H. Howell. $14 \times 6\frac{1}{4}$ in. Pp. 55. With 10 plates.

No. 32: *Food Habits of the Grosbeaks.* By W. L. McAtee. $9\frac{1}{8} \times 5\frac{3}{4}$ in. Pp. 92. With 4 coloured plates. U.S. Department of Agriculture. Bureau of Biological Survey.

Birds that Eat Scale-insects. By W. L. McAtee. $9\frac{1}{8} \times 5\frac{3}{4}$ in. Pp. 9. Illustrated. Reprint from Yearbook of Department of Agriculture for 1906.

As usual, these United States Government publications fill us with envy. The first is a monograph of some twenty species, with a coloured map showing their distribution, and plates of their skins and skulls. The second deals with five species of birds, which are beautifully represented in colour, whilst an uncoloured plate and some forty figures in the text illustrate the seeds and insects upon which these useful birds feed. The third is a less detailed summary, more comparable to the publications of our own Board of Agriculture and Fisheries; but the fact that all three are Government publications distributed gratuitously to all whom they concern, and that their purely scientific value is at least as great as their economic importance—this it is which makes us envious.

The University of Colorado Studies, vol. v., Nos. 1 and 3. 10 × $6\frac{3}{4}$ in. Pp. 63, with 6 plates; and pp. 56, with one plate and figures in text. February and April, 1908.

The first of these numbers contains an annotated list of works on the Natural History of the Rocky Mountains, and papers on the botany and œcology of parts of Colorado by Dr. Francis Ramaley, the Professor of Biology, who edits the "Studies." The other number contains a paper on "Rocky Mountain Fishes," by Professor Cockerell, and one on "The Sandstone of Fossil Ridge and its Fauna," by J. Henderson.

Received: *Board of Agriculture and Fisheries Leaflet*, No. 66, *Fowl Cholera*; No. 203, *The Utilization of Peat Lands*; No. 209, *Gooseberry "Cluster-cup" Disease, Puccinia pringsheimiana*; and No. 211, *Cider Orchards*; *Bulletin of the New York Botanical Garden*, vol. vi., No. 19; *Progress* for July; and *The Naturalist*, *The Irish Naturalist*, *The Animals' Friend*, *The Humanitarian*, and *The Agricultural Economist* for August.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

Central Society.—The following candidates stand for election: Arthur Andrews, Esq.; Mrs. A. Andrews; Henry M. Baker, Esq.; John Bennett, L.D.S.Eng.; Herbert E. Bouch, Esq.; Alfred W. Carter, Esq.; Mrs. A. W. Carter; J. S. Clementson, Esq.; Arthur N. Cohen, Esq.; Mrs. A. N. Cohen; W. S. Davies, Esq.; Mrs. W. S. Davies; W. H. Dodgson, Esq.; G. H. Everett, Esq.; R. W. Harre, Esq.; Ronald E. Jacobs, Esq.; Wilfrid Hawkings, Esq.; Mrs. W. Hawkings; Samuel L. Hudson, Esq.; Frank Hughes, Esq.; Charles Moore Kennedy, Esq.; A. E. Lee, Esq.; J. B. Lock, Esq.; A. D. Luppinger, Esq.; Miss L. Masterman; R. O. Mills, Esq.; W. Milne, Esq.; Miss Annie Morris; the Rev. E. Peake; T. Slingsby Nightingale, Esq.; W. T. Price, Esq.; G. Bentham Rae, Esq.; John Reid, Esq.; Henry Rodick, Esq.; Paul Schloesser, Esq.; J. O. Scott, Esq.; W. D. Stevenson, Esq.; Miss Elinor Stuart-Jones; Frederick G. Taylor, Esq.; Mrs. Torrens; M. L. Trender, Esq.; Henry Wellcome, Esq; John T. Williams, Esq.

Brent Valley and Richmond Branch.—T. W. Adams, Esq.; Cyril W. Barnard, Esq.; Newton Braby, Esq.; Thomas Hodgins, Esq.; the Rev. J. R. Pridie; Mrs. Stevenson; William Henry Williams, Esq.

In the previous list G. Binyon, Esq., should read Miss G. Binyon, and J. G. Penny, Esq., should be J. G. Perry, Esq.

Subscriptions.—Subscriptions of greater value than 5s. have been received from the following members: Mrs. Giberne, £1 10s.; Charles Moore Kennedy, Esq., £1 1s.; John Reid, Esq., 10s. 6d.; Miss A. E. F. Barlow, 10s.; J. Oldrid Scott, Esq., 10s.; A. L. H. Townsend, Esq., 10s. The Committee of the Brent Valley and Richmond Branch has pleasure in acknowledging a donation of 5s. from Newton Braby, Esq.

Library.—The Honorary Librarian will attend at 20, Hanover Square, from 6 p.m. to 6.30 p.m., on the evenings of September 21 and October 19, to issue library books to members.

EXCURSIONS.

Saturday, July 4.—A party of twenty Selbornians visited Pyrford, under the guidance of Rev. R. Ashington Bullen. The afternoon was rather thundery, but the fine weather did not break up till 7.30 p.m., and there was ample time to carry out the programme as intended. The conductor pointed out Thorley Farm, a good old Saxon name; indeed, most of the names about Pyrford are of Saxon origin. Woking, now the best known, was in the time of Edward VI. known as Oaking, or rather Okeing. The old Manor House, now called the Old House, was, according to a date discovered by Mr. Pinnock in 1905 in uncovering an old chimney-place, found to be built by N.B., 1619. Nothing is known about him, but as he gave the Jacobean pulpit to Pyrford Church in 1627, he must have been of some importance in the life of that little-inhabited parish on the borders of old Windsor Forest ("My demesne in the Forest of Windlesore," as William the Conqueror's grant runs). The luxuriant wild hop clothed the hedges with grace and beauty, and the party was shown the lane where flourishes in its time the perforate St. John's-wort, and where the night-jar may be often seen. A grand oak next claimed attention, and on the same property the party visited Pyrford Place (by the kindness of Mr. Howell Williams, the owner) and saw the summer-house which was part of the wall of the square garden which is haunted by memories of Queen Elizabeth, whose Latin Secretary, Sir John Wolley, was owner of the place towards the end of the sixteenth century. The house, mainly built of wood, formerly stood in (what is now) the garden to the south of the present house. It was built probably in the reign of Henry VIII., as carvings of the Tudor rose have been discovered. The existing house is partly the old gate-house, and the arches may still be seen through which many a hawking party passed to their favourite pastime. This was a famous fowling district in those days.

Pyrford Church next claimed attention—one of the most picturesquely situated churches in the country—dating from about 1150 A.D., originally a purely Norman structure, built of a ferruginous Tertiary conglomerate, the dressed stone inside the church being of hard chalk, and still showing the marks of the Norman masons' axes. The want of foundations caused the walls at the west end to squatter outwards, and in Early English times massive buttresses of dressed Sarsen stone "doggers," from the local Bagshot Sands, were built, to prevent further mischief to the walls. The chalice and paten, dated 1570, are traditionally said to be the gift of Queen Elizabeth. Whether this is so or not they are both interesting and beautiful. In the porch of the Church are displayed the Selborne Society "Don'ts." How necessary these are was demonstrated by the strict enclosure of Newark Abbey by the late tenant of Homewood Farm, whose cattle and horses were lamed by the 'Arries and 'Arriets who made "cock-shies" of the bottles in which they brought their liquid refreshments, and left the remains of this, their intellectual pastime, on the ground; to misquote Herodotus, "the beginning of many woes to the Greeks and to the barbarians." In consequence of these exhilarating, but unwise, amusements, no one can now get to this entrancing spot, in the midst of those seven streams of which old Aubrey speaks, without permission and payment. The ruins are those of a priory of Black Canons of the Order of Augustine, founded by Ruald de Calva and Beatrix de Sandes [= Send], his wife, in a place called Aldebury, in the parish of Send, and dedicated to the Virgin and St. Thomas of Canterbury. It was called Newark, Newstead, New Place, and de Novo Loco-juxta-Guildford. It was built in the reign of Richard I., not earlier than 1171, but before 1204. The Bishops of Winchester also enriched it, and so it was said to be the foundation of the Bishops of Winchester. It absorbed, not to use a stronger word, the revenues of some eleven parishes and chapelries, and at the Dissolution was worth £250 11s. 11d. clear. The last prior, Richard Lippiscombe, resigned the priory into the hands of Henry VIII., and received a pension of £40 per annum. A large, partially dressed block of Sarsen stone, on which a rude cross has been engraved, has been moved into the enclosed ruins; it is evidently a gravestone, of uncertain date. All the dressed stone has disappeared, and the ruins (it is said) were, about a century ago, to have been demolished for road-metal, but, as with Rochester Castle, the materials were worth less than the labour would cost. To this lucky accident in both cases we owe the preservation of their ruins and the picturesqueness they fortunately still lend to the landscapes they adorn.

There being no place of refreshment in Pyrford, the present Vicar, Rev. F. J. Osborne, kindly placed the Parish Room at the use of the party, and Mrs. Napper arranged tea, which was thoroughly enjoyed after the hot five-mile walk, and a pleasant afternoon was concluded with the usual votes of thanks.

Saturday, July 11.—Selbornians and their friends, under the able leadership of Mr. Wilfred Mark Webb, had perfect weather for their walk from West Drayton to Iver. One of the great advantages of this ramble is the small amount of road which has to be traversed, nearly the whole of the route being through meadowland, which on this occasion was looking extremely beautiful. A large number of wild flowers were collected, and although none of them were particularly rare they made a very pretty and interesting assortment. Water-plants on the banks of the River Colne were abundant and greatly admired. The quaint church in the pretty village of Iver was visited; and, as the day was clear, the energetic members who climbed to the top of the tower were rewarded by a fine view of the surrounding country. Mr. William Lawrence kindly gave a demonstration on bell-ringing.

Tea was provided at the Thorney Weir Fishery, after which the walk along the river-side was continued, and when train time drew near many members of the party felt most reluctant to leave the Bucks meadows for town.

FORTHCOMING EVENTS.

COUNCIL AND COMMITTEE MEETINGS.

Monday, September 21.—General Purposes at 5.30.
Tuesday, September 22.—Council Meeting at 5.30.

EXCURSIONS.

Saturday, September 5.—Foxglove Woods and Addington Park (by kind permission of F. English, Esq.). Walking distance, 6½ miles. Meet at South Croydon Station at 3 o'clock. Trains leave Victoria (L.B. & S.C.Ry.) 2.35 p.m., London Bridge (L.B. & S.C.Ry.) 2.25, Charing Cross 2.12. Return fare, 1s. 8d. Tea at Park Hill House (East Croydon), by kind invitation of Mr. and Mrs. Baldwin Latham. Guides, Miss Flint and Miss Latham. Will those members wishing to attend this ramble kindly send their names to the Honorary Excursions Secretary before September 1?

Saturday, September 12.—Hainault Forest. Train to Grange Hill leaves Liverpool Street (G.E.Ry.) at 2.44 p.m. Return fare, 1s. 4d. Tea at Richardson's about 4.30 p.m. Guide, Mr. A. B. Hornblower.

Saturday, September 19.—Meet at the Pergola near Bowling Green in Ruskin Park, close to Denmark Hill Station, at 2.30 to 2.45 p.m. Trains from Victoria, London Bridge, Ludgate Hill, or Moorgate Street. Visit 163, Denmark Hill, Ruskin's last residence in London; pass Bessemer's house, where Bessemer made some of his most important discoveries in the manufacture of steel; visit 28, Herne Hill, the early home of Ruskin, Ruskin's walk, and St. Paul's Church to see his memorial tablet. Guide, Mr. C. M. Mühlberg, of 62, Herne Hill, *who will feel obliged if members intending to join will send him a post-card with their names, so as to enable him to make arrangements.*

Saturday, September 26.—Ramble over the Downs, Horsley to Newlands Corner and Clandon. Take cheap return tickets to Horsley, 2s. Train leaves Waterloo, 1.37 p.m., Clapham Junction, 1.47 p.m. Tea at the Refreshment House, Newlands Corner. Return from Clandon, 4d. excess. Total walking distance, eight miles. Guide, Mr. A. B. Wilkinson.

This completes the arrangements for the Summer Session; the Winter Excursions will start in November as usual. It is hoped that next month members will be permitted to attend the Annual Fungus Foray of the Essex Field Club. Details will appear in the October number.

All correspondence respecting Excursions should be addressed to Mr. Hubert H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

ANSWERS TO CORRESPONDENTS.

E. M. Nicholson.—The leaves have been cut by a leaf-cutter bee, *i.e.*, a species of *Megachile*, possibly *M. albocincta*.

1. All communications for NATURE NOTES must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for NATURE NOTES (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. BOULGER, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. JOHN BALE, SONS AND DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, WILFRED MARK WEBB, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 226. OCTOBER, 1908. Vol. XIX.

WOODLAND PICTURES.

Peeps of full many a woodland scene,
Pictures long buried within my heart,
In memory's caverns keep evergreen,
Water'd by tears as the days depart.
Haunts of fairies and dryads fair,
Wood and water and sylvan song,
In spirit I seem to be ever there,
In dreams of the sleep-time, and all day long.

Ah yes! To me they have holy grown,
These dim retreats to the poet dear,
Where the iris her golden flag has flown,
Down by the silent lonely mere;
Dark green nooks where the roses sway
White and red in a tender gloom,
Rillets clear fretting the ferns all day,
Under the loose strife's golden bloom.

Columbines tall on an islet lone,
Shaking their exquisite purple bells,
Mulleins white that are all my own,
Crowning the slopes where the rock-rose dwells!
Orchises raising a slender spire,
Mocking the spider, and bee, and fly,
Asphodel setting the bogs afire,
Marigolds' "Golden Galaxy!"

Yes! For me it is sacred ground,
Where these treasures of Flora grow.
Will they miss me when sleep profound
Seals these eyes that are now aglow?
When cold in death do these warm limbs lie,
And all my rovings are over here,
Will ever a zephyr breathe one sigh?
Will ever the eglantine drop one tear?

Karsfield, Torquay. F. B. Doveton.

A NATURE CALENDAR.

[The accompanying "Naturalist's Journal" of a little schoolgirl was sent to me a few years ago from the small school on the lonely Island of Elmley, at the south of Sheppey Island, Kent. The mistress of the school, which is only attended by some eight or ten children, encouraged her scholars to observe, and to write down what they observed, and this little journal is the result. The island consists of two farms, and does not contain any road at all; it is very secluded, so much so that I recollect, when visiting it once in June, to have seen a wild goose, a *very* rare inhabitant in the summer-time, surely, in the south of England. The notice of the cow breaking into the school grounds reminds me of a local anecdote which is, I believe, strictly true. In the eighteenth century, and perhaps later, it was the custom of the clergyman to wish his flock good-bye in the autumn, and to return to his residence on the mainland for the winter, until the weather improved in the spring and it would be convenient to cross the ferry again for Divine worship in the church. One winter, a farmer missed one of his cows, and since it was nowhere to be seen on the island it was concluded that someone must have landed from the river and stolen the animal. When, however, on a fine Sunday morning in the following spring the clergyman was seen crossing the ferry and the church was opened to receive him, there were the remains of the cow, which had strayed into the deserted church, and, the door closing, had thus perished. I think your readers will agree with me that this little Elmley girl's artless diary of what she saw, "in the natural way," would have greatly gratified old Gilbert White.—RASHLEIGH HOLT-WHITE.]

OLIVE WILLIAMS, AGE 12, ELMLEY SCHOOL, SITTINGBOURNE.

CALENDAR.

1903.

Feb. 1. I picked a daisy as I was coming up to church. The weather is very fine.

Feb. 2. I saw a teal in a ditch; it is not a very large bird, but a pretty colour; it has webbed feet and a very large bill.

Feb. 3. Saw five oxbirds fighting on the mud; they were quarrelling over a piece of bread; perhaps some men threw it overboard from the barge.

Feb. 4. Saw a curlew; it is a shore bird. Very windy, but not so cold.

Feb. 5. Saw a coot on the saltings; it is a very large black bird.

Feb. 6. Brilliant sunshine. We have been watching the shadows this morning, putting a stick to mark the direction of the shadows at different times. When the sun was S.E. the shadows pointed N.W.

Feb. 7. Saw a kingfisher sitting on a post in the tide; it is a very pretty bird; they are very rare.

Feb. 8. Saw a tom-tit; it is a small bird, very pretty; it sings very sweetly.

Feb. 9. Saw a blue carrier-pigeon sitting on a fence; it was very pretty. Weather very mild, sun shining brilliantly.

Feb. 10. Had a lesson on a sheep; saw that it had cloven hoofs; it is called a ruminating animal because it chews the cud.

Feb. 11. Saw a snipe on the saltings, eating a piece of bread; it has a very large bill, but is not a very large bird.
Feb. 12. Saw a duck in the water.
Feb. 13. Found a starling; they are very pretty birds, with blue and green shades of colour on their backs.
Feb. 14. Saw two partridges in the marsh; they are very pretty birds; they make their nests in the marshes, of hay and bits of straw.
Feb. 15. Saw a kithearn; they are very large birds, grey, with very long neck and large bill.
Feb. 16. A crocus came out in the garden; weather very mild.
Feb. 17. Saw a hare run into its form; it was not very large; it must have been a young one.
Feb. 18. Saw a lot of rooks in the plantation, up in the trees, making an awful noise, about to make a nest.
Feb. 19. A lark came into the school; it is a very little bird. I think it was frozen, but it is all right now.
Feb. 20. A little lamb was born at King's Hill Farm. Very windy.
Feb. 21. Very rough wind blowing; blew a tree down in the shrubbery. We had another crocus come out in the school garden.
Feb. 22. Saw a sparrow with its wing broken; it is a pretty brown and black bird, not so very large.
Feb. 23. Saw an owl, when it was nearly dark; it was flying after some little birds.
Feb. 24. Saw a diver bird in the tide; they are very timid; at the slightest noise they will go down into the water out of sight.
Feb. 25. Wind blowing still; it has blown two more trees down in the plantation, and broke nearly all the branches off.
Feb. 26. Three more lambs born; very cold for them.
Feb. 27. One of the little lambs died; the wind broke the school window.
Mar. 1. Saw the buds coming out on the trees; some trees are in large green leaves.
Mar. 2. Father caught some eels in the tide; they are something like a snake.
Mar. 3. Saw a linnet in one of our sheds; it has a yellow breast.
Mar. 4. Saw a peewit; they are not very large, with a white breast and a black back.
Mar. 5. Weather a little finer in the morning, but it began to rain in the afternoon; very windy.
Mar. 6. Weather very mild; sun shining brilliantly.
Mar. 8. Saw a lot of wild ducks in a ditch; they are very pretty.
Mar. 9. Hard frost early in the morning, very cold and misty; but the sun came out about 9 in the morning, and then it was very warm.

Mar. 10. When I went over the ferry I saw a rat run into some faggots.

Mar. 12. I found some winkles on the hard at the ferry; they are like little snails. A butterfly came to life in the school window.

Mar. 13. We have a Lent lily out in our school garden.

Mar. 15. Saw a large blackbird in the shrubs, with a broken wing; I took it home.

Mar. 16. Another butterfly came to life in the window. Weather very windy.

Mar. 17. Found some cockles. Weather very windy.

Mar. 18. We had two Lent lilies come out in the school garden.

Mar. 19. A little hare came into the school, but it died in a little while; we buried it in the playground.

Mar. 20. Sun shining brilliantly, but very windy.

Mar. 22. Saw some blackbirds; they began to whistle very loudly. Weather very mild.

Mar. 23. Saw an effet or newt run into the grass. Picked some cowslips. Made some daisy chains; the banks are quite white with daisies.

Mar. 24. Larks are singing high up in the air; they sing so very sweetly.

Mar. 25. Saw a robin red-breast; it is not always we see them so early, but this one did not go away for the winter.

Mar. 26. Wind blowing very much; found a white nettle in flower. Weather very fine.

Mar. 27. Saw crows in the trees; they seem as if they are talking to each other; they are building their nests.

April 8 to 20. Easter holidays.

April 20 to 25. Quarterly exam.

April 26. Very rainy. Saw some young ducks and chickens. I saw a large blackbird fly out of the shrubs, and I went and looked at the place and there was a nest with two eggs in it.

April 27. Saw a lark's nest, three eggs in it; they are a dark brown, with light brown specks.

April 28. Saw a lot of swallows near the pond at the farm; they twitter very sweetly; they have blue shades of colour on their back and light brown under their head, and the rest of the feathers are white.

April 29. Saw a starling's nest, three pretty blue eggs in.

April 30. There is a rook's nest in the shrubs in a very high tree; they make their nests of sticks. Heavy rain in the night.

May 3. Saw a rook's egg in a nest; it was green, with brown specks on it; they are large nests, made of sticks.

May 4. Found a lark's nest in the grass; it was in a little hole with two young larks in it.

May 5. Saw four hares run one after another down the marsh.

May 6. Saw a cuckoo over the ferry; it is very late for it. We have not had very nice weather lately; perhaps that is the reason it has not come before.

May 7. A cow broke the school fence down. Frost in the night.

May 8. Very wet this morning; the poor little birds are in the trees for shelter. Found some speedwell flowers.

May 11. Found a lark's nest with four young birds in it. I took some crumbs to the nest and laid them there, and I went again and they were gone. I suppose she gave them to her young ones.

May 12. Saw some young starlings; found some little white flowers and some sea lavender.

May 13. Saw a wild duck's nest in a ditch with nine eggs in; the nest was made of straw and feathers. I found some May blossoms.

May 14. Saw two sheil-ducks in a ditch.

May 15. Saw a linnet sitting on a fence; it had a green breast. Weather very fine, but rather windy.

May 17. Found a starling's nest; it had four little blue eggs, and when I went again there were little birds in it. Very wet day: a thunderstorm.

May 20. Went down the quay and found some very tiny shells, so small that no one would ever think that once animals lived in them.

May 21. Went round the sea-wall and saw the tide coming in.

May 22. Saw two curlews flying and some sheil-ducks in a ditch.

May 26. Found a wild duck's nest with ten eggs in it.

May 27. Saw a widgeon in a ditch, as I was going to Rose Cottage; it is something like a duck, only a little smaller, with webbed feet and long bill.

May 29. Saw a green snake.

June 1. I went round the saltings and found some crabs and shells; the sea pinks and sea lavender are in bloom. Weather very hot. There was thunder in the afternoon.

June 2. Found some seaweed on the hard; it felt damp this morning. It is the sign of rain.

June 4. Went for a walk; saw some bluebells out and some wild roses, and the elder tree is in blossom.

June 5. Found some speedwell growing by the hedge side; it is a small, light blue flower.

June 8. Went for a walk on the saltings; saw a lot of lakes, isthmuses, capes, peninsulas and islands; saw the crabs crawling in the mud.

June 9. The buttercups and daisies are shedding their petals and the red and white clover are in blossom, the potatoes are coming up in the school garden.

I have copied this from the Weekly Calendar in my school exercise book. OLIVE WILLIAMS.

THE BUTTERFLY'S LIFE.

SOME of the workers in stained glass who made the grand coloured windows for ancient cathedrals and monasteries were fond of introducing figures of a gaudy butterfly, with its expanded wings, gay colours, and lively flight when they wished to represent the idea of the resurrection from the dead. What a difference there is between a green and yellow caterpillar, covered with bunches of hair here and there, and not smelling over-nice, that gorges cabbage-leaves hour after hour and day after day, and the delicate white butterfly, with its black spots on its large wings, its long proboscis, which rarely is used, its silky body, pretty long horns, and hesitating flight! The caterpillar becomes a chrysalis, and this the perfect insect. To the eye there is a decided change of form—a metamorphosis; but to the anatomist there are proofs of internal and external changes in the construction of the tissues and organs that are most wonderful. Whence does the butterfly derive its wings? There are no traces of them in the hairy and thick skin of the caterpillar. If a caterpillar is dissected the skin is noticed to cover some muscular fibres, by which the insect lengthens or shortens its body and crawls. There are no traces of wings, and therefore it is not correct to say that the caterpillar contains the imperfect organs of the perfect insect. But when the caterpillar has grown to its full length, and cabbages have become rare, it retires to a quiet nook and begins to diminish in length. It fixes its hind legs tightly to a board or tree by weaving a little web with its mouth, then it curves its body and fixes a silk thread on one side of it, on the wood, and, throwing its head backwards, it curves its body to the other side, fixing the thread on the opposite side of the wood. The caterpillar then straightens itself, and being securely lashed by its feet and tied tightly by its silken girdle to the wood, it changes its skin, and from under the old one appears the queer-looking thing, without legs, mouth, or hairs, called the chrysalis. This has a brown skin, and on either side of the body is a sort of fold; and within this the process of wing-making is going on all through the winter, although the chrysalis never moves, and does not eat or drink. The pretty body and the delicate head are being formed within the brown skin. At last, on some fine spring day, the brown skin of the chrysalis splits, and the butterfly comes out with its wings nicely folded. It soon gains energy in the sun, and breathes the fresh air, the wings unfold and become stiff, and the little creature flies off with a careless flight. The beautiful

proboscis, which is curled up under the head of the butterfly, is very different from the sharp, crushing, cabbage-eating jaws of the caterpillar. It is rarely used; but when some very tempting flowers are near, the insect may unfold it and place its tip in the honey at the bottom of the flower. The butterfly takes but little food, for the caterpillar had laid in such a store that it furnishes the new clothes of the perfect insect and its food as well. The caterpillar has this use, that it can spin a thread which in some kinds is a true silk, but the butterfly has nothing of the kind to do. The butterfly lays eggs and glues them to the dry substance nearest the future food of the young, and every species regularly chooses the same kind of tree or shrub, generation after generation. WILLIAM YORKE.

SELBORNIANA.

GEORGE NICHOLSON, F.L.S., V.M.H.,

Died September 20, 1908.

Now that he is no more, the ordinary conventional expressions of regret are entirely inadequate to express the feelings of those who knew Mr. George Nicholson. Others may and will allude to the life's work which made our Honorary Member known throughout the world, but it is to the memory of a man and a friend that I would fain pay my tribute.

WILFRED MARK WEBB,
Hon. Sec. of the Selborne Society.

Born at Ripon, Yorkshire, in 1847, George Nicholson entered the Royal Gardens, Kew, as a young gardener, but was soon transferred to the office, and ultimately became curator. He was compelled by ill-health to retire a few years ago, and he died at Richmond, Surrey. Having collected a valuable herbarium, which is preserved at the Royal Gardens, and obtained a wide critical knowledge of plants, wild and cultivated, and especially of trees and shrubs, Nicholson, in 1886, received the coveted honour of election as Associate of the Linnean Society, and he became a Fellow in 1898. His invaluable "Dictionary of Gardening" fully justified his election as one of the first recipients of the Victoria Medal of the Royal Horticultural Society. After his retirement he devoted himself, so far as his health permitted, to the preparation of the remarkable "Wild Flora and Fauna" of Kew Gardens, which has recently been issued.

A memorial service was held at Christ Church, Richmond, on September 25, which was attended by the Director of Kew and others of the Staff, and the body of the deceased botanist was cremated at Woking.

THE DISFIGUREMENT OF THE COUNTRY.—The Chairman of the Council, Dr. Dudley Buxton, contributed a letter on this subject to the *Times* of September 18, in which, after alluding to Sir Harry Johnston's address at our conversazioné, he continues :—

"It is right and fitting that town dwellers, and especially children, should see the country and get refreshment for mind in pure air, but it is equally right that those who plan these expeditions and are responsible for the picnics or beanfeasts should study the amenities of the country. To tear up every flower and fern, to rifle birds' nests, to scatter soiled papers and broken bottles in places of grazing and common resort, are some of the abuses which holiday-makers commit, and these in themselves go far towards spoiling the country. The heedlessness of such acts punishes not only those who live in the districts which are thus invaded, but the town pleasure-seekers themselves. Many parks and private grounds which owners are wont to throw open to visitors are now closed, as a protection against the damage which town trippers have ruthlessly done to the grounds. It is very easy to teach children and to appeal to the better instincts of their elders, and induce them to respect and protect Nature's wonders, but those whose duty it should be to inculcate this respect are silent, if they do not even themselves set a bad example and do sacrilege in the very shade of the aisles shaped by the trees.

"It is with a hope that the *Times* will lend its valuable aid to check such evils that I crave the indulgence of your columns, since I am convinced that the clergy, school teachers, and those benevolent persons who organize country rambles could do much if their eyes were once opened to the amount of harm to which their apathy in such matters leads. The Selborne Society seeks to inculcate the spirit which made Gilbert White an ideal nature-worshipper ; its president, Lord Avebury, is fighting for the preservation of wild birds, and the rank and file of the Society strive for the protection of all those unconsidered trifles which go to make a country-side a thing of beauty, and to awake the better nature of all who may use but should not abuse the hospitality which the country extends to them."

THE NATIONAL TRUST.—We have received a very interesting and beautifully illustrated Report of this body for 1907-8. It announces the complete purchase of the Grey Wethers, of which a picture appeared in NATURE NOTES; and since it was printed Coleridge's cottage at Nether Stowey has been transferred to the Trust. The indefatigable Miss Octavia Hill has secured the addition of eight acres to the three and a half already held at Crockham Hill. Other important acquisitions, especially near Hindhead and Derwentwater, are nearly complete; but considerable sums of money are required for these and for the general purposes of the Trust. We hope shortly to be able to reproduce one or more of the illustrations of this Report.

REPORT OF THE COMMITTEE OF ANCIENT EARTHWORKS AND FORTIFIED ENCLOSURES.—This useful Committee has suffered an irreparable loss in the death of its first Honorary Secretary, Mr. Chalkley Gould, who was the life and soul of its work. Mr. A. G. Chater, of 41, Porchester Square, W., has consented to act as Honorary Secretary, but modestly wishes that the Report presented to the Congress of Archæological Societies on July 8 should be looked upon as merely an interim one.

Wild Bird Protection Orders. — We have received from the Home Office an Order, dated March 4, applying to Lancashire, protecting all birds throughout the year on the Mersey between Liverpool and Warrington, and making numerous additions of birds and eggs to the schedule, either for the whole or for parts of the county. We have also received an Order, dated September 9, with reference to the County Borough of Merthyr Tydfil, protecting all birds on Sundays, and adding many species to the schedule; and an Order of the same date referring to the City and County Borough of Cardiff, protecting many species of birds throughout the year, and eggs, but not containing the Sunday clause.

Trees of London.—We would direct our readers' attention to an excellent article—nearly two columns in length—on this subject in the *Times* for August 25. We wish we could reproduce it *in extenso*.

National Testimonial to Mr. Francis George Heath. —A movement has been started for the presentation of a testimonial to Mr. Francis George Heath in recognition of his labours—extending over more than thirty years—for the preservation of woods as open spaces. The purchase of Burnham Beeches by the Corporation of London in 1880 was the result of Mr. Heath's initiative. His many popular books on ferns and trees are also well known. The Secretary of the fund is Mr. Eugene de Rutzen, 17, Lawford Road, N.W.

NATURAL HISTORY NOTES.

654. **Thrush Eating Mice.**—The following remarkable incident is related by a writer signing "A. J. L." in the *Standard* of July 10:

"Yesterday afternoon, while resting under the shade in my garden, I noticed a family of five little mice playing on the smooth surface of the lawn. The tiny creatures were popping in and out of their holes, and gambolling merrily on the smooth grass.

"Presently a fine song-thrush came swiftly running out from under some shrubs near by, halted within a foot of one of these little mice, made a sudden dash, struck the mouse with his beak, knocked him over, seized him, threw him once or twice in the air, then picked him up and carried him off to eat. The same thrush repeated this manœuvre three times more in the course of an hour, till but one only of the five little mice was left.

"That the thrush ate them I know, for I saw him take the fourth victim on to a gravel path and peck away at the body till it was consumed. After watching this hour my duties called me elsewhere, but later, in the evening, I saw the solitary survivor of the five mice alone upon the lawn. This morning I looked for him in vain—so probably ere now he has shared the fate of his brothers.

"I have never seen song-thrushes attack mice before, but if it is their usual practice it is an additional reason for wishing to preserve the lives of these delightful songsters."

655. **Cuckoos.**—In reply to Mr. Daubeny's question, "Do cuckoos eat the larva of the sawfly on gooseberry bushes?" I can say "Yes." I have seen them doing so in the garden of my friend Mr. Charles Pudsey-Dawson at Orleton, in Herefordshire. The cuckoos became quite tame in this garden, sitting fearlessly on the posts and beanstalks. They flew round the gooseberry-bushes taking the grubs on the wing, and sometimes settled on the ground beneath and jumped up to catch their prey. In the year that I saw them they completely cleared the gooseberry-bushes of this destructive grub.

September 3, 1908. AUBREY EDWARDS.

656. The lady writer of No. 644 tells us that "Cuckoos feed on eggs." This, and sundry other antiquated beliefs, such as their tearing little birds to pieces and devouring them, linger on still here and there. A cursory look at the bill and feet of a cuckoo will be sufficient to show that it is not a bird of prey. The charge that "cuckoos feed on eggs" has frequently been disproved, and has arisen from the habit of the female carrying her own egg in her mouth. The egg is laid on the ground, taken up in the mouth and deposited in the nest of another bird. Cuckoos are wholly insect-eaters—they live principally, if not entirely, on caterpillars, especially hairy ones, such as the larvæ of tiger-moths. One of the objects of NATURE NOTES is to save the character of useful birds.

EDMUND THOS. DAUBENY.

657. **Swifts.**—Miss Gibbs's question in her interesting note on "A Tame Swift" in last month's number of NATURE NOTES can probably be answered in a reassuring sense. If there were any other swifts in the place, it would join them, learn to feed itself and go in their company to Africa.

The young swift does not leave the nest until it flies with its parents to Africa. The swifts come here only to breed, and leave as soon as they can.

In the January number of NATURE NOTES, 1891, and in the four following numbers there is an account of these wonderful birds and their doings. I think the young bird does not re-enter the nest but goes off straight to Africa. I have never ventured to feed a swift, but have several times given them water to drink.

September 3, 1908. AUBREY EDWARDS.

658. **Three Tame House-Martins.**—As I have seen in "Natural History Notes" an account of a swift being brought up by hand, I think perhaps it might interest some of your readers to hear how I brought up three young house-martins.

In August last I was away on my holiday in North Wales, when one morning before breakfast the house-martins were heard fighting a great deal round a nest, which, amongst others, was built under the eaves of the house where I was staying. A few hours later we discovered that the nest had been completely destroyed, and on the ground we found three young birds, all partially fledged. I at once picked them up and put them in a basket, which I placed in the kitchen, not far from the fire. About every hour I fed them with minute pieces of raw meat and a little water. During the night I had the basket in my room and gave them the same food two or three times. This I continued to do all the time that I had them. At first I had to force open their beaks, but after about two days they opened them of their own accord, and when hungry, chirped incessantly until food was given to them. The meat I gave them on the end of a small stick, and the water by means of a tiny spoon. Two of the birds seemed rather weak one morning, but they soon recovered on being placed in the sun for a few minutes. When I had had them nearly a fortnight, the largest one flew quite suddenly out of a window, and on being taken out of doors the following day the second went also; the third and last flew a day later.

I was very sorry when they went, as they were pretty little things, and so tame that they would sit quite quietly on the edge of the basket to be fed, and allow me to carry them about on my hand. I am anxious to know if they would be able to feed themselves after they had flown. Also whether it must have been sparrows that destroyed the nest, as we found a young sparrow dead at the place where we found the martins.

43, *Argyle Road, Ealing.* GERTRUDE E. BOWLING.

659. **Owls and Lambs.**—An interesting controversy is being waged in West Cumberland as to whether or not owls kill lambs. The supporters of the Fell Foxhounds assert that all the lambs slain on the hills are not killed by Reynard, but that some are victims of the owl. Bird-lovers, on the other hand, maintain that the owl is not guilty of the charge.

660. **Thrushes.**—Referring to my inquiry about thrushes knocking empty beech-nuts on the hard ground, perhaps I now have some clue to the habit, for my friend has since observed the birds similarly dealing with shells containing snails. In "Observations on Birds," in White's "Selborne," it is stated that thrushes will during a long drought feed their young on garden snails.

[Almost every dweller in the country must have seen thrushes breaking snails' shells, but this hardly explains their treatment of empty beech-nuts.—ED. *N.N.*]

661. **Snake Venom.**—A remarkable instance of the transmission of snake venom is reported from Melbourne. A snake bit a dog, which, before dying, bit a man. The latter was treated in the hospital, where he showed all the symptoms of snake-poisoning, but was recovering.

662. **Moth Sembling.**—The sembling of moths referred to in No. 561, is a well-known habit in certain kinds. Mr. Lewis informs us that a number of male vapourer moths searched up wind for a female on a tray in his window, and comes to the conclusion that as she was wingless and unable to communicate with them by wing-vibrations, they had traced her by the diffusion of some odour. This is the usual interpretation of such a case, and not an improbable one. There is, however, another means of communication among insects, and that is giving out sounds, without using their wings, that are inaudible to human ears. The microphone discloses to us the trumpeting of the house-fly as it moves its proboscis, and the noise of its feet as of a horse trotting. The study of insects with the aid of a microphone would greatly enlarge our knowledge of their means of communication with one another. EDMUND THOS. DAUBENY.

NATURAL HISTORY QUERIES.

153. **Alder-seed.**—In giving the children object-lessons, one sometimes leaves an unanswered riddle to be pondered during the ensuing week. Can you help me to answer this one? How are the seeds of the alder dispersed?

Lord Avebury has a list, in his book on "Flowers, Fruit and Leaves," of thirty-three genera of British trees, shrubs and climbers, of which twenty have edible fruit, nine winged and three hairy, leaving only the alder unaccounted for.

Perhaps the seed should be reckoned among the edibles, as I believe it is eaten by redpolls and siskins. J. E. KELSALL.

[As the redpolls and siskins are essentially granivorous birds, and are therefore, I presume, possessed of muscular seed-crushing gizzards, they can hardly form an efficient means of dispersal for alder seed. Professor Groom, in his excellent "Trees and their Life-histories," says the "cone-like collection of fruits, though ripe in September or October, usually remains closed during the ensuing winter. In spring the scales gape asunder but do not fall, and the little flat closed fruits are blown about by the wind." The tree is then leafless and these "indehiscent" fruits, though not winged, like those of the allied Birches, are, it is to be noted, flattened.—ED. *N.N.*]

154. **Fall of Beech-mast.**—Passing under a large beech tree near Lichfield a fortnight ago (August 13), I was surprised by a terrific shower of beech-mast. There was no wind. It had been dry weather for some time, but misty at night. I could see nothing alive in the tree. The shower lasted for perhaps a minute. I gathered all the nuts, which contained, without exception, empty husks. No more nuts fell during the next fortnight.

Can any reader explain the reason of the sudden shower?

148, *Accrington Road*, FLORA E. HITCHEN.
Blackburn, Lancs., August 29, 1908.

155. **Balsam Poplar.**—All the above in my garden are dying from the top—all the other trees are flourishing. I am told twenty-five years is the natural life of this tree. We are on clayey soil; has this anything to do with it?

West Pelton Vicarage, EDWARD J. TAYLOR, F.S.A.
Co. Durham.

ASTRONOMICAL NOTES FOR OCTOBER, 1908.

Venus will be favourably visible in the morning twilight, rising on October 1 at 1.47 a.m., and on the 28th at 2.47 a.m., or more than four hours before the sun. She will be situated in Leo and close to the planet Jupiter on the 14th, when this pair of brilliant orbs will make an attractive spectacle before sunrise.

Mars, situated in Virgo, will be perceptible as a morning star at the end of the month, but he will appear small owing to his great distance.

Jupiter will come well into view during October, rising at 2.46 a.m. on the 1st, and at 1.27 a.m. on the 28th. He should be looked for near the lustrous Venus on the 14th.

Saturn will be observable to the best advantage during the month, as he will be visible nearly all night. He will occupy a position below and to the east of the "Great Square of Pegasus," and may be readily identified by his very steady, dull light in comparison with that exhibited by the fixed stars.

Uranus may be distinguished in the evening hours near the star Omicron in Sagittarius, but this planet is only just within reach of the naked eye.

Meteors will be numerous on the nights between the 18th and 22nd, and especially in the morning hours. They will be swift in motion, leave bright streaks along their paths, and their flights will be directed from the north-eastern region of Orion.

The *Zodiacal light* may be well observed in the eastern sky in the mornings of October.

A *Comet* will be visible to the naked eye in the evenings passing down the western sky in the neighbourhood of Lyra and eastern part of Hercules.

W. F. D.

REVIEWS AND EXCHANGES.

The Young Botanist. By W. Percival Westell and C. S. Cooper. With 8 coloured and 63 other plates, drawn from Nature by C. F. Newall. $7\frac{3}{4} \times 5$ in. Pp. 200. Methuen. Price 3s. 6d. net.

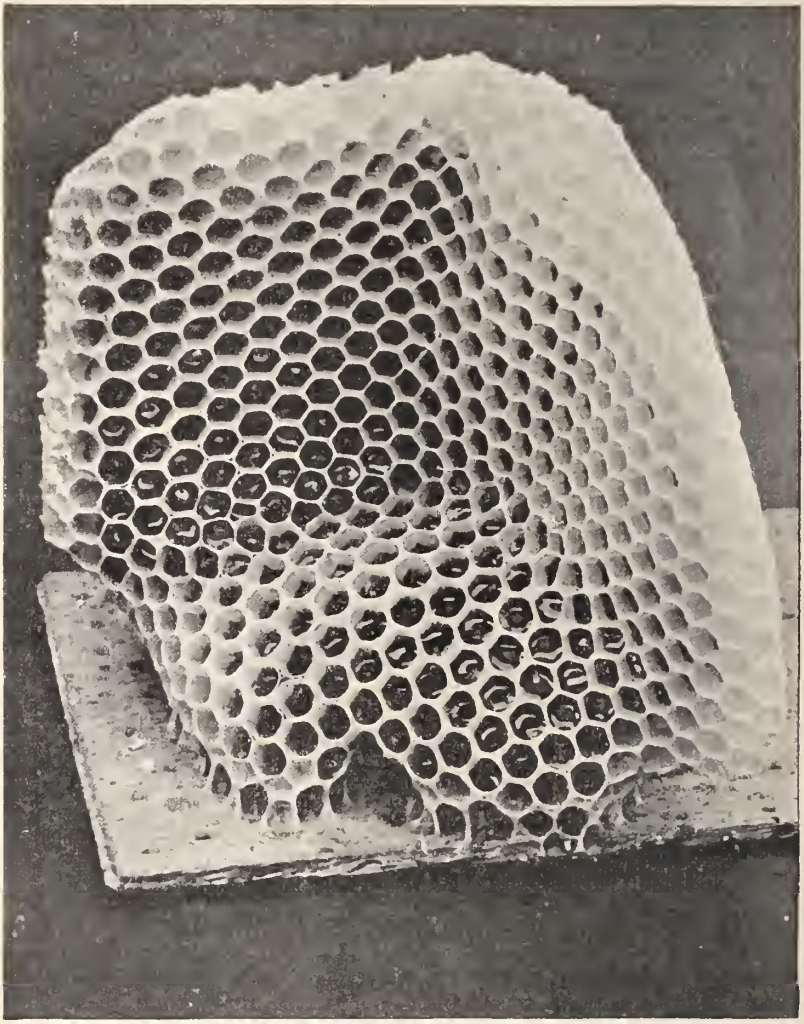
The plates of this low-priced work will probably of themselves secure for it a considerable sale, so that we may hope to see it pass into another edition in which the slight errors in the text can readily be removed. The rules as to capital initial letters to the names of certain species are ignored; "John's" appears for "Johns'"; wood-sorrel and horse-chestnut are included in a list of simple leaves; the remarkable phrase "*Head* section of flower of Daisy" forms part of the legend to one of the plates; Verbena is, as is too often the case in text-books, given as an example of the spike; and on the back of another plate the winged seed of Goatsbeard and Maple, and a rose termed *Rosa tormentosa*, are mentioned. *Drosera* is not from the Greek *drosos*, nor is its secretion a red fluid; *Leguminoseæ* is an unusual spelling; the perfume of Meadowsweet is, we believe, due, not to prussic acid, but to coumarin; Charles Darwin, as we have often had occasion to point out, was never "Professor" Darwin; and his son Francis long ago abandoned the belief that the dissolved remains of insects are absorbed by the stem of the Teasel. Such verbal mistakes are also numerous in the Glossary, where *kline* is translated "a bud"; and "pentamerous" is derived from "*metron*, a measure." The author anticipates criticism of his colour index, and we are bound to say that an arrangement which groups Bee-Orchis, Bugle, Comfrey,

Corn Cockle, Deadly Nightshade, Foxglove, Ground-ivy, Harebell, Hound's-tongue and Betony together under the name "purple" does not appear to us of any practical utility. At the same time, a simple well-illustrated guide to the more conspicuous flowering plants, with a modicum of modern structural and physiological notes, for beginners is a defensible notion, and the present work may well be made to rank as such.

GORSE. From "Flowers and Plants for Designers."
(By kind permission of Messrs. Hodder and Stoughton.)

The Lore of the Honey-Bee. By Tickner Edwardes. With 24 Illustrations. $7\frac{3}{4} \times 5$ in. Pp. 282. Methuen. Price 6s.

It would appear that what Mr. Edwardes does not know about bees can hardly be worth knowing. His turn of mind and the purpose of his book may



Comb Built Upward. From "The Lore of the Honey-Bee."
(By kind permission of Messrs. Methuen.)

be more practical than those of M. Maeterlinck, though it is difficult not to "drop into poetry" when writing of "the commonwealth of the hive." History does not record it, but perhaps Virgil started out to write a sober prose manual

for use in agricultural colleges and found himself inevitably driven to the language of the fourth Georgic. It is pleasant to see the reproductions of some of the quaint illustrations from old bee books, such as the madrigal printed, like that in Walton's "Angler," with the two parts in two directions on the page so that both singers may use the same book; and Mr. Edwardes's modern plates, one of which we are kindly permitted to reproduce, are fine specimens of photographic printing.

Flowers and Plants for Designers and Schools. Photographed from Nature by Henry Irving. With Text and Notes by Edward F. Strange. 12 × 8½ in. Pp. 96. Hodder and Stoughton. Price 10s. 6d. net.

The scientific and artistic value of Mr. Irving's photographs is now well known. His subjects are carefully selected, and in the present work not for mere beauty or perfection of development, but for suitability for design. Many of the plates are too large for reproduction here, and their number makes the volume in its serviceable buckram binding a very cheap book. We should have liked to see more of the plants used by the old craftsmen included, such as the pomegranate and the "Chardon Roland" (*Eryngium campestre*). We have seen the latter extensively employed by Norman architects in a region where the plant itself is abundant. Mr. Strange's brief introduction is apposite, though he should not have suggested (p. 12) that Mycenæ is the site of Troy; but the scraps of folk-lore and old herbals in the notes might, we think, have been advantageously replaced by more technical suggestions.

Evesham and the Neighbourhood. By the late William Smith. Second Edition, Revised by E. A. B. Barnard. With Notes on the Flora, &c., by T. E. Doeg. Illustrated by E. H. New and B. C. Boulter. 7¼ × 4¾ in. Pp. 202. Homeland Association. Price 6d. net.

In our notices of the publications of the Homeland Association we have often implied, if we have not stated, our opinion *totiaem verbis*, that this Association has started a new era in guide-books. We remember many an excellent local guide in days gone by, with well-written archæological accounts of old buildings, illustrated by atrocious wood-cuts, *et voilà tout*; but now we have the archæological matter as well done as before, illustrated from photographs or by drawings of real artistic value, such as those of Mr. New and Mr. Boulter, and in addition almost every conceivable requirement is catered for with equal thoroughness. The literary associations of a district are not overlooked, pleasant walks in the environs are described and cycle rides further afield, a sketch of the natural history of the neighbourhood is generally given, sport is by no means overlooked, churches, chapels and schools are often enumerated, a bibliography of local history may be added, and in addition to all this, in volumes issued in stiff covers at 6d. or a 1s., a folding map reduced from the Ordnance Survey is included.

Evesham is a town with a history, the seat of an ancient abbey and the scene of two important battles, one in each of two of our great periods of civil war. It is also rich in beautiful buildings of various dates, and forms the centre of a region full of archæological and picturesque interest. Stratford-on-Avon, Worcester, Tewkesbury, Malvern and Elmley Castle are all well within reach for the cyclist; and there are few more beautiful or more characteristically English districts than the valley of the Warwickshire Avon, the country of Shakespeare and of George Eliot.

The deceased author of this guide and the editor of the present edition have most judiciously distributed their space between Evesham itself and its environs, and there are upwards of a hundred illustrations. Among these Messrs. Frith's photograph of Cropthorne is so idyllic in its prettiness as to suggest a work of the imagination, whilst Mr. New and Mr. Boulter could not possibly find more sympathetic subjects for their pencils than the old buildings of Evesham. Mr. Doeg's lists of plants and mollusks are interesting; but that of fossils is, unfortunately, marred by not a few mis-spelt names. Such a production at sixpence is marvellous.

The Homeland Handy Guides: Walton-on-the-Naze; Rye, Sussex; Reading. $7\frac{1}{4} \times 4\frac{3}{4}$ in. Pp. 28, 34 and 32 respectively. Homeland Association. Price 2d. each.

"And still the wonder grew." . . . These are specimens of a new series, which includes also King's Lynn, Sandwich, Cheddar, Watchet, Spalding and Brigg. They are mostly restricted to single towns, though Rye includes Winchelsea; town plans replace the folded Ordnance maps of the Association's fuller guides; "Local Notanda," including church services, clubs, hunts, &c., have had to be reduced within the compass of a page or two; but here we have complete practical guides, well printed on excellent stout paper and fully illustrated with many of the same beautiful pictures which appear in the sixpenny or shilling guides, and all for twopence. "And still the wonder grew."

Received: *The Victorian Naturalist* for July; *Bird Lore* for July and August; *The Estate Magazine* for July, August and September; and *The Naturalist*, *The Irish Naturalist*, *British Birds*, *The Animals' Friend*, *The Humanitarian*, and *The Agricultural Economist* for September.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

New Members.—*Central Society.*—The following members were elected at the last Council Meeting: William S. Allen, Esq.; Dr. Philip Baker; W. E. Bartlett, Esq., F.R.C.O.; Miss F. S. Barnes; Christopher Battiscombe, Esq.; Dr. C. G. Battiscombe; J. R. Bell, Esq.; Dr. J. Black-Milne; William Blake, Esq., M.D.; Frank W. Borman, Esq.; Herbert E. Bouch, Esq.; the Rev. Richard A. Boyle; Dr. E. Bromet; Henry W. Bull, Esq.; Dr. H. Chapman; the Rev. J. S. Clementson; Dr. Chas. E. Collins; Mrs. H. W. Davies; Miss Winifred de Lisle; W. R. Dixon, Esq.; W. H. Dodgson, Esq.; Harold Gabell, Esq.; Herbert E. B. Green, Esq.; the Rev. A. E. Hall; Walter J. Hammond, Esq.; Mrs. W. J. Hammond; Leonard L. Hudson, Esq.; Frank Hughes, Esq.; William Hughes, Esq.; E. Dukinfield Jones, Esq.; T. O. Jones, Esq.; Charles J. Knight, Esq.; B. B. Lemon, Esq.; Vincent B. Lemon, Esq.; Mrs. A. J. Maas; W. Milne, Esq.; John Newington, Esq.; Mrs. R. E. Nicholson; F. W. Oliver, Esq.; Philip Powter, Esq.; Dr. F. C. Poynder; Edward J. Previte, Esq.; W. T. Price, Esq.; G. Dentham Rae, Esq.; The Rev. H. Bertie Roberts; The Rev. James W. Ryrid, M.A.; Samuel Salmon, Esq.; Miss Ethel Sargant, F.L.S.; Paul Schloesser, Esq.; Dr. A. Tennyson Smith; Langley Smithers, Esq.; Arnold Spicer, Esq., M.R.C.V.S.; Miss Elinor Stuart Jones; the Rev. H. Percy Thompson; the Rev. M. B. Thurburn; Mrs. Torrens; Dr. A. R. Walters; Henry Wellcome, Esq.; Frank Williams, Esq.; Leslie Wilson, Esq.

Brent Valley and Richmond Branch.—T. W. Adams, Esq.; Cyril W. Barnard, Esq.; G. Cannon, Esq.; Thos. Hodgins, Esq., M.R.C.S.; C. E. Johnson, Esq.; the Rev. J. R. Pridie; Miss Rutter; Dr. W. H. Williams.

New Junior Branch.—The Warrant for the formation of the Girton House School (Ealing) Junior Branch was signed on the application of Miss B. C. D. Grylls.

Subscriptions.—The Council has pleasure in acknowledging subscriptions over 5s. from the following members: W. H. Dodgson, Esq., £1 1s.; Frank Williams, Esq., £1 1s.; the Rev. A. R. Boyle, 10s.; Dr. E. C. Collins, 10s.; E. Dukinfield Jones, Esq., 10s.; Edward J. Previte, Esq., 10s.; G. Dentham Rae, Esq., 10s.; the Rev. H. B. Roberts, 10s.; Rev. J. W. Ryrid, 10s.; Miss Ethel Sargant, 10s.; Paul Schloesser, Esq., 10s.; Rev. H. B. Thompson, 10s.; Mrs. Torrens, 10s.; Leslie Wilson, Esq., 10s.; Dr. F. C. Poynder, 7s. 6d.; and

donations from the following: Frank Williams, Esq., £1 1s.; Henry Wellcome, Esq., £1; J. R. Bell, Esq., 5s.; T. O. Jones, Esq., 5s.

EXCURSIONS.

Saturday, July 25.—A very pleasant visit was paid to the Brent Valley Bird Sanctuary, at which over fifty members attended. The nesting season being practically over, very few nests were seen, but sufficient deserted nests were found to give members a good idea of the wealth of bird-life that the wood contains. Great quantities of flowers and berries were to be had, and the visitors thoroughly enjoyed the picnic tea. The sylvan beauty of the Sanctuary charmed every beholder. Thanks are especially due to Mrs. Wilfred Mark Webb, who very kindly made all the arrangements for providing the tea.

Saturday, August 8.—Favoured by fine weather a party of fourteen, led by Mr. George Watts, left Rickmansworth Station at 3.30 p.m. Proceeding at first by field-paths and then through Loudwater Park, they reached the White Horse, Chorley Wood Common, where tea awaited the ramblers. Some time was then spent on the Common, the return journey being made by way of Jenkin's Farm, through the woods, and past Mill End. The magnificent views usually obtained *en route* were somewhat marred by the haze, otherwise the walk, which afforded a considerable amount of interesting material, including some very fine specimens of ragwort, agrimony, and mullein, was very pleasant.

Saturday, August 15.—On this date the guide was Mr. K. W. Mumford, and starting from Wrotham Station at 2.30 p.m. he first led the party to the Ightham fissures. After explaining that there are other things in the parish besides "eoliths," the guide went on to point out the main points of interest in these renowned treasuries. These large faults contain remains of almost every age, though mostly late Pleistocene; sometimes quite near the surface a bone of a much earlier period, but never an implement of flint. The Siberian and Russian Picas (*Lagomys pusillus*) have been here, also *Microtus batticeps* and *M. gregalis*, while in the same deposit the Arctic Fox (*Canis lagopus*) and a Spotted Hyæna, (*Hyæna crocuta*) animals that to-day live in such widely separated regions and climates as those of Iceland and equatorial Africa. Another interesting animal is *Microtus nivalis*, a specimen of which the guide showed to the party, at the same time describing the use this small rodent had been in the modification of the glacial theory.

A short walk was taken along the earliest disused bed of the Shode, and yet another finished-with gorge was shown. A probable reason given for these old beds was that they were themselves formed at the same time as the neighbouring fissures and thereby afforded the "young river" a ready-made bed. This phenomenon must have occurred at least twice. The river now flows down towards Plaxtol in one of the most picturesque valleys of South-east England. Here it was that the members of the party saw the beautiful Kingfisher (*Alcedo ispida*).

"*Procul negotiis, solutus omni fœnore*," as Horace has it, was now the motto of all. The next move was to the Rock Shelters and a short review was made, with Mr. Rudler's assistance, from the time when palæolithic man may have first hewn the natural rocky surface into dwellings to secure him from his many dangerous foes, till later, when neolithic man without doubt used these unique "shelters" as a riverside dwelling to which he could well convey necessities home by rafts upon the waters of the useful Shode. The guide took down some neolithic knives from his collection and explained the probable uses they were put to. The old Edgware Road was almost wholly built of "Ightham stone" from this spot.

Tea was next partaken of at the "George and Dragon," an inn where Queen Elizabeth is said to have spent two nights during one week on her way to and from Tilbury, which place is 13 miles distant.

The church was next visited: one fine brass still remains under the mat in the centre aisle: it is of a Jane Dirkin, and dates back to the early fourteenth century. The bust of Dame Selby is to be seen in the east end wall over a tablet explaining how this lady betrayed the Gunpowder Plot to Lord Monteagle; and an effigy of one of the Cawne family, former owners of the Mote, caused much interest, as did also another of two recumbent figures of members of the Selby

family. The Selbornians were unable to visit the Mote, this old castle being 3 miles from the village. The next place of interest was Wrotham Station, where the guide received the thanks, which really were due to Mr. Rudler, for his keen interest in the afternoon and timely interesting remarks.

Saturday, August 22.—After some hours of rain it is scarcely matter of wonder that only half-a-dozen ramblers met Mr. Hunt at Woldingham. The beauties of the route *via* Worms Heath to Chelsham Common, however, well repaid these venturesome mortals, and though it was wet underfoot the skies had ceased to weep and a bright sun drew sweet vapours from earth and herbage. If Selbornians would only realize how fragrant the countryside is after showers they would be less likely to be deterred by Saturday morning rain, so frequently does it happen that a glorious afternoon follows.

Saturday, August 29.—The thirty Selbornians who attended this ramble did not fill their vascula with many botanical specimens, yet all the same an enjoyable time was spent and many interesting things were seen. Leaving Hanwell Station about 3 o'clock the path across the locks of the canal was followed, which led to open meadows and many stiles, and thence to the boundary of Osterley Park, the seat of the Earl of Jersey, who had kindly given permission for the party to go through Woodlake and the slip to Martens Lodge. Under the guidance of Mr. Little. the steward, the paths through the fine growing timber were traversed for some considerable distance, and much interest was centred in the beauty of the two lakes and their stock of fish and water-fowl. Passing onward, fine herds of black Scotch cattle were seen, and many of these allowed the younger members of the party to stroke and pat them. It is hard to say whether the cattle or the children most enjoyed it. The old archway leading to the gardens was pointed out, and near by Mrs. Webb espied the home of the Woodpecker in a large branch of a specially fine cedar, the new hole made this year showing quite plainly.

Further on a culvert was pointed out where some days previously three badgers had been found. It is said that Queen Elizabeth had land hereabouts, and that wheat was grown in the fields to make flour for use in the food of the Royal table. Before leaving the Park a vote of thanks was passed to Mr. Little for his kindness, and the party left by the gate at the south-west corner and proceeded to the village of Heston by paths through large fields of cabbage, kale, rhubarb, mint, parsnips, beetroot and lettuce, all in excellent condition. The fragrance from the mint was particularly strong. Reaching Heston Church, many interesting features were seen. The old lych-gate, with its ingenious arrangement of wooden pulleys and chains, is most peculiar, and it has also a heavy rough stone fitted which acts as a counter-balance, and rises and falls as the gate is opened and shut. In the churchyard is a stone erected to the memory of Mary Ann Brock, who died in 1836: it is recorded upon the stone that she was nurse to the late Queen Victoria when Princess Victoria of Kent. Another stone tells of John White, a soldier, who it is said died as the result of a severe flogging many years ago, for an act of disobedience. As the Rector was away, the ramblers were met by the Rev. Mr. Prince, and owing to his kindness the valuable Communion plate was seen, together with many ancient records containing most curious entries.

Tea was provided in the Parish Room close to the church. After tea Mr. Sydney Carter showed the company over his modern bakery; the dough-mixing machine driven by electric motor was especially interesting. On returning to the tower (which was built about 1420) the party visited the top, from whence one could easily see both Windsor Castle and the Crystal Palace.

Until recently the tower contained only six bells, the weight of the tenor being 13 cwt. 3 qr. 15 lb.; these have been re-hung in a new frame, and two trebles added to make the octave. The new bells weigh 4 cwt. 2 qr. and 5 cwt. respectively, and were supplied by a well-known firm of founders in Whitechapel, and were dedicated on June 13 last by the Lord Bishop of Kensington.

Thanks to Mr. Carter, arrangements had been made for the party to hear the whole peal of eight rung and to visit the belfry and see the bells turning over to and fro as the band of ringers pulled the ropes in the ringing chamber below. As the evening was drawing in, the return journey was made by way of

Norwood Green and the canal bridge to Hanwell Station, leaving by train at 9 o'clock. A cordial vote of thanks was passed to Mr. Lawrence for his able guidance.

Saturday, September 5.—A day of bright sunshine after a week of rain was a pleasant surprise to the Selbornians who met at South Croydon Station to walk to Addington. Owing to the previous wet weather the walk through Foxglove Woods was abandoned and the party took the road, known locally as "The Land of Goshen," to Addington Woods and Park. Entering by the West Lodge, and following the road leading to the Palace, the former dwelling of the Archbishops of Canterbury (built by Sir John Leigh in 1544), they walked through the private pleasure gardens and farm to the church.

Addington Park Estate was purchased in 1808 as a residence for the Archbishops of Canterbury, six of whom lived here in succession. After the death of Archbishop Benson in 1896, Addington Park and Manor were alienated from the See. Addington Church, a stone and flint building, is believed to date from the Saxon period. Archbishops Manners-Sutton and Howley lie in the vaults beneath the church, and Archbishops Sumner, Longley, and Tait's graves are in the churchyard. The chancel was restored and decorated in 1897 as a memorial to Archbishop Benson, who resided at Addington, but was buried in Canterbury Cathedral. The restoration, which was partly planned in Dr. Benson's lifetime, consisted in the re-opening of the Saxon window over the Communion table and the construction of a very beautiful white alabaster reredos with statuettes of four Archbishops under canopies. Archbishops Theodore and Benson are the principal figures, Cranmer and Laud being at the North and South ends. In the North wall of the chancel is a large monument erected by Sir Olliph Leigh in memory of his father, John Leigh, Esq., and his wife Joan, and on the floor are brasses to the memory of Sir John Leigh, his wife Isabel, and their five children.

The guides here drew attention to the beautifully carved angel, part of a candelabrum that had lately been placed in the chancel as a memorial to Miss Benham, a missionary (one of the daughters of Canon Benham, a former Vicar of Addington). This was carved by Peter Rendl, who took the part of St. John in the last Passion Play at Oberammergau. The windows in the nave are to the memory of Archbishop Tait, his son, the Rev. Crauford Tait, and Sir George Johnson, one of the physicians to the late Queen Victoria. Leaving the church and walking through the village, passing the schools on the right, the party again entered the Park by the Lion Lodge, and taking the path up Fir Grove came to the monument erected in 1811 by Archbishop Manners-Sutton, who planted a cedar-tree at the same time to commemorate the fiftieth year of George III.'s reign. Walking on past the Lily Pond, the part of the Park known as Scotland was reached. The heather here was in full bloom and added to the charms of the scenery. Leaving the Park by the Swiss Lodge, the Selbornians came into the road near Shirley Church, and spent a few moments in viewing the tomb and reading the inscription placed by John Ruskin in memory of his father and mother; and then, walking by the footpath to Upper Shirley along the Oaks Road, came to Coombe Road, and by the lanes to Park Hill House, where they were hospitably entertained to tea by Mr. and Mrs. Baldwin Latham.

A very cordial vote of thanks to the guides, Miss Latham and Miss Flint, and to Mr. and Mrs. Baldwin Latham, was passed on the motion of Mr. Hunt, seconded by Mr. Watt. In replying to this Mr. Latham greatly interested the members by recounting some of the great changes that had taken place in Croydon since he first came to the borough half a century ago. Of particular interest was his description of the old atmospheric railway, the first railroad built in this country, which proved an utter failure. One of the old boiler-houses of this railway has been re-erected in the grounds of Park Hill House for use as a coach-house.

Library.—The Honorary Librarian has pleasure in announcing the following additions to the Library, all kindly presented by the Editor: "Boy's Own Nature Book," by W. Percival Westell, F.L.S., M.B.O.U.; "Nature Rambles in London," by K. M. Hall, F.L.S., F.Z.S.; "North American Skunks," by A. H. Howell; "Food Habits of the Grosbeaks," by W. L. McAtee.

The Honorary Librarian will attend at 20, Hanover Square, from 5.30 p.m. to 6 p.m., on the evenings of October 19 and November 16, for the purpose of issuing books to members.

FORTHCOMING EVENTS.

COUNCIL AND COMMITTEE MEETINGS.

Monday, October 19.—General Purposes Committee at 5.30 p.m.
Monday, November 16.—General Purposes Committee at 5.30 p.m.
Tuesday, November 24.—Council Meeting at 6 p.m.

ESSEX FIELD CLUB FUNGUS FORAY.—The date of this is not yet fixed. Members who wish to attend should at once send a stamped and addressed envelope to Mr. Hubert H. Poole, 16, Heathcote Street, Mecklenburgh Square, W.C.

WINTER EXCURSIONS will commence in November, as usual.

SOUTH-EASTERN UNION: CRYPTOGAMIC SECTION.—The first Cryptogamic Meeting, open to all subscribers to the Union, will be held at Tunbridge Wells on Friday and Saturday, October 9 and 10. The Honorary Secretary is Dr. George Abbott, 4, Rusthall Park, Tunbridge Wells.

ANSWERS TO CORRESPONDENTS.

Mrs. Hodgson.—I can find no record of white-fruited whortleberries (*Vaccinium myrtillus*), which are quite new to me. Please let me know how many plants were found bearing them, and notice whether they do so next year.

W. A. Shaw.—*Hibiscus Trionum* L., a malvaceous cornfield weed, native to the Mediterranean area, but common in Eastern Europe, whence it comes with foreign corn.

F. A. Cox.—The alleged luminosity of one or more owls, presumably *Strix flammea*, in Norfolk, remains unexplained. We understand that a specimen was sent to the Natural History Museum for examination, but without its feathers. The matter was dealt with in our February and March issues.

E. N. Gibbs.—The immature fruits appear to be those of a species of *Æsculus*. Leaves, flowers or ripe fruit would make it possible to determine the species with certainty.

1. All communications for NATURE NOTES must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for NATURE NOTES (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. BOULGER, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. For the supply of the Magazine to others than Members, or for back numbers (except in the case of new Members), address the publishers, with stamps at the rate of 2½d. per number, Messrs. JOHN BALE, SONS AND DANIELSSON, Ltd., 83-91, Great Titchfield Street, London, W.

6. Letters connected with the business of the Society, subscriptions, and applications for membership should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, WILFRED MARK WEBB, F.L.S., at 20, Hanover Square, London, W.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 227. NOVEMBER, 1908. Vol. XIX.

NATURE NOTES IN TOURAINE.

IT is an old, if trivial, saying, that Touraine is the garden of France. Though this boast savours of the advertisement, it is none the less true. Not all the savage splendour of the Dauphiny, nor the wild passes of the Pyrenees, with their wealth of vegetation, can equal the fertility of this district formed by the confluence of the Loir and the Cher. It is essentially a garden, no vast fertile desert, the home of a straggling savage flora covering glens and hills untrodden by the foot of man. The greater part of the country is well cultivated, but the feudal system, which lingered in France for centuries after it had been almost forgotten in England, has left large wild tracts in which the seigneurs preserved their game. These forests are still the haunt of plants and animals long since, or at least rapidly becoming, extinct in England. We are apt to associate wild boars and wolves with dark German forests hidden among the mountains which enclose Bohemia, or with the boundless "steppes" of central Russia; yet these animals exist, in ever diminishing quantities, it is true, in the forests round Tours.

These forests have a subtle charm all their own. The long straight national roads of France have the appearance of enormous "rides." It is in the forests that the first signs of spring appear. The common flowers are much the same as those we have been familiar with from our earliest years. One day the forest seems dead, almost without colour except for the pines and the lichen-covered oaks: then the sun shines and the little yellow *Ranunculus Ficaria* lifts up its golden head, the wood-anemone fills the coppices with its delicate flowers, and everywhere the ground is carpeted with the dark green leaves and the blue flowers of the larger periwinkle. In every open space the strong unpleasant plants of *Helleborus viridis* spring up, the lighter green of their flowers making them a very prominent object. Among the

flowers which are not so common in England, *Lithospermum cæruleo-purpureum* is one of the first to appear. Its bristly mottled leaves, and flowers which vary in shade from a dark purple to an almost pure white, are very conspicuous in the early spring; but, though it goes on flowering pretty continuously till late summer, being of small size it passes unnoticed among the taller, more showy plants of the advancing year. By the middle of March the carpet of violets, white and blue, reminds one forcibly of an English spring; but one looks in vain for primroses, they are scarcely ever to be found. The cowslip, however, is, if possible, even more widely spread than in England: it grows everywhere, in the fields, in the woods, and on the roadside, producing also a variety, fairly common in the district, in which the corolla is green and scentless.

The neighbourhood of Tours is watered by three rivers, the Loir, the Cher, and the Indre, the two latter being tributaries of the former. All three are of considerable size, and with their deep-cut valleys divide up the country into strips which, though not dissimilar geologically, present curious botanical differences. The Indre flows deeply and slowly past many old mills. The meadows on the banks of this river are always green, even when all the rest of the land is parched up by the burning summer heat, and the yellow iris makes their green appear of a richer hue. The Cher flows for a long way in the same valley as the Loir. A flat plain is thus formed about 3 kilometres broad, and although it has the appearance of a barren sandbank everything seems to flourish there. There are many gardens; and corn, rye and oats grow well, though on the tableland above the river little is cultivated but vines. The fields are full of poppies and corncockles, the latter being much more abundant than in England and specimens of both of a pure white colour are not uncommon. Between the Cher and the Loir the common bluebottle (*Centaurea Cyanus*) is to be found, and this flower also grows in the clover-fields on the heights above the Indre. You may search, however, for days in the vineyards and fields north of the Loir without finding a single specimen.

After the first burst of spring weather the vineyards—still bare rows of poles, among which picturesque-looking peasants, in sabots, baggy trousers, brilliant red waistbands and broad-brimmed hats, are busily engaged in clearing away rubbish—are brightened by the deep, almost carrot-coloured, flowers of the little marigold which no English cottage garden lacks. The French peasantry, with the poetic spirit inherent in an agricultural population, call these little weeds "*soucis*," "little cares." When the first vine shoots give a green tinge to the dull monotony of the bare soil, all the countryside north of the Loir is lit up by the aureole flame of the wild tulip (*Tulipa sylvestris*). A brighter and at the same time more delicate yellow is difficult to imagine, and one's only regret is that it is apparently not to be found except in this one direction.

The seasons must have changed, or Shakespeare have mistaken his calendar, for in the mild climate of Touraine it is not "the winds of March" but rather those of April that the daffodils "make wild with beauty." Growing in the meadows kissed with the fertile breath of spring, among the cowslips and the marsh marigolds, they add yet another shade to the yellows of these riverside fields, whose golden monotony is only broken by the purple-white patches of the cuckoo-flower (*Cardamine pratensis*). France has always been famous for marsh marigolds, "the winking marybuds," and their bright golden flowers fill every damp hollow in the spring, before the buttercups and other summer flowers gild the meadowland.

The lover of orchids will find much that will delight his heart in Touraine. In April, *Orchis mascula* shows its first purple spikes, the earliest of the summer flowers: this is succeeded by *O. Morio*, and a fortnight or three weeks later brings many surprises. There are high banks, almost cliffs, the light calcareous soil of which was hollowed out long ago by the action of water. By the falling of *débris* and the action of time they have become fertile steep slopes which catch the first rays of the sun. There, as early as the first week in May, the spikes of *Orchis Simia* may be found. A little later they are common enough, and merit their name "Monkey orchis," in their grotesque resemblance to that animal. It is true that some imagination is at first needed to see the likeness, but when once seen it is unmistakable. Almost at the same time and place as *O. Simia*, one may find the first "Pentecôtes"—Pentecosts—as the natives call them, from their habit of flowering about Whitsuntide. These handsome flowers, known to botanists as *Orchis purpurea* and *O. Simia purpurea*—rustic flower-lore knows no scientific niceties—though not too common, are fairly plentiful in the district, and excite admiration by their beautiful compact spikes, sometimes as much as 8 in. long. They are succeeded by *Ophrys aranifera*, which is really very abundant about Tours. This summer, although everything was rather late, produced specimens as early as May 9, and a few late lingerers were to be found in July. *Orchis ustulata* is apparently of rare occurrence in the district, although some specimens were found as early as the first week in May. He who delights in rare orchids, however, may find much joy in the abundant presence of the Lizard orchid. It is an unpleasant plant to gather, as its botanical name, *Orchis hircina*, suggests. The peasants call it *l'orchidée des boucs*—the goat's orchid—which is accurate if not polite, and the writer can from personal experience warn anyone not to keep specimens of this plant in their room at night. But all orchids have not this unpleasant peculiarity, for many a summer's evening at the borders of the woods is made sweet by the fragrance of the butterfly orchid, *Habenaria bifolia*, which grows in every clearing of the woodland.

The advance of summer brings in its train flowers which for the most part are old friends, or at least not uncommon, in our hedgerows and coppices. Railway-banks everywhere hide their rude contours and ugly ballast in masses of golden broom. By the roadside the corn feverfew, *Matricaria inodorata*, that little plant so renowned among our forefathers as a cure for fever, shines in patches of white and yellow against the dusty grass. Another herbal plant, *Stachys sylvestris*, the woundwort, is also not uncommon. If the soil is slightly damp, the eye is arrested at once by the variously coloured masses of *Polygala*, red, blue and white, the red variety being the commonest; and this plant is often accompanied by *Pedicularis palustris*.

As the Loir, a sandy, shallow, rapid-flowing stream, has a great tendency to flood after the least heavy rain, or when the sun begins to melt the snows of Auvergne, high banks have been built to protect the towns and villages from the inroads of sudden floods. These are a veritable happy hunting-ground for botanists. The most prominent objects are the silver stars of *Ornithogalum umbellatum* and the handsome pink flowers of the common soapwort, which thrust out their heads from among the thick matted brambles.

Many interesting flowers are always to be found in crannies of the old walls and in the cliffs, which are still inhabited by human beings, as they have been, many of them, from before the dawn of history. The various species of *Sedum* make the walls white and yellow: wallflowers grow high up above the cornices of these modern troglodytes, and the larger snapdragon, *Antirrhinum majus*, is not uncommon. To the French peasant it is not the fabled dragon that this flower represents, but rather the pest that still lurks in the depths of the forests, the wolf; their name being the *gueule de loup*, "wolf's throat."

That interesting parasite, the mistletoe, is very abundant in Touraine, growing everywhere. The peasantry still recall the old days, long since passed away, when the Druids went at New Year into the heart of the woods to cut the sacred mistletoe with their sickle-shaped knives. They present each other with whorl-shaped cakes which they call "Aguianeu"—*à gui, l'an neu(f)*—"to the mistletoe, 'tis the New Year." So many centuries of Christianity have failed to eradicate this remnant of paganism from the race.

While magnolias flower in their gardens and peaches and apricots ripen like apples in the open, the wild flowers of Touraine are not so very different from those of England. The old poets—the "Pléiade" as they were called—Ronsard and his companions, could celebrate the same flowers as the old English poets, for nearly all the "Pléiade" lived round Tours. The house of Ronsard, an old timbered farm on the banks of the Loir, is still to be seen. It was round Tours that that gentlest of poets sought in Nature the inspiration for his poems, and there he sang to Hélène, mourning the time when she,

"*une pauvre vieille accroupie*," should say "*Ronsard me célébroit quand j'étois jeune*." There, too, lived his friend, another old Nature-poet, Remy Belleau, who sang so sweetly of the vintage, and it was, without doubt, the spring breeze wafting the fragrance of the cowslips down the sandy Loir, which he recalls in his poem to the "*douce haleine*," the gentle breath of April.

LEONARD H. DUDLEY BUXTON.

A FISHERMAN'S NOTES.

IKE Kingsley and Magee, I love the riverside and the place of waters. The moss-covered shrine, where the spring bubbles forth and the water shrew dives to its heart's content, is just as much a joy as the bends of the river where still waters run deep, or the rapids swirl the May-fly over the pebbles to the trout below.

The canal with its flowering rush, the reservoir with its wild ducks, the sedgy mere with its great pike and crested grebes, the village stream with its old kettles and minnows, I have fished them all, and 10,000 fish have gone to feed both the hale and the sick of three parishes. The broken worm heals, it has no consciousness of pain as we have, the artificial fly no one can object to, unless some rare bird, like the Dotterel in Northumberland, is unnecessarily sacrificed for a few of its feathers—and two instances make me think that fish, though they fear the sight of a man at the end of a rod, yet do not feel pain to any marked degree. Once, in Hampshire, I broke my Stewart tackle with three hooks in a good trout round a snag, but half an hour later the same trout came boldly at another worm, and after extracting my old hooks from deep in its gullet, I fitted the broken cast together again for my companions to see. Again, a parson friend of mine, whilst fly-fishing in Dorset, got broken by a trout which bored down amongst the iron hooks placed at the bottom of the pool to prevent netting. Shortly afterwards he was surprised to see a trout still taking May-flies at the tail end of the pool: he landed it with his net and found it was the one he had lost, ripped open so that it could not sink. Where the cruelty comes in is in not killing the fish at once, when caught, with a good blow on the head, or, in the case of eels, on the tail as well. Let no one imagine that the men they see standing like statues by the Nene, or casting and casting again and again on Ravensthorpe Reservoir, catch nothing—they do—but fishing needs great patience, a thorough knowledge of the water and a constant study of wind and weather and the habits of the fish. The red-letter days and the heavy creel come to us all, as well as the days when no art or skill or patience avail us. The biggest fish are the

ones we lose (so we are apt to think), and the ones we do capture are sometimes reputed to grow heavier after death, so if you want credence as an angler take reliable scales when you go a-fishing. Remember the surprises, too. Do not shout to the cluster of admirers on the bridge, "I'm into a big one," and then slowly lift an ancient boot or an old tin can full of mud from the bosom of the village pond—and, again, those extraordinary rushes and turns of what you take to be the pike of your life may be but the extended frame of an old umbrella! *Experientia docet.* Newts and fresh-water mussels will at times take a worm; gudgeon and perch a sunk fly; and once, in a shallow pond, I took a half-pound eel hooked in the mouth on a "black gnat."

Ah! those evenings on the Dorset Stour, when the sight of the dace rising briskly here and there, a lusty trout furrowing amid the myriads of black gnats worked off the day's visiting, with its soothing down of petty quarrels, and its diagnosing and disposing of multitudinous symptoms of old age! These tempt my pen to flow freely—but no, let me record some of the sights and the surroundings of the fisherman, which outlast all the successes. Oxford life makes me think of the families of stoats and weasels I have seen swimming the river to gain a shelter from the floods in Magdalen Walks, and the hosts of mice which had preceded them, or I think of watching a robin greedily feeding on a "lasher" on fresh-water shrimps, or the many nests of reed warblers in the Don's Walk. The otter at home, with a broad path through the grass leading to its cubs' holt on the tiny island in mid-stream; my fellow-fisherman, the kingfisher, several times perching on my rod in front of me; the thieving magpie getting the dace out of my linen bag and devouring the lot; or the persistent stoat coming again and again on the mud of the river bank at low water on its deadly raid on the water-voles' nursery—these are some of the lessons of the Stour. The clear chalk stream Test, with its lordly salmon lying so still beneath the bridges above Southampton water, and its biggest trout year by year at the mouth of Romsey drain, was a continual delight, with wild nature at its best. Or, we go to the North in spring to the Rede and the Coquet—on the former we catch many trout, but better far to hear and see the "drumming" snipe, the redshank, the dipper and the dunlin in their haunts with the curfew, the grouse, the blackgame and the golden plover.

On the Coquet we get only one trout between us, but there are two pairs of winged plovers, three lesser black-backed gulls, and as I go down stream to meet my chum, who is fishing up towards me, a moorhen dives and goes up a tributary close to my feet, and I notice it uses its wings as well as its feet under water. My college chum may be beaten when we compare our bird lists for the day over the evening pipe. But, no, he has seen all that I have, and beaten me by a kestrel and a

sparrow-hawk, which were visible to him on the front seat of the dogcart, but not to me behind, as we drove through that lovely valley near Hepple, which he said reminded him of the Yosemite Valley in miniature. The Midlands? Yes, I have learnt something here as well. The water rail can swim, and resembles the moorhen in its actions both afloat and ashore: a stoat ran over my hands resting on a plank at the head of Kelmarsh Mere. I noticed a weasel killing young moorhens on the island at Teeton House Pond, apparently for the sheer love of killing alone; whilst at Cottesbrooke—where I have watched a family party of that most graceful of British birds, the grey wagtail—I was once fishing for chub, when a great squealing made me look at the rabbit burrow on the opposite bank and a three-part grown rabbit scuffled out with a huge rat hanging to its flanks. With a great effort it shook the rat off and fell into the pool: the rat followed and again laid hold in the water, being the faster swimmer: then I hurled a brick at him, and both swam out and again retired down different holes, but I heard no more. These are only a few of the things I have seen, but they may help some others to study and learn and enjoy wild nature by the water-side, and ponder over its parables as the river flashes past them on its way to the sea. Once, at eventide, I reached the secluded village of Kislingbury: the boys were just unstringing their rustic rods on the bridge; but at the likeliest bend of the stream the veteran was before them. There he sat, a working man, with good grey hairs, well over the allotted span of three-score years and ten—his rod was dark with age and use—alert, with the enthusiasm of youth still strong upon him. Would that he were a parishioner of mine! I might learn more; still, it did one good to see him, and may I, as a fisher of men, amid the failures of village life, the days and years when we seem to catch nothing, keep a like zeal and hope ever brightly burning, to realize the better the undying truth of that fisherman's text, "In patience possess ye your souls."

W. A. Shaw.

MORECAMBE BAY.

SOME notes on this great Bay and its features of interest may be acceptable to naturalists, differing as it does from so many other openings on the English Coast. The name is of Cymric origin and means the sea. The best view point is the summit of Hampsfell, 730 feet above the Bay and close to it. Probably the view from this hill can on different occasions vary more than any other view in Britain. One day you may see the Bay a great sheet of water, from shore to shore, a dozen miles across at its mouth. A few hours later the Bay will be an equally large expanse of glistening sand with the sea many miles away. Soon the silvery moisture drains off and a desert of brown sand equal in area to a small county

extends away to the horizon twelve or fourteen miles off. In summer the sand becomes very firm and dry. The view from this hill on a summer evening is sometimes perfect.

The sea, blue as an Italian lake, creeps over the orange sands. To the north and east lie the Cumbrian and Pennine Mountains, the most noticeable being Black Coomb. Scafell Pike, Coniston Old Man (Alt Maen—High Hill), the Langdales, Helvellyn, Red Screes, Whernside and Ingleburgh.

Well do I remember a September evening a few years ago, when I was waiting for a train at Kent's Bank Station. A great thunderstorm was raging out at sea. The night was dark and lowering. The sands, wet and sodden, were illuminated every few seconds by the most extraordinary crimson lightning. The effect was most impressive.

The sand in the Bay is largely augmented by soil, so that, when wet, it readily earns the title of "mud" which visitors often give to it. When the sands are really dry, however, one may walk or cycle over them for miles. The local schools play hockey here, and sand yachts on motor platforms break the speed limit at Grange. The Bay is formed by two estuaries, that of the Kent (Cymric—clear), which rises near Bell Mountain, and that of the Leven (Cymric—smooth), which drains Windermere. The latter is crossed at Ulverston (Ella's stone—Viking) by a great railway bridge. Here is a small port which can boast of "the shortest, straightest, deepest and widest canal in England." At Arnside another bridge of equal size crosses the Kent estuary. The soil to the south of the Bay is millstone grit, that to the north limestone and Silurian. Near Humphrey Head a small patch of conglomerate crops up. The great cliffs of the Head, as also those of Whitbarrow Scar, are limestone. Whitbarrow Scar (800 feet) rises precipitously on almost every side and is probably the whitest hill in Britain, since there is very little soil upon it and the rock is so much covered with a white lichen.

Bird life, such as it is, is abundant. Great flocks of gulls paddle on the sand and their weird cries are sometimes almost deafening. At Foulshaw Moss and near Fleetwood are great galleries. A famous one is to be seen on Walney Island. At Dallon Tower a heronry is created, and numbers of these birds may frequently be seen on the sands. Gannets sometimes appear, but are at once shot.

Deep-sea birds, puffins, razorbills, cormorants never visit the Bay, yet some years ago I once found the beach below Humphrey Head strewn with the bodies of these birds. They must have been killed out at sea and carried up the Bay by the tide. Hawks and jackdaws are common, the latter especially, about the cliffs at Humphrey Head and amongst the ruins of Peel Castle in the Pile of Fouldray near Barrow.

In winter the Bay is occasionally an extraordinary spectacle, being literally arctic. Great ice blocks churn around the viaducts and are piled high along the shore. The whole Bay is a mass

of ice hummocks, many of great size. Seals often appear, but are promptly captured and exhibited. In the great cave at Humphrey Head, above the once famous spa well, the last "native" British wolf resided, but was slain in a great hunt organized at Wraisholme (Norse), the old "peel" town close by. Arnside Tower, high up the Kent estuary, was in fairly perfect preservation until some years ago when the western wall was blown down by a great gale. This peel stands on high ground overlooking the sea, close to the "screes" of Arnside Knot. Hazelslack Tower is close by. These three towers were built by three sisters. They are found only on the outskirts of the lakes. The interior was safe against invasion. Cannon-balls are frequently unearthed at Wraisholme. These towers were much needed in the "good old days."

The horned poppy, wild privet, deadly nightshade, sea aster, glasswort, sea lavender, sea pink and samphire are to be found on the great saltmarshes. In the woods, sloping to the shore, are great masses of lily of the valley, Lent lilies (daffodils), primroses and hyacinths. Ferns are abundant and children eagerly hunt for the scarlet fairy cups. Shells are scarce with the exception of the cockle, and this introduces *the* great industry of the sands. Cocklers follow the fast ebbing tide to the distant beds, maybe "Yeoman's Bank" or "Cartmel Wharf," and in all weathers men and women clad in weird but serviceable apparel earn their living in procuring cockles, which are sent off from Cark and other stations to Manchester and the South. In a good year 700 tons of fish leave Cark station.

Seaweeds are scarce. Crabs are to be found in a few rock pools which exist. Jellyfish of large size are sometimes seen. A dead starfish is sometimes carried far up the Bay by the tide head which in places resembles a mill race. Porpoises and sturgeon have been captured near Ulverston. Salmon are caught at Greenodd. Flukes are netted in the hollows and they can also be speared in the Channel, but as it is all chance whether one hits one or not, this may have started the phrase "That's a fluke." Fossils of many kinds, ammonites, encrinites and others occur in abundance at Arnside and Humphrey Head. The "channel" or "la" is the name given to the river when it has flown out into "the sands." These channels are constantly shifting either by a gradual edging away or by the sudden formation of an absolutely new bed. The old bed or "brak" is apt to become deep in places before filling up and is a danger to those crossing. Formerly the Kent flowed past Grange and Kent's Bank. Suddenly the river left, the sand silted up, and the piers have been allowed to go to ruin. In 1905 the river was four miles from Grange eating away the whole of a great saltmarsh at Silverdale. The river and the tide together removed 1,500 acres of turf in a few weeks. Silverdale is now once again at the seaside as it was eighty years ago, and steamers anchor where recently sheep grazed at high water. Formerly the Bay was deeper but narrower. In many places there are traditions

of great saltmarshes which have been entirely removed. Such a marsh (in 1700) extended between Wharton Scar and Hest Bank. No signs of this now exist. Near Aldingham several villages have been entirely swept away. For generations the Leven flowed past Bardsey, and in 1807 a great expanse of sandy marsh was reclaimed (on the opposite shore) and two farms built, the land providing thirty-eight fields, being protected from the sea by dykes. In 1828 the river rapidly crossed the estuary and removed the whole of West Plain. It then went away again.

When the railway was built 20,000 acres were reclaimed. For many miles the line is carried on great stone dykes which divide the sea from the reclaimed land. Before the railway came the only communication between the south was by the "Ten Mile Sands" to Lancaster. The crossing was frequently attended by loss of life. A Roman army under Agricola crossed in 79 A.D. Quicksands have claimed many victims, but they can always be recognized by their smooth shiny appearance and absence of ripple-marks. Heavy vehicles, coaches and motor cars have been caught and sometimes lost. Accidents with the tide up have been rare. In 1894 the "Matchless" yacht foundered and about twenty-eight lives were lost. Ten years after to a week there occurred the Sandside Ferry disaster. A few years ago a south-westerly gale broke through the dyke near Arnside and the land for a mile inland was totally wrecked. Shortly afterwards the mail train was overturned by the force of the wind on the Leven Viaduct, but fortunately fell on to the other rail. Every evergreen tree turned brown and the salt spray was carried far inland. It is some months since the last gale.

Grange-over-Sands. R. C. LOWTHER.

SELBORNIANA.

GILBERT WHITE AND SUSSEX. — We have much pleasure in directing the attention of our members to an elaborate paper with this title, by Major W. H. Mullens, M.A., LL.M., illustrated with nine plates, which appears in the volume of *The South-Eastern Naturalist* for this year. It was read at the Congress of the South-Eastern Union at Hastings, on June 11, and in its wealth of information, hitherto unpublished, is to any lover of the naturalist of Selborne well worth the price (2s. 6d.) of the whole volume. It is published by Mr. Elliot Stock.

THE BRENT VALLEY BIRD SANCTUARY.—The Committee of the Brent Valley Bird Sanctuary are now making arrangements for putting up a large number of nesting-boxes, as those which have already been in use have been most successful. Members are invited to send boxes to the Honorary Secretary of the Branch, Mrs. Wilfred Mark Webb, at Odstock, Hanwell. If it is preferred, a shilling may be sent, which will insure the

erection of a nesting-box. It is intended to number all the boxes and keep a register with regard to them, so that members may hear of the success, or otherwise, of the boxes which they contribute.

Bird Protection in Australia.—In addition to the Bill prohibiting the export of the plumes of lyre-birds and egrets from Australia, the Customs authorities of the Commonwealth are framing a regulation prohibiting the importation of such plumes and skins for ornamental purposes.

Danger to Dartmoor Megaliths.—We regret to hear that the famous avenues of prehistoric stones at Merrivale Bridge, near Princetown, are in some danger from the proposed construction of a light railway. It is apparently thought that an undertaking not to go within 200 ft. of the longstone or menhir is sufficient; but it ought certainly to be possible on an open moorland, such as Dartmoor, to make a détour which will avoid the whole of this English Carnac. One menhir has already disappeared and two cromlechs have fallen, but two stone circles and two fine parallel avenues, respectively about 5 furlongs and ½ mile in length, remain. These should be jealously protected by the Devon County Council; and we may hope that the newly-appointed Royal Historical Monuments Commission will lose no time in getting to work so as to preserve such priceless memorials of antiquity for those who come after us.

Mr. George Nicholson.—In our last issue we erroneously described Mr. Nicholson as having entered the Royal Gardens, Kew, as a "young gardener." He was trained in the nurseries of La Mouit, Paris; Messrs. Hugh Low, and Company, of Clapton; and Messrs. Fisher and Holmes, of Sheffield; entered the Curator's Office at Kew, after a Civil Service examination, in 1873, and was Curator from 1886 to 1901.

NATURAL HISTORY NOTES.

663. The innocent Owls.—In the pages of the *Standard*, which always welcomes Natural History matter, there has recently been much correspondence, including several most sensible letters, on the destruction of birds of prey. Several correspondents defend the owls. Mr. G. A. B. Dewar writes:—

"It may chance that now and then the tawny owl takes a pheasant chick, but such chances would be quite rare. Our other owls are probably quite innocent. The barn owl, the long-eared owl—who has a true word to say against them? One might as well accuse the little owl, which I have seen in Surrey lately. The tawny owl—and, I suspect, the long-eared owl—will now and then take a small bird from its perch; the furious din the birds set up when these owls move in daylight or on the verge of dusk tells its own tale. But it would be absurd to kill owls because they take toll of small birds."

664. Kingfisher and Swallows alighting on Fishing-rod.—As my brother was fishing in the river Alde, on September 8, a kingfisher alighted upon his rod. Soon afterwards four young swallows also took to perching upon it, flying off and again returning to it at intervals. He was standing among and partly concealed by the reeds growing on the bank, the fishing-rod being pushed out over the water.

Blaxhall, Suffolk. G. T. Rope.

665. **Cuckoos eating Eggs.**—Mr. Daubeny, writing in the October number of NATURE NOTES, says that the "antiquated belief" of cuckoos feeding on eggs has been absolutely disproved. I should like to refer him to a paper read October 26, 1897, by the celebrated authority, J. H. Gurney, F.Z.S., before the Norfolk and Norwich Naturalists' Society, on "The Economy of the Cuckoo" (published in the *Transactions* of that Society, vol. vi.), in which reference is made to an article in *The Field* of January 28, 1882, under the initials N. L. W. (my father). There he remarks: "On skinning it (the cuckoo) I found the crop full of a mash of egg-shells. I carefully examined this mash and succeeded in separating the broken shells, held together by the inside skin, of at least seven eggs, two of which were robins', and the rest either hedge-sparrows' or thrushes', or some bluish eggs." MARY F. WILSON.

Selby Wood, Selby Oak, Birmingham, October 10, 1908.

666. **Night-jar and Chaffinch.**—A case has been reported to me of a night-jar carrying a chaffinch in its bill. An account of this was sent to some sporting paper and the "facts" were said to be "undoubted." I venture humbly to disagree, as those who know the history and habits of night-jars are sure to do. These birds, often called "*night-hawks*," are purely insect-eaters, and hawk about in the evening for moths, beetles, and the like. They sometimes are to be seen on the wing in the daytime, and when so seen five persons out of six would mistake them for members of the hawk tribe. A friend who constantly corresponds with me on matters connected with ornithology, to whom I related the circumstance, says, "I don't believe in the night-jar story. One of them was about the garden here and my brother-in-law mistook it for a hawk, and was not convinced until I showed him the bird sitting long-ways on a Scotch fir branch."

EDMUND THOS. DAUBENY.

667. **Sand Martins.**—A pit here, usually tenanted by sand martins, has been deserted, not one having nested there this spring. Last winter the earth near their burrows had fallen, and this I supposed to be an insufficient cause for their going away. However, they knew better than I, for during the summer the earth has fallen in a way that must have been disastrous to their nests if they had made them there. Many people will call this a case of instinct (blind, of course). To me it is preferable to believe that they were better judges than I of the instability of the ground around their old home. EDMUND THOS. DAUBENY.

668. **House Fly.**—One of the results of my memo. in the pages of NATURE NOTES, a month or two back, has been the sending to me, by a friend, of the "Preliminary Report of the Habits, Life Cycle, and Breeding Places of the Common House Fly (*Musca domestica*) as observed in the City of Liverpool." It appears that owing to observations, an account of which was published in October last year, we "are now in possession of the more important facts relating to the economy of this pest."

The food of the larva consists almost entirely of decayed vegetable matter, horse manure, and spent hops especially. It feeds also on "bread, decayed fruits and vegetables, the excreta of domestic fowls and pigs, and on human excreta in ash pits and stable middens," and is found in the greatest numbers where fermentation has taken place, and the temperature of its habit has been raised. It does not affect very wet or very dry matter, and is absent from receptacles that are cleaned out at short intervals. The barn-door fowl, when allowed free access to stables infested by house flies, keeps down their numbers in a marked degree by feeding on them in the incipient stages of their existence.

EDMUND THOS. DAUBENY, .

669. **Longevity of Seeds.**—In his "Origin of Cultivated Plants" (1884), Alphonse De Candolle writes: "No grain taken from an ancient Egyptian sarcophagus and sown by horticulturists has ever been known to germinate." In the first volume of NATURE NOTES (1890, p. 119) the Rev. Professor G. Henslow has an article on "Mummy Wheat" to the same effect. He mentions the occurrence of seeds of maize in a supposed sample, and explains that on microscopic examination it is always found that the embryo has perished. Our sixth volume (1895) begins with an article on the same subject, by Mr. Carruthers. He alludes to experiments by a Committee of the British Association spread over fifteen years and finally reported upon in 1857, and to "the most authentic case

of an old seed germinating," one of *Nelumbium* sown by Robert Brown after it had been certainly 150 years in a box in Sir Hans Sloane's collection. Mr. Carruthers concludes : " It would be no greater wonder to see the hardened and eviscerated mummy, under favourable treatment, rise up and walk, than to see the grains found in its cerements germinate." In a recently issued part of the *Proceedings of the Royal Society of Victoria*, Professor A. J. Ewart tabulates an extensive series of experiments on a great number of species of seeds several years old. The results vary, and it may be said in general that, whilst many seeds do not retain their germinating power even for a year, other species do so for several years ; but very few for ten, and hardly any for twenty years. G. S. BOULGER.

NATURAL HISTORY QUERIES.

156. Scented Fruit of Rose.—I gathered some large branches of wild rose covered with fine crimson berries, a few days ago, in a hedgerow near Reigate. These I put in water and kept in a very sunny room, when, to my surprise, I found they gave out a delightfully fresh scent, like sweet briar, which filled the room, even with both windows widely opened. At first I thought it must be sweet briar I had, which one sometimes finds growing as an escape in country lanes, but it could not have been, as the leaves had no scent on being bruised. Can anyone offer an explanation ? E. M. NICHOLSON.

ASTRONOMICAL NOTES FOR NOVEMBER, 1908.

Mercury will be visible as a morning star towards the middle of this month, rising on the 12th at 5.18 a.m., nearly two hours before the sun. At greatest elongation west of the sun on the 13th, he should be seen to best advantage from that date until the 23rd.

Venus is a brilliant morning star, rising on the 4th at 3.6 a.m. Near Mars on the 30th.

Jupiter is in Leo, not far from Regulus, and souths between 6.30 and 7.30 a.m. during the month. In conjunction with the moon on the 17th at 9.42 a.m. (Jupiter 4 deg. 20 min. S.). Satellite III. will transit his disc on the 4th at 1.52 p.m., the 11th at 6.4 p.m., the 18th at 10.13 p.m., and the 26th at 2.18 a.m.

Saturn is in Pisces below the Square of Pegasus, and is now very favourably situated for telescopic and naked-eye observation. He is due south between 8 p.m. and 9.30 p.m., and sets in the early morn.

The Variable Star Argol in Perseus will be at minimum lustre on the 1st at 5.34 p.m., 18th at 10.27 p.m., 21st at 7.16 p.m., and 24th at 4.5 p.m.

Meteors from the well-known radiant in the Sickle of Leo will be very active this month, being at a maximum on the nights of November 13, 14 and 15. Also from Andromeda from November 17 to 23.

The New Comet discovered by Mr. Morehouse is now fairly conspicuous, being visible to the naked eye. Its brilliancy will increase until about the middle of the month, and it should be seen to advantage from the 10th to the 20th, as our satellite will not interfere in the early part of the evening. On the 5th the comet will be slightly to the north of Zeta Aquilæ, and on the 7th will pass between Zeta and Epsilon Aquilæ.

IRENE E. T. WARNER.

REVIEWS AND EXCHANGES.

The Story of the Sea and Seashore. By. W. Percival Westell. With eight coloured plates and 128 other illustrations. 8 in. × 5¾ in. Pp. 343. Robert Culley. Price 5s. net.

Considering the rapid succession of Mr. Westell's books for juvenile naturalists, their general standard of accuracy and excellence is, we think, remarkable. The author lives in an inland town, but he writes familiarly of sea cucumbers, barnacles, sandhoppers, and other common objects of the seashore, to say nothing of whales, fish, birds, and shore plants. Sir E. Ray Lankester's " first name " is

Edwin, not Edward; and the common Bladder-wrack is *Fucus vesiculosus*, not *versiculus* or *versiculosus* as it appears on p. 313 and on fig. 117; but these, after all, are small matters. The illustrations are excellent, and both these and the letterpress are so comprehensively varied that the volume will form a welcome gift to any boy or girl sojourner by the sea.

From "Evesham and its Neighbourhood." Drawn by E. H. New. (See p. 195.) By kind permission of the Homeland Association.

How to Attract and Protect Wild Birds. By Martin Hiesemann. Translated by Emma S. Buchheim. With an introduction by the Duchess of Bedford. Illustrated. $8\frac{3}{8}$ in. × $5\frac{1}{2}$ in. Pp. 86. Witherby and Co. Price 1s. 6d. net.

This is a detailed account of the nesting-boxes, food-house, food-bell, &c., designed after a careful study of the habits of birds by Baron von Berlepsch at Seebach, in Thuringia. Some of these appliances can be seen at the offices of the Royal Society for the Protection of Birds, where four different sizes of nesting-box can be purchased. The pamphlet, which is well got up in a stout cover, also gives much interesting information as to bird protection on the Continent, and the formation of shelter-woods by pruning in districts where birds are scarce.

Birds and their Nests and Eggs found in and near great Towns. By George H. Vos. Illustrated, from photographs of each bird, its nest and eggs, by the author. Second Series. $7\frac{3}{8}$ in. × 5 in. Pp. 223. Routledge. Price. 1s.

This is the second part of a description of the author's bird's-nesting rambles near London, the first part of which was published in 1907. Only twenty-two

ABBOT REGINALD'S GATEWAY, EVESHAM.

Before the restoration in 1899. From an etching by E. H. New. From "Evesham and its Neighbourhood." (See p. 195.) By kind permission of the Homeland Association.

species are dealt with here ; but each of these is fully described, with its nest and eggs, with uncoloured plates of the latter, in addition to some fifty other illustrations of the birds and their haunts, many of which are excellent pictures, and the narratives of the rambles from January to June. Well printed and bound, it is certainly a cheap book, and we are glad to note that the author proposes a third series dealing with less common birds.

Trees Shown to the Children. By Janet Harvey Kelman, described by C. E. Smith. With 32 coloured pictures. $6\frac{5}{8}$ in. × $4\frac{3}{4}$ in. Pp. 131. T. C. and E. C. Jack. Price 2s. 6d. net.

We suppose children prefer pictures badly coloured to those not coloured at all, and this must be Miss Kelman's defence. This volume is cheap ; C. E. Smith's descriptive matter is excellent ; and there is not much fault to find with the drawing of the details, leaves, flowers, and fruit. The pictures of the whole trees, however, are examples of a "blotesque" treatment which, to our mind, eliminates all the distinctive characters of the trees. The series to which this book belongs is of Scottish origin, so that the somewhat misleading character of the following paragraph is not surprising : "Near London there grew a famous wood called Boxhill, and when the trees in that wood were cut down they were sold for £10,000." It is hardly necessary to tell Londoners that Boxhill, though nearly twenty miles from London, still exists, and that its box-trees, though felled many years ago, are fine specimens to this day.

Garden Rockery : How to make, plant, and manage it. By Francis George Heath. With 45 illustrations. $7\frac{3}{8}$ in. × 5 in. Pp. 173. Routledge. Price 1s.

In this little volume the veteran author gives us much practical information. As might be expected from so well-known a lover of ferns, ferns figure largely in his work ; but flowering plants, though not dealt with in the detail of Mr. Reginald Farrer's works, are not overlooked ; while Mr. Heath's practical suggestions as to beautifying walls and constructing rockeries, large or small, *ab initio*, are invaluable.

The Extinction of Cryptogamic Plants in Ireland. By A. R. Horwood. Reprinted from the *Irish Naturalist*.

We hope shortly to print an extract from this interesting interim report of a detailed study which Mr. Horwood has undertaken. He speaks with approval of the protective legislation proposed by the Editor of NATURE NOTES, and is sanguine enough to follow Professor Conwentz in advocating the appointment of a Government Botanist in each county !

Ealing Scientific and Microscopical Society : Report and Transactions for 1907-8.

This Society, which admits the members of our Ealing and Richmond Branch to its meetings, is to be congratulated on its thirty-first annual report. In addition to the list of members and brief meteorological notes for 1906 and 1907, it contains abstracts of the lectures given, the subjects of which are so varied that they can hardly fail to yield some interest to every intelligent reader. Whilst making no pretence to the first publication of original matter, they in no way transgress the subject matter suitable to the publications of a local society.

Missouri Botanical Garden : Eighteenth Annual Report. $9\frac{5}{8}$ in. × $6\frac{1}{2}$ in. Pp. 256. With portrait and 24 plates. St. Louis, 1907.

This sumptuous volume equals any of its predecessors in interest. It contains a synopsis of *Furcræa* by J. R. Drummond with four plates ; papers on *Yucca* and *Eu-agave* by the Director, Dr. William Trelease, with six and seventeen plates respectively ; the third part of J. W. Blankinship's enumeration of the plants collected by Ferdinand Jacob Lindheimer (1801-79), with a portrait of that botantist ; two short pathological papers by Dr. von Schrenk ; and several others.

The Country Home for August, September and October, certainly maintains the high standard achieved by three first issues of this magazine. It is difficult to make a selection for mention where so many excellent articles compete for notice. The interesting home of the Canterbury Weavers and Little Wolford Hall, described in the August number ; the magnificent oak carving of Red

Lodge, Bristol; and Barley Wood, with its association with the memory of Hannah More, in the September issue, appeal to the lover of architecture; whilst Mr. Pike's paper on Owls, Mr. Bastin's on Gulls, and Mr. Weaver's on the Bulrush in commerce represent Natural History. As we have before remarked, gardening, sport, cookery, and hygiene are not overlooked.

The Changeling. By Sir Digby Pigott. With many illustrations, 6½ in. × 5 in. Pp. 183. Witherby and Co. Price 2s. 6d. net.

Variously described on prospectus and title-page as "What a boy, whose eyes had been opened, saw of the real life of the wild creatures round his home," as "The story of a boy who, under fairy guidance, leads the life of many Birds and Beasts," and as "A Nature story for boys and girls," this attractive little volume is a connected series of fairy stories, which, as every child should know who has heard *The Water Babies*, read, or has seen *Peter Pan*, are all strictly true. It is illustrated with four coloured plates and many other pictures, and is destined, we think, to be popular with the young folk.

Hull Museum: Quarterly Record of Additions, June, 1908. Brown and Sons, Hull. Price 1d.

We have before called attention to the way in which the versatile curator of this museum, Mr. Thomas Sheppard, by utilizing reprints from the *Eastern Morning News*, is able, at the nominal price of a penny, to supply a full description (extending to forty closely-printed pages and well illustrated) of the multifarious additions—all of a strictly local character—acquired by the collection during the quarter. With accounts of a tunnel-shield, mediæval tiles, a Roman pavement, Hull glass and local spring flowers, this number is at least as interesting as any that have preceded it.

One and All Garden Books: No. 15, *Peas*, by Horace J. Wright; *No.* 16, *Tomatoes*, by W. Iggulden; and *No.* 17, *Beans*, by R. Lewis Castle. Agricultural and Horticultural Association. Price 1d. each.

Like the previous numbers in this remarkable series, these are three eminently practical and fully illustrated handbooks for the cottage gardener.

The Ethics of Nature. By M. Deshumbert. Translated from the French by I. M. Hartmann. London: D. Nutt.

As we intimated in noticing the original, we are not impressed by this French treatise on Natural Ethics. When we are told that "each living cell, each plant, each animal, each living being, by the mere fact of its being alive, wishes to live fully and completely, and desires the expansion of its whole being," we ask for scientific evidence of the wish. The advice, "Consult your dentist at least twice a year," though practical, appears somewhat arbitrary. The translation is well done, but "badiane" should be "anise."

Received: *The Fern Bulletin* for July; *The American Botanist* for August; *The Victorian Naturalist* for September; and *The Naturalist*, *The Irish Naturalist*, *British Birds*, *The Animals' Friend*, *The Humanitarian*, *The Agricultural Economist*, and *The Estate Magazine* for October.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

New Members.—*Central Society.*—The following candidates stand for election: A. I. Alliott, Esq., M.D.; Mrs. A. I. Alliott; Mrs. Andrews; F. D. Barnes, Esq.; Miss Minnie Bates, L.L.A.; J. W. Batterham, Esq., M.B.; Anthony Belt, Esq.; Robert Benington, Esq.; A. T. Bevan, Esq., J.P.; F. W. Blackburne, Esq.; Alfred Blackie, Esq.; Dr. Arthur S. Blackwell; James E. Blomfield, Esq., M.A.; Miss A. S. Booth; S. V. Booth, Esq.; William Lawrence Bradley, Esq.; Edward G. Bretherton, Esq.; Miss Zoë Brewer; Dr. T. W. Brown; Miss Leigh Browne; Miss M. A. Browning; The Rev. Reginald Bull; Mrs. Frank Burrows; Miss H. Mary Carson; The

Rev. H. B. C. Collins; H. W. Cook, Esq., B.Sc.; H. W. Corke, Esq.; W. J. Corke, Esq.; W. H. Counsell, Esq.; H. W. G. Crawford, Esq.; William Chas. Cripps, Esq.; The Rev. Charles S. P. Darroch; Miss Isabel Day; Th. A. Delcomyn, Esq.; Miss M. E. Dew; Dr. R. J. Dick; William A. Diggens, Esq.; The Rev. R. James Doble; The Rev. F. N. Eden; Edgar Elliott, Esq.; Mrs. E. Elliott; Miss Ferguson; John B. Footner, Esq.; Frank Fraser, Esq.; Mrs. John Godden; Dr. R. Grace; Charles J. Grass, Esq.; R. F. Halland, Esq.; Miss Sophie Hare; Geoffrey Secombe Hett, Esq., M.B., F.Z.S.; Arthur Hickmott, Esq.; W. Hitchcock, Esq.; Paul Hodgkinson, Esq.; W. A. Hoffmann, Esq.; Fred Hooker, Esq.; Robert R. Hutchinson, Esq.; George E. Jennett, Esq; The Rev. F. H. Jones; F. Lloyd Jones, Esq.; J. R. Jordan, Esq.; Miss M. C. Kennedy; Miss M. Kerby; George J. Kimmins, Esq.; Henry R. Knipe, Esq.; Professor Carlton Lambert; F. G. Langham, M.A., LL.B., Esq.; Dr. Locke; C. Lowry, Esq.; Mrs. C. Lowry; Miss C. S. Lowry; Miss Elinor Lucas; Dr. W. H. C. Macartney; M. Makalna, Esq; P. A. Mansfield, Esq.; V. Marriott, Esq.; William S. McDougall, Esq.; Herbert J. McGill, Esq.; F. H. Midwood, Esq., M.D.; D. B. Milbank, Esq.; Mrs. M. A. Morey; Dr. Nield; Lady Oakeley; Thomas Okey, Esq.; Miss Constance Parkhurst; Thomas Parker, Esq., M.A., F.Z.S.; Richard Pelton, Esq.; J. F. Primrose Pechey, Esq., F.R.G.S.; John Petrie, Esq.; T. Redmayne, Esq.; Edward E. Rimell, Esq.; Miss A. H. S. Ritchie; Richard Roberts, Esq.; Rev. J. Rookes; J. Russell, Esq.; Dr. J. Easton Scott; Mrs. I. M. Seaman; J. G. Selcock, Esq.; Robert J. Sells, Esq.; Miss F. Seton; Miss E. M. Skepper; Miss F. E. Skepper; C. G. Skyrme, Esq.; Albert J. Southborne, Esq.; Dr. Stamford; D. R. Stephen, Esq.; Rev. Charles E. Story; Miss K. E. Styan; F. Swanzy, Esq.; Rev. C. J. Terry; Dr. Basil L. Thurlow; Norman F. Ticehurst, Esq., M.B.O.U.; Rev. L. S. E. Trousdale; Frederick Tuppenney, Esq.; Arthur Tyler, Esq.; Miss B. Wadsworth; Miss R. E. Watson; Ernest B. Wickes, Esq.; S. H. Williams, Esq.; A. S. Wilson, Esq.; Claude Wilson, Esq., M.D.; Rev. F. H. Carus-Wilson; Miss M. E. Worcester.

Junior Branches.—Applications have been received from the following for the formation of Junior Branches: Miss M. A. Browning, Beehive School; Miss A. H. S. Ritchie, Newton House School; W. H. Counsell, Esq., St. Aldate's School; The Rev. Reginald Bull, St. Andrew's Preparatory School; Miss M. E. Worcester, Thornleigh School.

Subscriptions.—Subscriptions of greater value than 5s. have been received from the following: Dr. W. H. C. Macartney, £1 1s.; Mrs. I. M. Seaman, £1 1s.; F. Swanzy, Esq., £1; W. H. Counsell, Esq., 15s.; William S. McDougall, Esq., 10s. 6d.; H. R. Knipe, Esq., 10s. 6d.; Mrs. Morey, 10s. 6d.; Arthur Tyler, Esq., 10s. 6d.; A. Scarlyn Wilson, Esq., 10s. 6d.; F. D. Barnes, Esq., 10s.; Mrs. Godden, 10s.; W. A. Hoffmann, Esq., 10s.; Professor Carlton Lambert, 10s.; Matthew Makalna, Esq., 10s.; Herbert J. McGill, Esq., 10s.; Chas. G. Skyrme, Esq., 10s.; Miss Worcester, 10s.; and donations from the following: Miss I. Day, 5s.; Th. A. Delcomyn, Esq., 5s.; Miss M. E. Kennedy, 5s.; P. A. Mansfield, Esq., 5s.; The Rev. F. Carus Wilson, 5s.

Library.—The Honorary Librarian will attend at 20, Hanover Square, on the evenings of November 16, and December 21, from 6 p.m. to 6.30 p.m., for the purpose of issuing books to members.

The Honorary Librarian has pleasure in announcing the following additions to the Library: "Flowers and Plants for Designers and Schools," by Henry Irving and E. F. Strange; "The Lore of the Honey-Bee," by Tickner Edwards; "The Young Botanist," by W. Percival Westell, F.L.S., M.B.O.U., and C. S. Cooper, F.R.H.S., all kindly presented by the Editor.

EXCURSIONS.

Saturday, September 12.—Thirteen Selbornians assembled at Grange Hill Station and walked to the enclosure bordering on Hainault Forest, known locally as the Recreation Ground. This is a well-wooded plot, and was at one time and integral part of the Forest. The black bryony in berry was very abundant,

and the heather also made a brave show. A sharp shower drove the party to tea, after which a further ramble was made into the Forest proper.

Saturday, September 19.—Thirty-five Selbornians and friends, disciples of Ruskin, favoured by fine weather, passed a very enjoyable and interesting afternoon visiting his two former homes, and other places at Herne Hill "Where Ruskin loved to dwell." The starting point was Ruskin Park, opened to the public February 2, 1907, which contains the house and grounds occupied by Capt. James Wilson from 1799 till his death in 1814.

Few biographies are so interesting as that of Capt. Wilson. He was born in 1760 at Newcastle-on-Tyne, the nineteenth child of a ship captain of that town. When only 15, he served in the British ranks at Bunker's Hill and Lexington (1775). He afterwards sailed as mate on an East-Indiaman to Calcutta, and went through a series of perilous adventures, including the running of the blockade of the French fleet and conveying food and paddy to the starving British troops only just in time. In 1782, when carrying military stores for Sir Edward Hughes, he was captured and taken prisoner to Cuddalore. The facts of his imprisonment far outdo the fiction of Dumas. By a gross breach of military honour, the French Admiral sold him and other British prisoners to the pitiless Hyder Ali for 300,000 rupees. He escaped, overcoming almost insuperable obstacles, and swimming the three branches of the Coleroon River, only to be recaptured and cast, after a weary march of 500 miles, into the Black Hole of Seringapatam, with 153 others. Here, starved and manacled, he stayed no less than twenty-two months, when, British victories forcing Hyder Ali to release his captives, he regained his freedom. Of the 153 who went in, only 32 came out alive. He resumed service, and having amassed sufficient wealth to enable him to retire, he took passage for England in 1793 and settled at Horndean, near Portsea. After a few years, he offered his services to the London Missionary Society, and was given charge of their expeditions. He purchased a vessel, the "Duff,"—"a floating church"—and in September, 1796, sailed on a cruise of 50,000 miles to New Zealand and back, arriving home again in July, 1798. For the freight of the cargo of tea from China the East India Company paid the London Missionary Society £4,000, and for the copyright of the record of the voyage Mr. Chapman, of Fleet Street, gave £2,000. Thenceforward, he took up his abode in Denmark Hill until his death. The shelter in Ruskin Park is now the only remaining portion of the house in which he lived.

The party next visited Ruskin Manor, where Ruskin lived from 1843 to 1871, with its beautiful grounds, the lovely Ruskin walk, quite covered in by trees, and the little garden-house where so often the great master used to sit. Then were pointed out the bedroom and the room on the first floor where he wrote many of his great works. It was noticed that there are three windows now, whereas the middle one was a blind window in Ruskin's time.

From the grounds the party saw into those of the adjoining Bessemer House. Here, presumably, Sir Henry Bessemer had his remarkable experimental furnaces for converting steel, his condensed solar heat furnace, and the model of his steamship which was to relieve mankind of the terrors of sea-sickness by having its saloon and interior so balanced as to be unaffected by wave-motion, but which unfortunately failed. Sir Henry writes that when the boat built to his designs did not answer her helm on entering Calais Harbour, and ran into the pier with disastrous results, in five minutes he lost £34,000.

Next was visited No. 28, Herne Hill, perhaps still more cherished by admirers of Ruskin on account of its having been the house where Ruskin spent his youth from his 4th year to the age of 24. After inspecting the historic garden, which was for Ruskin almost his only recreation when he was young, the house was entered. On the first floor were specially pointed out two corners in the front room, in one of which used to sit Carlyle and in the other Ruskin, the former an inveterate smoker and the latter most averse to tobacco, though permitting his great friend to indulge without protest. The nursery and other rooms of interest on the second floor were also visited.

The party then made their way to St. Paul's Church, Herne Hill, to see the beautiful marble tablet to the memory of Ruskin unveiled some years ago by Holman Hunt.

From thence the party proceeded to "Millmount," the residence of the guide, where a series of interesting books were shown. Mr. Emslie, who was a pupil of Ruskin's, then gave a charming discourse on his experience of Ruskin's teaching, and also showed some drawings by Ruskin.

Mr. Snowsill, Librarian of the Camberwell Library, announced that in the Camberwell Library are many Ruskin relics.

A vote of thanks to the guide and hostess, as well as to Mr. Burgoyne, the Head Librarian of the Brixton Central Library, to Mr. Emslie, and Mr. Snowsill, was then passed.

The party finally adjourned to the Herne Hill Carnegie Library. This is one of the few new libraries on the "open access" system in London. Here the Librarian, Mr. Robinson, had a very extensive collection to show, comprising the thirty-six volumes of the latest edition of Ruskin's works, with their beautiful illustrations, also a number of drawings by Ruskin, and many superior editions, a shelf full of his school books, and Ruskin's mother's Bible.

Saturday, September 26.—Having met at Horsley station, a party of twenty-five members proceeded, under the guidance of Mr. A. B. Wilkinson, through the village of East Horsley, with its quaint architecture of cottage and gateway. Leaving Horsley Towers on the left, the party were conducted through West Horsley to the Church, where the Rector (Rev. E. C. Unmack) kindly indicated various points of interest, in particular a fine example of stained glass and a chapel in which was entombed the head of Sir Walter Raleigh.

Following a field-path and keeping close to the hedge, luxuriant with the beautiful berries of the spindle-tree and wild guelder-rose, a delightful bit of wooded slope was ascended. The way led across the Downs, the charming tints of autumn in beech and bracken delighting the eye at every turn. Blackberries were seen in great profusion; here and there late honeysuckle was found; and graceful trails of both white and black bryony were gathered.

Along the open hillside grand views were enjoyed over Shere and Gomshall: Leith Hill was noted; and, against a glowing sunset sky, St. Martha's Chapel stood out in fine relief. This Chapel is interesting in its associations with the memory of Archbishop Langton, and as one of the halting-places on the ancient Pilgrims' Way to Canterbury.

Tea having been served at the Refreshment House, Newlands Corner, a most delightful ramble—regrettably the last of the summer session—was concluded by a pleasant walk to Clandon station.

FORTHCOMING EVENTS.

Council and Committee Meetings.

Monday, November 16.—General Purposes Committee, 5.30 p.m.

Tuesday, November 24.—Council Meeting, 6 p.m.

Excursions.

Saturday, November 28.—The Autumn Meeting of the South-Eastern Union of Scientific Societies will take the form of a visit to the Hon. Walter Rothschild's Museum at Tring. As all arrangements are not yet completed, members who wish to attend should send a stamped addressed envelope to the Hon. Excursions Secretary. Details will be posted as soon as possible.

All communications respecting Excursions should be addressed to Mr. Hubert H. Poole, *Honorary Excursions Secretary* at 16, Heathcote Street, W.C.

ANSWERS TO CORRESPONDENTS.

E. M. Nicholson.—The woolly gall on the beech leaves is that of the dipterous *Hormomyia piligera* (H. Loew).

Ignoramus.—One is sorry to have to condemn one of the most fascinating of our wild animals; but squirrels, when numerous, are undoubtedly most destructive to trees, especially to larch, pines, and spruce. They eat not only the seeds, but also the terminal and flowering buds, and ring-bark the young trees in spring. In extensive woodlands nuts can be spared to maintain a few of these beautiful animals, the keepers merely checking their undue increase.

Nature Notes:

THE SELBORNE SOCIETY'S MAGAZINE.

No. 228. DECEMBER, 1908. Vol. XIX.

A WELSH GLEN IN WINTER.

NATURE, though she may sleep sound elsewhere, only slumbers fitfully in the Vale of Conway during December, keeping her hold on the leaves so long that late autumn seems almost to merge into early spring with no interval of desolation to divide the two. Lovely as are our Welsh gorges and streams in their summer dress of green, they are infinitely more glorious at this season of the year, though few now visit them to record their beauties. Those who only know North Wales in the months of July and August can have no conception of the added grandeur of the scenery when autumn has trailed her skirts over the woods and a first frost has bared some of the boughs. It is a typical December day in our glen, with a grey wind-swept sky, showing here and there bright patches of blue between the masses of heavy clouds that roll down from the mountain passes like smoke from a cauldron, and fitful gleams of sunshine bursting out in wonderful brilliance to make marvellous effects of light and shadow. From this rock you may see up and down the whole extent of the Conway Valley: the river, winding slowly through the marshlands a mile and a half away, is now vivid blue, now inky purple, as it reflects the sun or the cloud: that larch-clad hillside, with the shadowed fields at its foot, shows dark in contrast to the red of the ploughed field on its summit, which is catching the light descending in rays from that one bright patch above. In a few moments all has changed, the larches are glowing gold, the marshlands purest emerald, and the summit is veiled in ethereal mists floating like threads of gossamer down the slopes. Back in the distance, nine miles away, the far mountains are tipped with snow, already rosy pink in the afternoon light, against which the nearer and lower pine-clad hills make a hazy outline of purple. Turning from this wide prospect spread below us, we plunge up the glen with our faces towards the gap whence the mists are rolling. Ages ago a glacier slid down here and left its

mark in the huge boulders that lie scattered everywhere around. Over this rough bed, the stream, swollen by days of incessant rain, thunders along, its brown peat-stained waters churned to the whitest spray as it forces its way in leaping cataracts among the rocks. The stepping-stones, where we cross so easily in July, are deep under feet of foam, and the lower boughs of the trees are washed and swayed by the flood. It is so sheltered that the gale, which has stripped the leaves on the slopes above, has spared enough here to tint the gorge with gold and brown: some of the oaks are still green, that birch is the purest lemon yellow, low-growing mountain ashes and alders have kept their summer clothing intact, and the thick undergrowth of briar and bramble is verdant as ever. Even more beautiful, perhaps, are the bare boughs of the hazel copse, the exquisite tender shades of which are such a subtle blending of purples and greys as to defy the cunningest brush that artist could wield, and, contrasted with an occasional pine, holly, or ivy tree, make a dream of delicate colour. The boulders are almost completely covered with vivid green mosses, in sheets so thick and deep and compact that you can raise a yard at a time with a slight pull, some resembling tufted tassels, some the most delicate ferns, while others show the split cups of their seed-vessels like fairy goblets. Here and there among them we may find a tiny bright red toadstool or two, or some of the larger purple or orange varieties that have lingered on since October, or perhaps, on a hazel twig, the curious bird's-nest fungus with its minute eggs packed neatly inside. The day being mild, a squirrel is taking a whiff of fresh air, flaunting his feathery tail from a fir tree above our heads, and disappearing suddenly into a hollow in the big oak, where, no doubt he has established cosy winter quarters. If we are very fortunate, we may even chance upon a dormouse's nest under the moss and dead leaves, and, gently parting the cleverly woven little grass ball, can discover the owner, plump and sleek and beautifully clean, so sound asleep already that even the warmth of one's hand will not induce him to open his eyes, though he squeals a shrill protest at our interference, which subsides gradually as we replace him once more in his carefully-constructed bedroom at the foot of the wych elm.

Bird life is not very frequent. I do not think most of the birds like the dampness of this wood or the roar of the water: you would find twice as many on the open hillside above, though even here we may notice a dipper darting down the stream, a flight of long-tailed tits twittering noisily for a moment or two in a tree-top, a wood-pigeon scared by our approach, the short, heavy, undulating flight of the great green woodpecker who "yaffles" as he disappears behind the tall ash, or an occasional heron sailing majestically towards the mountains. The country folk say they go to fetch the rain, and it is a curious coincidence that they nearly always fly towards the quarter from whence one may expect a storm. On the bramble the unpicked

blackberries still hang ripe, though so absolutely sodden and tasteless they are not worth the eating: you may even find a spray of blossom here and there: a branch of scarlet hips shines crimson in the sunshine: the birds, sated with yew-berries, have spared it so far, and it rivals the holly on the bush close by, while trails of bryony, twined round the haw-thorn, repeat the colour with varieties of lemon and orange. If we hunt about we may find a few wild flowers even in December, a belated foxglove, a clump of ragwort, a blue hare-bell, a stray specimen of campion, herb-robert, buttercup, yarrow, thistle, or actually a strawberry blossom; the tall horse-tail is unwithered yet on the boggy bank, and sprigs of ever-faithful gorse smell sweet as peach-blossom. Ferns are growing everywhere, and will keep green even through a frost or fall of snow: great clumps of common polypody cling to the tree-trunks and flourish on boughs high above our heads, and under the rocks are delicate fronds of English maidenhair or the rarer beech fern.

Now we are at the waterfall, and it is a joy to watch the great white cascade leap over the ledge of rock and dash with such thundering force into the pool below that all the air around is filled with floating mist. If we climb the crag above and look downwards, the sun forms a dancing rainbow on the spray, then, suddenly dipping behind the hill, casts the first red gleam of sunset over the foaming flood. The rough bridge, made of pine trees flung across the stream, is practically impassable, and numerous little roaring rills, which a few days ago were mere trickles, are now hurrying from the crest of the bank to swell the main torrent. It is beautiful beyond description, and you must not remember that it is sodden and damp underfoot. How else could the gorgeous carpet of moss and fern flourish so luxuriantly? A frosty morning or a slight fall of snow will turn it into fairyland, and you will find green fronds encased in a thin, transparent coating of ice, and apparently none the worse for it, or seeded grasses covered with frozen diamonds. Snow is not very frequent here, however, and rarely rests long: as a rule the winter is mild and moist, with an occasional brilliant day of soft wind and warm sunshine that anticipates May and reminds you of the Riviera. By the middle of January the marshes where our stream meets the river Conway will be covered with wild snowdrops grow-ing in such profusion that the meadows are white with them, and the catkins, which already hang tightly folded on many of the hazels, will begin to burst into lambs'-tails. In the gardens roses linger till Christmas: the yellow jessamine seems never out of blossom from November till Easter; while scraps of wallflower, polyanthus, rosemary, periwinkle, pansy, or pink daisy struggle forth at intervals. The buds on the flowering currant are swelling fast, even though there are still a few blooms on the passion flower which twines with it against the

archway: everything seems waiting in readiness for the resurrection of the year, and a few bright days are sure to bring out some venturesome harbinger of spring. By February the birds will be singing again and we may begin to search for early nests, and with the first March daffodils Nature will seem to rise and shake herself, and in the lengthening days and clearer sunshine set steadily to her work of renewing the face of the earth.

ANGELA BRAZIL.

AN AUTUMN WALK IN TASMANIA.

ON a beautifully sunny morning about equinox time, I left Devonport by the main coast road westward, my companion an enthusiastic naturalist from the city of Launceston, who had snatched a day or two from the turmoil of business, to spend amid the bush surroundings in which his soul delights. Having breasted the hill, and obtained a fine view over the Mersey Bluff and out to sea, we turned down a bye-road known locally as the Bee-track, which runs through a belt of scrub to the Don River. While passing under the tall peppermint-gums and among the he-oaks we could not help being struck by the spring-like air which pervaded all things we saw. The trees and shrubs sent forth their aromatic perfumes into the golden air, while birds in bright plumage flitted from tree to tree, or chased each other, with many a joyous cry, among the branches. The crescent honey-eaters and their near relatives the New-Hollands were specially conspicuous on this occasion, their rapid movements causing the yellow-barred wings to flash like living gold in the sunlight. Robins are numerous too, but are much quieter than the nectar-lovers just alluded to: both the scarlet-breasted and the flame-breasted are plentiful here, the brilliant red of the latter extending down well below the breast and giving the appearance of a glowing coal to the front of the bird: the hens and young males are both clad in sober grey, the latter frequently breaking into song in late summer and early autumn, as if already the spring influence stirred in their young blood. This group has had bestowed upon it the title of chat-robins, because some of the members use a combative note something like the word "chat," sharply spoken, or the noise made by two stones struck smartly together. They have the habit of flying in front of one from post to post of the roadside fence, not in a direct line, but making a quick dash into the paddock on the further side of the fence and then suddenly re-appearing on the top of the next post. That is the habit of the two species, the scarlet- and the flame-breasted, which are most frequently seen in this locality: the little pink-breasted robin, so pleasing in its quiet beauty, is much too shy

to appear about the roads, and is usually seen only in moist dells amid patches of thick scrub, where it lives in pairs and builds its beautiful protectively-decorated nest. The dusky robin has no breast-colour at all, and is the largest of the group: it is usually seen sitting on a tree-stump in a bush-clearing, gazing pensively at the ground, with its crown-feathers somewhat ruffed up, and assuming a very grave and judicial air, as if weighing some mighty problem within its tiny brain: as soon, however, as a moving insect or worm comes within ken, our "stump-robin," as it is commonly called in the bush, drops upon it with great celerity from its perch, clearly showing that its "brown-study" attitude was assumed for a purpose. Another name for this grey robin in some parts of the island is "sad bird," from its double call-note, into which it puts a suggestion of the deepest melancholy.

Pushing on down the track we cross the Don River by a narrow crazy little foot-bridge called the "Sawdust-bridge," because its further end lands us on to heaps of sawdust left by the saw-mills of ancient settlers: we then take the left bank of the river, and while passing through a little grove of white gums are attracted by a number of little lumps of a substance with which the ground is strewn. On examination we find it to be the celebrated "manna," a sweet exudation from the tree-branches above, and about the origin of which there is some mystery, many authorities maintaining that it is caused by the puncturing beaks of the pretty blue and red leaf-hoppers belonging to the Homoptera, which derive their living from the tree sap, while others claim that they have found it distilling from trees which were free from those insects. We ourselves are strongly inclined towards the first explanation, the more so from the fact that we find among the manna-lumps on the ground, dozens of the hoppers which have fallen from the branches, stupefied or killed by the coldness of last night. Be that as it may, theories do not prevent us from calling a halt to enjoy some of this veritable "manna in the wilderness," which is as sweet as honey, and has no unpleasant stickiness about it. So, gathering and chatting under the drooping manna-gum branchlets, we pass a pleasant fifteen minutes (not the *mauvais quart d'heure!*), and then once more set our faces down river until we reach the shingle of an ancient raised beach, and are in full view of the sea. We reach a tree-trunk lying on the beach, part of an old sea-wall which the breakers have long ago disintegrated, and here we determine to stay awhile and lunch, with the sea-breeze in our faces, and the wavelets lapping musically hard by. Collecting some pieces of dry driftwood, of which there is abundance, we build a fire and sling over it our billy can, which we have brought full of fresh water. We make tea in the billy, and while seated on the log discussing eatables, we notice a long-necked bird sitting on top of a great columnar mass of rock out on the headland, which rock-mass

we have christened the Castle, and intend to visit as soon as the tide ebbs somewhat. Four or five of the formidable Pacific gulls, large, though not yet mature, as evidenced by the mottled plumage, fly along the beach, and presently one makes a dash into a rock-pool and hauls therefrom a long, limp object, to obtain possession of which the others immediately fall upon him and a great fight ensues, which we interrupt by rushing over with shouts, upon which the pirates drop their booty and make off over the water. After some search we find a large eel lying upon its back on the rocks, and quite dead. Continuing towards the Castle we disturb the long-necked one from his siesta on the battlements, and find him to be a white-fronted heron, which colonial parlance, with its usual perversity, has twisted into the epithet "Blue Crane." This wader is very plentiful on our coast, and may be seen in dozens in the shallow water at the edge of the sandbanks which are prominent features of the Mersey estuary. This heron is of a slaty-blue colour, with white forehead and throat, and when flying carries its head tucked well back between the shoulders and the long legs well up under the body. It builds in gum trees at a considerable height from the ground; and a heronry of twenty to thirty nests may be seen up one of the backwaters of the Tasmanian Mersey. The white-fronted heron is of a very jealous disposition when food-hunting, and one will often attack another when standing in the shallow water, and chase him away with harsh, guttural cries. Our bird having flown, we ascended the Castle, and stood on top of the columns which compose it, having a good opportunity from this elevation of admiring the columnar formation of the Bluff near by. We found a natural arch at the Castle formed by the washing out of the centre of a reef which was composed of short columns, the tops being so tightly wedged by Nature that they remained suspended after the breakers had worn away the centres, and so left a long shallow archway through which the waters freely rolled.

West Devonport, Tasmania. H. Stuart Dove.

SELBORNIANA.

Another Book on Gilbert White.—Mr. Elliot Stock is publishing a new book by J. C. Wright, the author of "In the Good Old Times," entitled "'Saint' Gilbert: The Story of Gilbert White and Selborne." The work deals with the pioneer naturalist and his environment, and narrates the main features of his life.

Forty Pounds' Worth of Wild Ferns!—The following appears in *The London Teacher* for November 1:—

"Botanical Specimens.—The chief official of the botany scheme travelled for a fortnight of the holiday period in search of specimens of cryptogamic material, and was granted a sum not exceeding £3 10s. for travelling expenses

in connection therewith. Certain Welsh valleys were selected as the localities closest to London where the specimens required could be found. They proved to be exceptionally rich in the material required, quantities being secured, the approximate value of which is estimated at £40."

Some time ago, on our expressing our apprehension lest the collecting of wild specimens for our schools might lead to extermination, we were assured that none but common species would be so collected, and that every care would be taken to obviate such a result. We hoped, also, that the expensively-conducted system of cultivation of specimens would soon render all such collecting unnecessary. This, it seems, has not been the case.

Surely but a comparatively small number of London County Council scholars are in a position to profit by the study of the *Cryptogamia*. As Algæ are not well represented in Welsh valleys, Fungi are mostly perishable, Lichens are somewhat difficult subjects for study, and Mosses are not in the most appropriate condition for collecting in "the holiday period," we fear we must conclude, with the friend who sends us this paragraph, that it means forty pounds' worth of ferns, with, perhaps, some club-mosses, and possibly, alas, some quill-worts. Unless these depredations have been spread over many valleys, their consequences may be serious; and, as our correspondent suggests, if generations of students are to be supplied with fresh material for the microscopic examination of sori, &c., the expeditions of this despoiler of our country's beauties may very probably become annual. This most regrettable procedure is, moreover, quite unnecessary, since any specimens really needed could easily be procured from nurserymen with a stipulation that only spore-raised plants should be supplied. While many are becoming convinced that legislative interference is necessary to restrain the private collector, it is obviously even more essential that steps must be taken to check such wholesale destruction as this on the part of public bodies.

A British Fern Society.—Although the British Pteridological Society established at Kendal has done good service as a centre of the British Fern cult for many years, there is no doubt that its purely local character militates against its wider usefulness, and that now that our beautiful, and in many cases unique, British ferns are becoming popular, a society on a more extended basis is desirable. The object of such a society should embrace a periodical publication describing and illustrating new finds and fresh developments in cultural selection, and also providing such general data as may assist the amateur in growing and propagating, and acquiring a knowledge of what is being done generally in this particular direction. In the United States there are several societies devoted to indigenous ferns and their varietal forms, and periodical publications are issued with contributions from inside and outside sources, which are very interesting. In Great Britain, the only periodical issued is the brief annual report of the above-named society, although the

amount of material in the British Isles is, from the varietal point of view, inexhaustible, the comparatively few species having yielded several thousand distinct varieties, which are constantly being added to by fresh discoveries of wild "sports" or new developments under culture. Under these circumstances the writer (who for fully thirty years has been practically the champion of British ferns in the British horticultural press and in his two standard works, "Choice British Ferns" [Upcott Gill, now out of print] and "The Book of British Ferns" [Newnes]) would be glad to hear from the admirers of these plants, by a simple postcard, in order to judge whether such a society is practicable on the basis of a moderate subscription, sufficient to cover printing and other expenses incidental to the programme indicated.

11, *Shad Road*, CHAS. T. DRUERY, V.M.H., F.L.S.
Acton, London, W.

[Possibly the establishment of such a society as Mr. Druery suggests may do something to prevent the extermination of our native ferns.—ED. *N.N.*]

NATURAL HISTORY NOTES.

670. **Cat defending Dog.**—A hateful fox-terrier came into our garden and attacked my little Griffon, rolling him over and trying to bite him. The poor little creature was terrified and screamed as loud as he could; whereupon my cat, who loved him very much, rushed out and sprang on the fox-terrier's back, scratching and biting him. The dog left my "Mousie" and went howling into the road, with the cat still sticking to his back, and clawing as hard as she could. I am certain Mousie would have been seriously injured had it not been for the plucky behaviour of his feline friend. X.

671. **French Partridge and Pigeons.**—In the public gardens at Lowestoft there is a large cage in which a number of pigeons are kept to amuse the visitors. Last year a French partridge was put into the cage, and has wonderfully adapted itself to its surroundings and society. The bird was in splendid plumage when I saw it sitting among the pigeons on the top perch, 10 or 12 feet above the ground. From this it flew from perch to perch as naturally as its comrades, over which it exercised a gentle lordship. French partridges are said occasionally to perch on trees, though I must own to having never seen them do so.

EDMUND THOS. DAUBENY.

672. **A Bird's Education.**—The crowding out of literary work by more seasonable occupations since May last must be my excuse for taking no notice of Mr. Daubeny's remarks on p. 90. He apparently misunderstands my use of the word "instinct," although I purposely used the expression "inherited experience," as I thought, to preclude any misunderstanding. So far from the theory of "blind instinct" being "worn-out," it is very much alive; but there is a difference. The old idea that every species of living thing was specially and separately created once and for all time, immutable, and endowed with instinct and sense suited to its needs, has very rightly been superseded by the far grander idea of evolution, in which instinct is considered as the outcome o

the inherited experience of countless generations as to what is best for the species or race in each case. It is still instinct, but *inherited* and constantly being changed and perfected to meet ever-changing conditions of life, not *endowed* as a fixed and unchanging characteristic, and it is still blind, *i.e.*, involuntary and unreasoning. Man has inherited numerous instincts, all of which were useful to him in his primitive days and most of which would be useful now; but he has almost extinguished many of them by the exercise of what he calls reason—save the mark!—and consequently he is the poorest *animal* on the face of the earth and the only animal that cannot keep itself in good health. *Some* of his instincts still survive, such as the involuntary shutting of the eyes when threatened suddenly.

Now, with all animals and plants the predominating necessities are food and reproduction and everything else is subservient to these—the continuance of life and the continuance of the species. If Mr. Daubeny grants this, will he say which of these two he prefers as the motive power of migration, or will he do what he has not done so far, and that is, suggest something better? Personally, I believe that "food is the determining power in migration, and that reproduction takes place where there is the most suitable supply for each species during the increased demand." Migration is a far more general thing than most people think: in fact it would be almost safe to say that *all* birds migrate—not necessarily to other countries, but to other counties, fields, woods or pastures new, as the case may be; and there seems little doubt that food is the determining factor in *these* migrations, at any rate. I would explain the custom of some species to migrate early by the persistence of a habit acquired by those species in the remote past, when, perhaps, geologic conditions were not quite the same as now and the arctic regions extended further south. The birds remained in temperate or northern regions until, with the approach of winter, cold northerly winds began to blow, and then they flew with those winds towards the south, those which neglected to fly perishing. The descendants of the survivors would inherit the tendency to fly, and this would gradually become fixed at a certain time, which would remain unchanged through generations until some great cause intervened to bring about an alteration. Hence, it was good for these species to migrate north or south at a certain time, and *so they do it now* by virtue of the inherited experience of their ancestors right back to remote times. They find their way by the simple means of recognition by *sight* of well-known landmarks passed by them before, and young birds are able to do so because there are some old birds with the flock to lead them. Should a contrary wind blow them out of their course, they sometimes lose their bearings and perish in the sea or otherwise.

I wish it to be distinctly understood that I here summarize the ideas I have picked up on the subject and do not advance them as my own, because I have had few opportunities of studying the migration of birds, not having lived in the country. What I have here set down I consider satisfactory. Mr. Daubeny drags insects into the discussion, but I must point out that the travels of insects are not migrations, but emigrations—a very different thing. Migration implies return; emigration does not. Almost all orders of insects appear to have supplied instances of emigration and in many cases food seems here also the determining factor, as for instance, with locusts and cockroaches. The motive does not seem to have been determined in the case of butterflies and moths, which furnish, perhaps, some of the most obvious examples of emigration. It appears, however, that there is a general tendency for insects whose natural habitats are north of the equator to go north and for those in the south to go south, so that there is a deeply-rooted instinct towards emigration; and as it appears to be generally conceded amongst entomologists that Orthoptera (including locusts and cockroaches) are amongst the most ancient, if not *the* most ancient, of the orders of insects, the dispersive tendency originating in them has been transmitted to their derivatives with, of course, a progressively weakening effect, the farther removed in point of evolution the more recently developed orders (such as Lepidoptera, Diptera, and Coleoptera) are from the primitive type.

Hale End, Chingford.

C. NICHOLSON.

673. **Sand Martin.**—The incident related (p. 212) by Mr. Daubeny is undoubtedly a case of inherited experience. Birds are notably observant and suspicious, and it is to their interest that, when anything to which they are not accustomed occurs, they should view it with distrust until reassured. In this case, the race of Sand Martins has found by experience that falling sand means danger. Those that avoided the danger survived; the others perished. So the instinct to avoid falling sand-banks has been established, because Nature always errs on the safe side.

C. NICHOLSON.

674. **Cuckoo Eating Eggs.**—While quite agreeing with Mr. Daubeny that cuckoos are not birds of prey in the strict sense, and, therefore, probably do *not* tear little birds to pieces preparatorily to devouring them, I am sorry to have to upset his comfortable attempt to explain away the theory that they devour eggs. This is one of the few "antiquated beliefs" which appear to be supported by facts, as he will find if he can see a copy of *The Country Side* for June 13 last, in which there is, on p. 44, a long and circumstantial account by an eye-witness of this habit of the cuckoo. Personally, I see no reason why cuckoos should not devour eggs from nests on which they have ulterior designs, because such a proceeding would obviously lessen the liability of the cuckoo's egg to be discovered by the foster parent, and it certainly would go far to explain the total disappearance of eggs from nests under observation from time to time, in which cuckoo's eggs have been found. At the same time it is a mistake to attribute this to any intelligent knowledge on the part of the cuckoo: it is merely the outcome of natural selection acting on the species through generations. Where this antiquated belief *was* absurd, however, was in attributing the habit in question to the cuckoo's desire to keep his voice clear!

C. NICHOLSON.

675. **Young Cuckoo Ejecting Eggs From Nest.**—In reply to the query by G. F. Adams on p. 156, may I supplement Harriet B. Blair's information by referring him to the number of *The Country Side* for June 9, 1906 (vol. iii.), where he will find illustrations from photographs showing the young cuckoo *in the act* of ejecting an egg; and there are similar illustrations in Dr. Japp's "Book of the Cuckoo." Intelligence does not enter into the matter at all, the callous cuckoo simply obeying the blind promptings of inherited experience. I believe it has been known to turn out young birds also. In this case, no doubt, the cuckoo's egg had been deposited in the nest when the eggs of the rightful owners were far advanced towards hatching.

C. NICHOLSON.

676. **The Butterfly's Life.**—I presume Mr. Yorke's article (p. 186) is intended to be descriptive of the life of the Large Cabbage White (*Pieris brassicæ*), and I therefore beg to point out a few inaccuracies, sufficiently serious to be misleading. The caterpillar of that species is not "covered with bunches of hair here and there," but has a uniform thin *pile* of short hairs. The chrysalis is not brown, but greyish (or yellowish) green, spotted with black. The butterfly uses its proboscis *very frequently* for sipping the nectar of many kinds of flowers, cultivated and wild, and it does *not* lay its eggs on anything but low-growing herbaceous plants, as a rule, such as tropæolums and members of the cabbage family. If the Small White (*P. rapæ*) be the species meant, then the same remarks apply, excepting that the chrysalis in this case *is* often brown or brownish-grey. If the article be intended to apply to butterflies in general, then the descriptions of the several stages are much too specific to suit all, even broadly.

C. NICHOLSON.

677. **Moth Sembling.**—This habit is probably common to all species of night or dusk-flying moths, in a greater or less degree, although generally considered characteristic of the Bombyces. I have observed it in grass-moths and *Geometræ* of various species. In butterflies which are abroad by day, sight is the sense primarily called into play to enable the sexes to find each other, but scent no doubt assists in identification at close quarters. In moths, however, most of which fly in darkness or at dusk, scent is practically a necessity, since, as far as I am aware, there are no moths which make a sound, except the Death's

Head Hawk, in which case it has been suggested that the squeak may be of sexual importance as well as a means of defence. I admit, though, that some moths may emit sounds imperceptible to human ears. It is a well-known fact, however, that many moths have distinct odours, and these may or may not be the means of attraction. It has also been proved that the males perceive the scent of the females by means of their antennæ, because when the latter were cut off the presence of the females was unnoticed. Some of the most obviously attractive females are practically wingless, whilst others are provided with ample wings; and in the latter class some are quite quiescent, whilst in others the wings are in constant vibration. It has been thought that the vibration helps the diffusion of the scent, which is, perhaps, less volatile in these species. In some few cases it is the male which attracts the female, and then *he* is the scented one. In the case of the ghost-moth the male is believed to attract the female partly by sight, whence his white colour, and partly by a distinct scent which he emits. Generally speaking, female moths are *most* attractive within twenty-four hours after they have emerged from the chrysalis. C. NICHOLSON.

678. House Fly.—There are still some points in the life-history of the House Fly to be cleared up. As no eggs, larvæ, or pupæ have as yet been discovered in the winter, I am inclined to think that the race is carried on by those perfect insects which survive the dangers of hybernation. This supposition, however, has its difficulties, and may be quite wrong. Shortly after the fly emerges from the pupa in summer or early autumn, pairing takes place, and a batch of from 120 to 140 eggs is laid; and the question is, does the fly lay more than one batch? Many hybernating insects, *e.g.*, the *Vanessidæ* and Clouded Yellow Butterflies, do not pair before hybernation, and lay their only batch of eggs in the spring. Some bumble bees and wasps pair before the winter, and lay their eggs next spring. Certain beetles are said to pair more than once, and to lay several batches of eggs; but do they do this before as well as after hybernation?
EDMUND THOS. DAUBENY.

679.—What a delightfully caustic summary of man's attitude towards far too many of the humbler creatures of this earth is contained in the brief extracts given by Mr. Daubeny (p. 212) from the Preliminary Report on the Habits, &c., of the House Fly in Liverpool! After showing that this species performs a very great service for man, which his education is too imperfect and his laws too inadequate to ensure his performing for himself—to wit, the safe removal of a mass of pestilent matter—this report proceeds to stigmatize this highly valuable scavenger as a *pest*, merely because it sometimes and in some few ways (in most cases easily preventable by him) annoys him or carries unpleasant and perhaps dangerous matter into his house, which—in ninety-nine cases out of a hundred—already reeks with a far greater quantity of deleterious matter than flies are ever likely to introduce. Perhaps the revelation of the house fly's usefulness will induce "the authorities" to pause before they enter on its extermination; a *remedy* which might prove much worse than the *disease*, as has been the case before, again and again, through man's interference in cases of which he knew only one side. C. NICHOLSON.

680. Magpie Moth and Euonymus.—In answer to the question asked in the review of "Nature Rambles in London" (p. 173), I can testify that *Abraxas grossulariata* is *very* guilty of larval attacks on *Euonymus japonicus* in some of the London suburbs. At Clapton their depredations are obvious.
C. NICHOLSON.

681. Balsam Poplars.—Is it possible that Mr. Taylor's trees (p. 192) are infested with Goat-moth or Wood Leopard caterpillars, or other internal feeders? Clay soil is *not* likely to be the cause, I think. Holes in the trunks about $\frac{3}{4}$ in. across would indicate the presence of the caterpillars. It is difficult to say definitely, without examination, what could be the cause of the trees dying.
C. NICHOLSON.

682. Spring Flowering of Erigeron acre.—There ought to be little difficulty in deciding whether the plants referred to by Margaret Baggallay (p. 172) are *E. acre* or *E. alpinum*, seeing that the former is an annual or

biennial, and the latter a perennial. The following characters may assist in identification: The leaves in *alpinum* are mostly radical, forming a rosette, the ray florets are spreading, much longer than the disc, and of a better colour than those of *acre*, which are nearly upright and of a very washy purple usually, and scarcely longer than the disc. In *acre* the stems are usually leafy and branched, with a flower at the end of each branch; in *alpinum* the stems are generally simple and single-flowered. Both species flower in early autumn. The stature of the plants is negligible, because, on account of the wind, practically all weak plants would be dwarfed on such a place as Dover cliffs.

C. NICHOLSON.

Since I wrote the above Miss Baggallay has kindly sent me some of the plants in question at my request, and there is no doubt that they are only *E. acre*. The colour of the ray florets is much better than I have seen hitherto in that species.

C. NICHOLSON.

683. **"Nature Notes in Touraine."**—In his interesting article in the November number under this title, L. H. D. Buxton says *Pedicularis palustris* often accompanies *Polygala* where "the soil is slightly damp." Surely he means *Pedicularis sylvatica*, which is generally found in *damp* places, while *P. palustris* usually grows in *wet bogs*, where *Polygala* scarcely ever occurs, I think, it being, as a rule, a lover of rather dry places.

C. NICHOLSON.

684. **White Whortleberries.**—In the Answers to Correspondents, in the October number of NATURE NOTES, I see that no record could be found of white-fruited whortleberries (*Vaccinium myrtillus*). In "The Wild Flowers of Great Britain" by Hogg and Johnson, in the notes on this plant, it is stated "The Duke of Atholl discovered a variety with white berries growing in the woods about midway between his residences of Dunkeld and Blair (Lightfoot)." "Linnæus says that in Upper Tornea (Sweden?) the berries of the cowberry are often perfectly white."

L. C.

685. **November Flowers.**—From all parts of the country records have reached us of the abnormal persistence of our summer flora during this mild autumn, but perhaps the following letter from the *Daily Chronicle* is the most remarkable:—

"Are the seasons topsy-turvy? My girls brought to school to-day flowers of hawthorn, wild rose, primrose, violet, periwinkle, broom, holly, wild strawberry, in addition to the ordinary autumn flowers—in all 105 species. This is a very unusual record for a station so far north."

Kendal, November 3. LUCY M. REYNOLDS.

686. **Potato Disease.**—All living things, including those in the vegetable world, are liable to disease and death; and as they draw nearer and nearer to the end of their existence the infirmities of age increase. It is probably the effects of old age that render the potato so liable to disease. In nature the flower of the potato is fertilized in the ordinary way; and the seed from this springs up, constantly ensuring a new birth and fresh cross. Man, however, prefers to sow the tuber, and perpetuates the same plant. It may be thought that crosses and varieties start life with the vigour of youth and robust constitution, but as man has in the vast majority of instances reared his crop for centuries from the tuber, new births from seed proper have descended from a stock enfeebled by age and tainted with disease. It is doubtful if a really healthy potato can now be raised, and the injury of centuries undone.

The old Madeira vine is a similar case. It was propagated by slips and cuttings, and at last became so feeble from old age as to succumb to the attacks of phylloxera and other ills.

The Ribston Pippin is almost an apple of the past, owing to the same cause.

EDMUND THOS. DAUBENY.

687. **Merrivale Antiquities.**—I was much interested in your note, under "Selborniana," in the November number of NATURE NOTES, with regard

to the Merrivale antiquities upon Dartmoor, and I should be glad to be enlightened by some Selbornians as to the probable age and other interesting data connected with these relics of the past. I paid a visit to them during the past summer and was much impressed. Besides the very fine examples of a "stone-avenue" and the "stone-circles," there are also "hut-circles" and a "kistvaen" or ancient tomb contained in this group.

West Norwood. STANLEY EWART EVENS.

[The Dartmoor megaliths belong to the Bronze Age.—ED. *N.N.*]

688. **"Morecambe Bay."**—R. C. Lowther's statement (p. 207) that the word Morecambe "is of Cymric origin and means the sea," is scarcely satisfying. *Môr* is the Cymric word for "sea," but what of the "cambe"? Bartholomew's Gazetteer gives "Mawr cwm" (pron: *mawr* to rhyme with flour and *cwm*, as coom, with the oo short, as in foot), meaning "great hollow or bay," in allusion to the deep inlet. May I ask for Mr. Lowther's authority for deriving Kent (river) from a Cymric word meaning "clear," because, so far as I can trace, there is no such Cymric word at present in use with that meaning, or anything like it; all the words for *clear, clean, transparent*, &c., are totally different.

C. NICHOLSON.

NATURAL HISTORY QUERIES.

157. **Flight of Sparrow-Hawk.**—A caged sparrow-hawk (young male) for sale in a bird-fancier's (!) was purchased, liberated on the roof of a large building in an open situation in the heart of this city, and flew away. Does this species fly high? If so, with its keen vision, would it be able to find and reach suburban trees and fields 3 or 4 miles distant through a smoky atmosphere and a November haze?

Liverpool. C.

ASTRONOMICAL NOTES FOR DECEMBER, 1908.

Venus is a brilliant morning star, rising in the E.S.E. at 4.25 a.m. on the 2nd, and 5.46 a.m. on the 30th. She is due south between 9.30 and 10 a.m. during the month.

Mars is in Libra and rises in the E.S.E. in the early morning. The planet is very near Alpha Libræ, the most southern of the two conspicuous stars in the Balance, on December 16. At the end of the year Mars is about 3¼ deg. S.S.W. of Gamma Libræ. In conjunction with the moon on December 20 at 1.56 a.m.

Jupiter is in Leo near Chi Leonis, rising on the 2nd at 11.32 p.m., and is due south at 6.17 a.m., and S. at 4.32 a.m. on the 30th. The interesting marking known as the Great Red Spot is central on the planet's disc on the 19th at 10.56 p.m., and on the 29th at 9.12 p.m. Ganymede (Satellite III.) transits Jupiter's disc on December 31 at 9.42 p.m., egress at 1.4 a.m. on January 1. Four satellites will be on the W. side of Jupiter on the morning of the 26th, and on the E. side on the 2nd, 16th, and 30th. Only one satellite is visible between 11.33 p.m. on December 20 and 1.42 a.m. on the 21st.

Saturn is a fairly conspicuous evening star below the Great Square of Pegasus. The rings are now slightly open. In conjunction with the moon on the 29th at 8.14 p.m. (Saturn 3 deg. 4 min. N.).

Variable Star Algol will be at minimum on December 11 at 8.59 p.m., December 14 at 5.47 p.m., and December 31 at 10.41 p.m.

Penumbral Eclipse of the moon on December 7, commencing at 7.38 p.m., middle of eclipse at 9.55 p.m., and end at 12.12 a.m.

IRENE E. TOYE WARNER.

REVIEWS AND EXCHANGES.

Life and Sport in Hampshire. By George A. B. Dewar. With 2 coloured plates by A. Thorburn, and other illustrations. 9¼ in. × 5¾ in. Pp. 274. Longmans. Price 10s. 6d. net.

Mr. Dewar, as many readers know, has a facile pen to describe what he sees: he has the happiness to live in Hampshire, the sunniest county in England, the county of chalk downs and of the New Forest, of Gilbert White and of William Gilpin; and—what is more—he has the seeing eye. Author of "The Book of the Dry Fly"; and one of the many editors of Walton, he is undoubtedly a sportsman: like many an angler, he is attracted to the living insect: and a gunner of a somewhat old-fashioned type, birds appeal to him with a manifold interest, in their flight, in their song, and in their migrations, an interest which he imparts to his readers. The photographic illustrations reflect the calm of an Adamless Eden; and Mr. Thorburn's beautiful water-colour drawings, of which we prefer that of the Orange-tip and Speedwell, are admirably reproduced.

MEANDERS OF A STREAM.
From "The Nature Book" (by kind permission of Messrs. Cassell and Co.).

The Nature Book: A Popular Description by Pen and Camera of the Delight and Beauties of the Open Air. Vol. i. Illustrated with coloured plates and reproductions from photographs. 10¾ in. × 7¾ in. Pp. 372. Cassell and Co. Price 12s. net.

Tastefully bound and beautifully illustrated, this volume will make an acceptable present and a handsome table-ornament in many a home this Christmas. But it is much more than this. The purely pictorial charm of Nature has seldom been better reproduced by the press than in the colour-prints after water-colour drawings by such artists as Mrs. Allingham, Mrs. Rawnsley,

Mr. MacWhirter, and Mr. W. L. Wyllie. We have had frequent occasion to speak of the beauty of Mr. Douglas English's photographs of mice, Mr. Henry Irving's portraits of trees, and the Messrs. Kearton's pictures of birds; and the work with pen and with camera of Mr. Martin Duncan, Mr. John J. Ward, and Dr. Lockyer is well known for its excellence. Wide as is its scope, dealing as it does with clouds, waves, cliffs and mountains; with trees, wild flowers, fungi and gardens; with insects, fish, birds and mammals, the volume is necessarily incomplete. This, in fact, gives it a suggestiveness which is, perhaps, one of its most valuable features. Whilst Mr. English deals lovingly with our smaller mammals, the fox, the badger, the otter and the deer do not come within his

MEANDERS FURTHER DOWN-STREAM.

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limits. Mr. Irving can speak only of about a dozen trees; and there are many large groups of our wild flowers in addition to those dealt with by Mr. Purefoy Fitzgerald. Here shown the way, the student of Nature need not lack other new and original subjects for his investigations. Among a prodigious wealth of interest, few of the articles appear to us richer in suggestiveness for profitable study than that of Mr. J. Lomas on "The Romance of a River," two of the illustrations to which we are permitted to reproduce. At the price at which it is published the book is phenomenally cheap.

Wayside and Woodland Ferns: A Pocket Guide to the British Ferns, Horse-tails, and Club Mosses. By Edward Step. With coloured figures of every species, by Mabel E. Step, and 67 photographs by the Author. 6½ in. × 4½ in. Pp. 137. Warne and Co. Price 6s. net.

We have had occasion ere this to write of the excellent production of the series of cheap and truly pocketable guide-books of which this volume forms one, and also of the soundness of many of Mr. Step's writings, and of the skill of his daughter's drawings. Books on ferns abound; but recent cheapening of

methods of reproducing photographs and coloured drawings has made room for a popular comprehensive handbook such as this. Among books of the kind we seldom find illustrations of prothallium, antheridia and archegonia, as well as those of the fronds and sori; nor are the species of Hydropteridæ, horse-tails,

HARD FERN (*Lomaria Spicant*).
From "Wayside and Woodland Ferns" (by kind permission of Messrs. Warner and Co.).

club-mosses and quill-worts usually treated as fully as the more popular ferns. We have often doubted whether photographs of some natural objects, such as fossils and ferns, however well they may be taken, convey as clear a conception of them as a drawing; but if this doubt is confirmed when we look at some of Mr. Step's excellent photographs, such as that of the *Osmunda*, in plate 98,

or especially of those obviously taken in a crowded fernery, we have the corrective close at hand in Miss Step's coloured drawings. She has hardly, perhaps, caught the slender delicacy of *Polypodium Dryopteris* in plate 95, and we notice that Mr. Step gives no photograph of *P. robertianum*, to which he only accords sub-specific rank. It is a remarkable fact that, while herbarium specimens of these two forms seem to graduate imperceptibly into one another, no one familiar with them in the living state would ever think of so close a relationship. We sympathize with Mr. Step in his indignation at the "well-to-do woman" who exterminated the Royal Fern, and on whom the author's sarcasm was thrown away. "We might as well," he exclaims, "have sought to stir up a crocodile by pelting it with paper confetti." We also feel deeply the difficulty to which he next alludes: "Now that the Royal Ferns of Tregear are no more, the Cornwall County Council have made by-laws prohibiting such spoliation in future. But the making of such by-laws is one thing; enforcing them in out-of-the-way places is another matter." Altogether we have to thank Mr. Step for an excellent little book.

Received: *The Victorian Naturalist* for October; and *The Naturalist, The Irish Naturalist* (*Special British Association Report*), *British Birds, The Animals' Friend, The Humanitarian, The Agricultural Economist*, and *The Estate Magazine* for November.

SELBORNE SOCIETY NOTICES.

[NOTE.—ALL ANNOUNCEMENTS WITH REGARD TO FUTURE MEETINGS OF THE CENTRAL SOCIETY OR BRANCHES WILL BE FOUND TOGETHER AT THE END OF THESE NOTICES.]

New Members.—*Central.*—The following were elected members at the last meeting of Council: Mrs. R. J. Allen; A. I. Alliott, Esq., M.D.; Mrs. A. I. Alliott; F. O. Andrews, Esq.; Arthur H. Arnold, Esq.; A. E. Baker, Esq.; Miss Florence Barker; F. D. Barnes, Esq.; Miss Barton; Miss M. Bates, L.L.A.; J. W. Batterham, Esq., M.B.; A. Belt, Esq.; Robert Bennington, Esq.; A. T. Bevan, Esq., J.P.; Alfred Blackie, Esq.; F. W. Blackburne, Esq.; Dr. A. Arthur S. Blackwell; James E. Blomfield, Esq., M.A.; Miss A. S. Booth; S. B. Booth, Esq.; William L. Bradley, Esq.; Edward G. Bretherton, Esq.; Miss Zoë Brewer; Miss A. A. Brown; Arthur J. H. Brown, Esq., B.A.; S. R. Stamell Brown, Esq., M.A.; Dr. T. W. Brown; The Rev. E. L. Browne; Mrs. F. A. Browne; Henry C. Browne, Esq.; Miss Leigh Browne; Miss M. A. Browning; A. F. Bryan, Esq.; The Rev. R. Bull; Mrs. Frank Burrows; H. B. Cardwell, Esq.; Mrs. W. A. Cardwell; Miss H. Mary Carson; H. F. Cheshire, Esq.; Miss M. Chilcott; Dr. C. Christopherson; H. H. Churchill, Esq.; H. Edgar Collett, Esq.; The Rev. H. B. C. Collins; H. W. Cook, Esq., B.Sc.; A. M. Cooper, Esq.; W. J. Cooper, Esq.; H. E. Corke, Esq.; W. J. Corke, Esq.; W. H. Counsell, Esq.; The Rev. A. A. Cramp; H. W. G. Crawford, Esq.; William C. Cripps, Esq.; The Rev. C. S. Parker Darroch; Miss I. Day; George F. Deacon, Esq.; Mrs. J. de la Mothe; Th. A. Delcomyn, Esq.; Miss M. E. Dew; Dr. R. J. Dick; William A. Diggens, Esq.; The Rev. James Doble; The Rev. F. N. Eden; Edgar Elliott, Esq.; Miss Ferguson; John B. Footner, Esq.; Frank Fraser, Esq.; Lieutenant-Colonel R. T. Frere; Walter Fry, Esq.; H. Gilbert, Esq.; H. J. Glover, Esq., F.C.S.; Mrs. John Godden; Dr. R. Grace; Chas. J. Grass, Esq.; Frank Hall, Esq.; R. F. Halland, Esq.; Francis Hallett, Esq.; Miss Sophie Hare; William Harvey, Esq.; G. Seccombe Hett, Esq., M.B., F.L.S.; Arthur Hickmott, Esq.; W. Hitchcock, Esq.; Paul Hodgkinson, Esq.; W. A. Hoffmann, Esq.; F. Hollins, Esq.; Fred Hooker, Esq.; Charles H. Howard, Esq.; Robert R. Hutchinson, Esq.; George E. Jennett, Esq.; Rev. F. H. Jones; F. Lloyd Jones, Esq.; John R. Jordan, Esq.; Launcelot E. Jowers, Esq.; Fred Judge, Esq.; Miss M. E. Kennedy; Miss M. Kerly; George J.

Kimmins, Esq.; Henry R. Knipe, Esq.; Francis Kraemar, Esq.; Professor Carlton Lambert; Fred G. Langham, Esq., M.A.; A. H. Liddell, Esq.; Frank T. Lloyd, Esq.; Dr. George Locke; C. Lowry, Esq; Mrs. C. Lowry; Miss C. S. Lowry; Miss Elinor Lucas; Dr. W. H. C. Macartney: The Rev. A. M. Macdona; M. Makalna, Esq.; P. A. Mansfield, Esq.; Val Marriott, Esq.; William S. McDougall, Esq.; Herbert J. McGill, Esq.; F. H. Midwood, Esq., M.D.; D. B. Milbank, Esq.; Miss E. A. Miller; Mrs. Morey; Dr. Nield; Lady Oakeley; Thomas Okey, Esq; Miss Constance Parkhurst; Thomas Parkin, Esq., M.A.; J. F. Primrose Pechey, Esq., F.R.G.S.; Richard Pelton, Esq.; J. P. Penruddocke, Esq., M.A.; John Petrie, Esq.; Messrs. George Philip and Son; Miss Mary Pitt; George D. Plomer, Esq.; Henry Poole, Esq.; Thos. Redmayne, Esq.; Miss Reid; Edward E. Rimell, Esq.; Miss A. H. S. Ritchie; Dr. Roberts; Richard Roberts, Esq.; Edward A. Rook, Esq.; The Rev. J. Rookes; J. Russell, Esq.; The Rev. W. E. Sayer-Milward; Dr. J. Easton Scott; Mrs. I. M. Seaman; J. G. Selcock, Esq.; Robert J. Sells, Esq.; Miss F. Seton; Frank H. Shaw, Esq.; Miss L. H. Shorto; Miss E. M. Skepper; Miss F. E. Skepper; Charles G. Skyrme, Esq.; W. Leigh Smith, Esq., Junior; Albert J. Southborne, Esq.; Henry Sparks, Esq.; Dr. Stamford; D. R. Stephen, Esq.; Rev. Charles E. Story; Miss K. E. Styan; F. Swanzy, Esq.; Miss Tait-Reid; Rev. C. J. Terry; C. Thornley, Esq.; Dr. Basil L. Thurlow; Norman F. Ticehurst, Esq.; Rev. L. S. E. Tronsdale; Frank Tuppenney, Esq.; Arthur Tyler, Esq.; Mrs. Wadsworth; Miss R. E. Watson; Thos. H. Watson, Esq., M.B.; Frank W. Weston, Esq.; Miss H. Wheen; Miss S. A. White; Ernest B. Wickes, Esq.; A. Max Wilkinson, Esq.; Sidney H. Williams, Esq.; Harry T. Wilshaw, Esq.: A. Scarlyn Wilson, Esq.; S. Birks Wilson, Esq., M.A.; Claude Wilson, Esq., M.D.; The Rev. F. H. Carus-Wilson; The Rev. C. W. Woods; Miss M. E. Worcester; Miss A. E. Young.

Junior Branches.—Warrants were signed empowering the formation of Junior Branches by the following: Miss S. A. White, Auckland House; Miss M. A. Browning, Beehive School; Miss Barton, Bonn Meads; Miss L. H. Shorto, Eastbourne Municipal Secondary School for Girls; Arthur J. H. Brown, Esq., Ebor School; F. Hollins, Esq., The Grange; Mrs. J. de la Mothe, Granville House; A. F. Bryan, Esq., Holmwood School; Miss A. H. S. Ritchie, Newton House School; Miss A. A. Brown, Northcote House; Miss M. E. Worcester, Thornleigh; W. H. Counsell, Esq., St. Aldate's School; The Rev. R. Bull, St. Andrew's Preparatory School; The Rev. E. L. Browne, St. Andrew's (Eastbourne); Miss E. A. Miller, St. Bernard's School; Miss F. Barker, St. Helen's College; J. H. Penruddocke, Esq., Winchester House.

Subscriptions.—The Council has pleasure in acknowledging subscriptions of greater value than 5s. from the following members: A. H. Liddell, Esq., 10s. 6d.; Miss Barker, 10s.; William Harvey, Esq., 10s.

Library.—The Hon. Librarian will attend at 20, Hanover Square, on the evenings of December 21 and January 18, from 6 p.m. to 6.30 p.m., for the purpose of issuing books to members.

The Hon. Librarian has pleasure in announcing the following additions to the Library: "The Story of the Sea and Seashore," by W. Percival Westell, F.L.S., M.B.O.U.; "Birds and their Nests and Eggs" (Second Series), by Dr. G. H. Vos; "How to Attract and Protect Wild Birds," by M. Hiesemann. All kindly presented by the Editor.

NEWS FROM THE BRANCHES.

Abinger and Shere Branch.—Thanks to the Abinger and Shere Branch of the Selborne Society, the children of the district had the pleasure of a lecture on October 30 by Mr. Hill, dealing with flies and daddy longlegs. There is always a difficulty in explaining to children subjects that have been revealed to us principally by the agency of the microscope, because scientists have of necessity been compelled to create words that have no meaning to the majority, but Mr. Hill was simple, interesting, and explicit throughout, showing very clearly the habits

of various insects, as well as their structure, pointing out what was known and what was still open to doubt; moreover, he suggested one or two such little experiments as children love to make, appealing occasionally also to their sense of humour.

Mr. Philip Oyler, himself a lecturer on natural history, kindly took the chair on this occasion.

Lancelyn House School Junior Branch, Kew Gardens.—Two interesting rambles in Kew Gardens have taken place since last June. The first one, conducted by Mr. Drummond and attended by about seventeen members (divided into two parties), was a visit to the Succulent House, Orchid House, and Herbaceous Beds. During the second ramble, also conducted by Mr. Drummond, a visit was paid to the Temperate House.

On Friday, October 30, a very interestiag lantern lecture was kindly given by Mr. A. G. Buckhurst, Headmaster of the Richmond County School, on the "Romance of Plant Life," at which about thirty members were present. The lecturer illustrated the use of pollen to plant life, and the different methods adopted by plants to ensure cross-fertilization.

EXCURSIONS.

Saturday, October 31.—On this day was held the long-established annual Fungus Foray of the Essex Field Club, and once again a kind invitation was extended to members of the Selborne Society to participate. A larger number than usual took advantage of this invitation, some few joining the morning collecting party, but the greater number attending in the afternoon.

A large number of excellent photographs of fungi, taken by Mr. Henry Irving, a member of the Selborne Society, were on view in the meeting-room at Oak Hill Farm throughout the day, and were greatly admired.

The frosts in mid-October had seriously diminished the fungus flora of the Forest, but in spite of that a very satisfactory number of species was found, both on the morning collecting-ground between Loughton and Theydon Bois, and in the parts searched after luncheon round Theydon and Ambresbury Banks. Specially noticeable were the numerous species of *Cortinarius*. Each succeeding year seems to be marked by the prevalence of one special group. Last year *Tricholoma* was dominant. Several new species were found, one new to the county and one new to the Forest, and a truffle was recorded for the first time.

After tea, Mr. George Massee gave a very interesting address dealing with many different aspects of mycology. Lovers of the pleasant-flavoured mushroom will be sorry to learn that fungi have very little nutritive value—flavour is all that can be credited to them, and to retain that to the fullest degree fungi should be cooked slowly for an hour in a covered pan. One warning was given—do not take alcohol immediately after eating fungi: alcohol turns the fungi into a leathery, indigestible mass. Many of the reported cases of poisoning by mushrooms would be more correctly diagnosed as being cases of indigestion due to the mixture of perfectly wholesome fungi and "mountain dew."

Mr. Massee then proceeded to describe the groups into which fungi are divided, and on coming to the Myxomycetes, stated that in Great Britain agriculture lost annually fifty million pounds sterling by the attacks of these microscopic foes, apple-canker alone being responsible for one million, while grain-rust was estimated to do damage to the extent of fifteen millions. Mr. Massee urged that much greater study should be given to the ecology of fungi, and especially to that of the Myxomycetes, as preventive or palliative measures must be based upon a true understanding of the life-histories and ecological necessities of these insidious foes.

FORTHCOMING EVENTS.

Council and Committee Meetings.

Monday, December 21.—General Purposes Committee, 5.30 p.m.
Monday, January 18.—General Purposes Committee, 5.30 p.m.
Tuesday January 26.—Council Meeting, 6 p.m.

Excursions.

Saturday, December 12.—Visit to the Photo-Engraving Studios and Works of Messrs. Lascelles and Company, Ltd., of Maybury Studios, Maybury Gardens, Willesden Green. Assemble at the Studios (ten minutes from Willesden Green Station, Metropolitan Railway, trains every few minutes from Baker Street, 6d. return) at 3 p.m. Mr. Summers, the Manager, has kindly consented to meet the party and to explain the various processes of producing half-tone and line blocks. As the party is restricted to members and is limited in number, those desiring to attend must apply to the Hon. Excursions Secretary, enclosing a stamped addressed envelope.

Belgravia Junior Branch.

Lectures and Expeditions for Children.

Lantern Lecture.—"The Wonders of the Deep Sea," by Mr. Wilfred Mark Webb, F.L.S., Wednesday, December 16, at 3.30 p.m., at 14, Dawson Place, Pembridge Square, W. Entrance for non-members of the Belgravia Junior Branch: Adults, 1s.; Children, 6d.

December 2.—An expedition through the Botanical Section of the Natural History Museum, South Kensington, will be taken by Dr. Rendle, who will first speak to the children on "The Distribution of Fruits and Seeds," and then show them illustrations. The party to assemble at the main entrance at 2.30 p.m., and the talk to commence in the Botanical Section at 2.45 p.m.

December 21 and 28, and *January* 4 and 11.—A series of four expeditions to the Natural History Museum, South Kensington, will be conducted on these dates, illustrative of Mr. Wilfred Mark Webb's Lecture, "The Wonders of the Deep Sea."

The party will assemble on each date at the main entrance at 2.45 p.m. Fees: Children, 6d.; Adults, 1s. Admission tickets for the expeditions must be procured from Mrs. Fitzroy, of 35, Lower Belgrave Street, S.W.

All correspondence concerning Excursions should be addressed to Mr. Hubert H. Poole, *Honorary Excursions Secretary*, at 16, Heathcote Street, W.C.

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1. All communications for Nature Notes must be authenticated with the name and address of the sender, not necessarily for publication.

2. The return of an unaccepted contribution can only be guaranteed when it is accompanied by a stamped and addressed envelope. The Editor cannot undertake to name specimens privately, to return them, or to reply to questions by letter.

3. All communications for any number must be in the Editor's hands by the 10th of the preceding month.

4. Communications for Nature Notes (for which no payment is made), books for review, specimens for naming, &c., should be addressed to the Editor, Professor G. S. Boulger, F.L.S., F.G.S., 11, Onslow Road, Richmond, Surrey.

5. Copies of the January number of the Magazine may be obtained from Messrs. George Philip and Son, Ltd., at 32, Fleet Street, London, E.C.; price 2d., or post free 2½d.

6. For information concerning advertisements, apply to the Honorary Secretary, 20, Hanover Square, W.

7. Letters connected with the business of the Society, subscriptions, and applications for membership should be sent to the local Honorary Secretary, or to the Honorary General Secretary of the Society, Wilfred Mark Webb, F.L.S., at 20, Hanover Square, London, W.