A MEDIEVAL SELBORNIAN.

"Sweet St. Francis of Assisi, would that he were here again!
He that, in his catholic wholeness, used to call the very flowers
Sisters, brothers; and the beasts, whose pains are scarcely less
than ours."—*Tennyson.*

NATURE NOTES,

THE SELBORNE SOCIETY'S MAGAZINE

EDITED BY THE

Rev. PERCY MYLES, B.A., &c.

AND

JAMES BRITTEN, F.L.S.,

of the British Museum.

"He prayeth best who loveth best
All things both great and small;
For the dear God Who loveth us,
He made and loveth all."

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Nature Notes:

The Selborne Society's Magazine.

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THE SELBORNE SOCIETY AND ITS MAGAZINE.

IT is a great pleasure to be able to begin a New Year and a new volume of Nature Notes with the most cheerful tidings concerning the condition of our Society and the prospects of its magazine. The situation could not be better summed up than it was by Mr. G. A. Musgrave, the founder of the Selborne Society, in a congratulatory letter read at the last meeting of the Council:—"The influential position of the Society has been vastly increased in the year 1890, through the co-operation of members of high position in the literary and scientific worlds; while its numerical strength has steadily grown. Everything promises well, and I feel convinced that all we have to do is to constantly improve our methods of working on the lines of the past year."

The truth is that a great deal of the most difficult part of the Society's work has been done. The idea that we are a band of sentimentalists or faddists, if it ever was entertained, is as dead as Julius Cæsar by this. What only Selbornians thought yesterday, most educated and refined people think to-day. The public press is altogether with us. The leading Dailies, for example—the *Daily News*, always our friend, the *Standard*, and the *Daily Telegraph*—all had this winter articles on the feeding of birds and against their wanton destruction, in which the most ardent Selbornian could not suggest an improvement. The writers of books on natural history are with us. Each new work that appears is more deeply tinged with Selbornian views than the last. The natural history journals, such as the *Field* and the *Field Club*, are among our warmest allies. The day of the mere collector is past, the day of the intelligent observer and describer, of the biologist and nature lover, has come.

There are many factors to be taken into account in that indirect educational influence of which Miss Isabel Fry not long ago spoke in our columns, and in that active Selbornian propaganda to which Mr. Musgrave has lately called our attention—

individual influence, organisation of branches, pressure brought to bear on public bodies, distribution of leaflets, delivering of lectures and such like; but we shall now only dwell upon one of them—the literary work done for the Society, either by means of books published by its members, or by the setting forth of its views in NATURE NOTES, the Selborne Society's magazine.

It is worth while to enumerate some of the books by Selbornians that have appeared during the year, dealing with some branch of natural history, or some aspect of natural beauty. We will take them, so far as possible, in the order in which they appeared.

Lady Lindsay's delightful book *About Robins* came early in the year, and was soon succeeded by the seventh edition of the well-known *Days and Hours in a Garden*, by E. V. B. (the Hon. Mrs. R. C. Boyle), one of the most ardent supporters of the Selborne Society's crusade against cruelty and waste. *Wayside Sketches*, by Prof. F. E. Hulme—a good example of the excellent works issued by the S.P.C.K.—was recommended in the pages of NATURE NOTES as a "manual of Selbornian principles." The appearance of the third edition of Mr. W. Warde Fowler's *Year with the Birds* showed how much approval had been won by this work of a most minute observer and reverent student of nature. Dr. Buckton, F.R.S., during the year has brought out in parts the first volume of his splendidly illustrated monograph on *The British Cicadæ*, and Dr. F. N. Williams has added more than one volume to the series in which he is describing, with admirable precision, *The Pinks of Europe*.

Probably the most popular work on natural history of the year was Mrs. Brightwen's *Wild Nature won by Kindness*, which almost immediately reached a second edition. As Mrs. Brightwen, upon her title page, referred to her connection with the Selborne Society, that Society came in for a share of the pleasant things which were said in the innumerable articles and reviews of which *Wild Nature* formed the theme. At the very end of the year there issued from the press a work by another of our vice-presidents, Mr. Edmund Gosse, who is already well known as a poet and a critic, and has now proved himself a most competent writer of biography in the life of his father, the eminent naturalist, Mr. P. H. Gosse. Most of the works mentioned above have been reviewed in our columns, and we hope as soon as possible to notice those which remain.

In the number of NATURE NOTES for January, 1890, we gave a sketch of the various subjects with which we purposed dealing in the year which has just closed. In many quarters "Our Programme" was considered too ambitious, and doubts were expressed as to the possibility of carrying out so comprehensive a scheme. We wish accordingly to give some account of our literary stewardship, so that our readers may see how far our promises have been fulfilled, and that we may express our hearty thanks to the contributors who have made our task so light.

The Allusions to Plants in the Poets have been dealt with by the Right Hon. Sir Mountstuart Grant Duff, F.R.S., and Sir James Sawyer, M.D., who have chosen for their subjects "Matthew Arnold" and "Herrick." Mr. James Britten, F.L.S. —probably the highest English authority on the Local Names and Folklore of Plants—has discussed these subjects with the assistance of a large number of collectors, amongst whom we may mention specially Miss W. M. E. Fowler, Mr. D. D. Dixon and Mr. G. T. Rope. Articles on Botany, in a more technical sense, have been written by the Rev. Prof. George Henslow, M.A., Mr. George Nicholson, A.L.S., Curator of the Royal Gardens, Kew, and Dr. F. N. Williams, F.L.S.

Warnings with regard to threatened destruction of beautiful scenery or the invasion of public rights have been given by Mr. George Murray, F.L.S., of the British Museum, Mr. Harvey Gibson, F.R.S.E., Mr. T. F. Wakefield, and Mr. Archibald Clarke. The Migration of Birds has been treated by the Rev. H. D. Gordon, M.A., the Rev. A. Rawson, M.A., and the Rev. H. D. Rawnsley, M.A.; the Destruction of our British Birds has been commented upon and lamented by the Rev. H. D. Gordon, the Rev. F. O. Morris, the Hon. Mrs. R. C. Boyle, Dr. James Clark, and others; while the question of bird wearing has been discussed by a large number of ladies in response to a letter written by that energetic Selbornian, Miss S. P. Hawes.

We mentioned certain societies as being in spirit closely akin to our own. Of these, Mr. Robert Hunter, M.A., of the Commons Preservation Society, has fully explained the history of that association, his work in connection with which is well known, and also of the Kyrle Society and the Metropolitan Gardens Association; while the aims and objects of the Society for the Protection of Ancient Buildings have been fully explained by the Secretary, Mr. Thackeray Turner.

Of the lives of naturalists promised we may mention "Thoreau," by Mr. J. L. Otter, the Hon. Treasurer of the Selborne Society, and "The Rev. J. G. Wood," by Mr. James Britten. In poetry we are indebted to the Rev. H. D. Rawnsley for several sonnets on the love of nature, but we regret to say that it has been impossible to find room for very much of the original poetry sent to us for insertion.

To many of our readers the most popular part of the Magazine has been that collection of notes and queries, correspondence and extracts which we have massed together under the heading of *Selborniana*. The hon. secretaries of various branches have been most kind in writing paragraphs, forwarding cuttings and suggesting topics for this department. Amongst these we have received the most valuable assistance from Miss A. M. Buckton, Miss Agnes Martelli and Miss Isabel Fry.

It was promised in our Programme that illustrations would occasionally be given "if funds permit." The Society has been under obligations during the year to two of the best-known

artists who deal with vegetable life—Mr. G. C. Haité, author of *Plant Studies*, and Prof. F. E. Hulme, author of *Familiar Wild Flowers*, and *Suggestions in Floral Design;* Mr. R. M. Watson, too, has placed at our disposal a series of admirable sketches of nature: but unfortunately our funds do *not* permit of much expenditure in the way of making our pages bright with pictures. May we hope that additional contributions to the Magazine Fund will enable us to do much more in this direction during the present year?

We must express much regret that NATURE NOTES has ceased to have as one of its editors Mr. James Britten, editor of the *Journal of Botany*, to whom the magazine has been indebted, not only for a vigorous use of the editorial pruning knife, but for able contributions on a variety of subjects. Although Mr. Britten is no longer able to act as co-editor, we trust that we may still have much assistance from his wide knowledge and versatile pen. The very valuable services, still continued, of Mr. Edward King, in arranging the business affairs of the Magazine, are acknowledged in another page.

There never has been the slightest difficulty in obtaining literary contributions for NATURE NOTES. Not one member of the Society who was asked to help has refused: indeed, the difficulty has been to select articles for publication from the large mass of material which has been placed at our disposal. When it is remembered that every one connected with NATURE NOTES has worked freely for love of the cause, without the slightest fee or reward (the only expense to the Society being the printers' bill and the cash expended in postage and carriage), it must be acknowledged that the Selborne Society has no reason to complain of the apathy of its members, who have shown the most loyal determination to support their organ.

The generous labours of our staff of contributors have not lacked thorough appreciation. Not only have the subscribing members of the Selborne Society largely increased (each such new member means the distribution of an additional copy of the Magazine), but the general public have shown their approval of the literary fare set before them by purchasing NATURE NOTES to a considerable extent. The opinion, too, expressed by the guides of public opinion—the newspapers and our contemporary magazines—has been distinctly favourable to our undertaking; our principles have been largely endorsed, and the form in which they have been set forth has been highly commended.

If we have done well in 1890, we hope to do much better in 1891. Our band of ardent volunteers will march more boldly with the confidence that is generated by success. The size of our journal is greatly enlarged, so that there will be much more space for the insertion of articles; the number of readers is largely increased, so that (to borrow a metaphor from oratory) every speaker will address a larger audience; our staff, too, will

be much stronger, for we hope to have the assistance of all the contributors who have been mentioned above, and in addition we have been promised articles by several new writers.

Among the objects which we have set before us, a special one is to secure more than hitherto the adhesion of the clergy as supporters of the Society and advocates of its principles. Many of them are among our best friends already, but we fain would have the number of clerical Selbornians increased. There ought to be at least one in every country parish; where there is an assistant-curate, a brace. We have often been reminded by laymen how comparatively seldom the love of animals and the study of nature are spoken of in our pulpits and our schools. We hope to return to this subject more than once; to give instructions for starting Selborne work as a part of parochial organisation, and for teaching the elements of botany and zoology in national schools in the manner practised by the late Prof. J. S. Henslow and his son, Prof. George Henslow, who so frequently contributes to our pages. The Bishop of Wakefield has promised, if he can find time, to commend such teaching in NATURE NOTES. We are sure there is no one whose example or opinion would have more weight with the clergy all over the land.

In the department of Botany, Bishop Mitchinson has promised a series of papers on the interesting subject of the distribution of rare plants in the British Isles, founded upon his own observations, while on the physiological side Prof. Henslow, Mr. T. D. A. Cockerell and others will discuss the *quæstio vexata* of the influence of environment upon plants.

In Ornithology, we have ready two series of articles which can hardly fail to interest all lovers of birds. Mr. Aubrey Edwards will contribute a remarkable monograph on the Orleton Swifts, in the form of letters addressed to Lord Selborne, which has already in MS. been highly approved by some of the best British naturalists; while Mr. A. H. Macpherson will give a Bird Fauna of Hyde Park, compiled from personal observation, which we hope will be as welcome to London naturalists as the admirable Flora of the same district of which Lord de Tabley is the author.

Of the papers on Museums promised to our readers, those on the Natural History Museum at South Kensington will be either written or revised by members of the staff; those on the Kew Museums will be contributed by the Curator, Mr. J. R. Jackson, A.L.S. A series of articles on "Home Museums" is being prepared by Mrs. Brightwen, who has already dealt with the subject in one of her books.

A series of papers upon the rural spots in the neighbourhood of London which are in most danger from devastation by the builder or annexation by the encloser, will be supplied by Mr. Archibald Clarke, from whom we have received important communications in similar cases before.

The Children's Column will be under the control of Miss Annie Wallis, Principal of the Richmond High School, who has rendered valuable assistance to the Society in the formation of a department for young Selbornians.

The increased number of our pages will give more space for reviews. Besides the books written by Selbornians which we have mentioned already, very many of the best books on natural history issued last year have been reviewed in our pages, and for the future we hope to supply our readers with a still larger number of notices. Distinctly Selbornian books, such as new editions of Gilbert White, the works of the numerous school of writers who imitate him to-day, books written by Selbornians or in accordance with the views of the Selborne Society will, of course, demand our first attention; but after these have been dealt with, there will be room enough to recommend such new books on botany and zoology as will be of interest to our readers and be useful for Selborne libraries, for prizes, and for teaching natural history in schools.

Articles on the derivation and pronunciation of the scientific names of British birds and plants have been prepared by the Editor, and will be inserted, if any space is left when the rest of our programme is exhausted. We shall make no rash predictions as to when that time will come.

Many of the readers of NATURE NOTES take in no other paper dealing with natural history, and accordingly we have received numerous applications to answer queries, name specimens, and give information as to the best methods and manuals for the purpose of nature study. In order that this may be done in the most efficient manner we have secured the assistance of several eminent specialists in both departments of biology. Mr. George Nicholson, Curator of the Royal Gardens at Kew, will be responsible for Flowering Plants; Mr. George Murray and Mr. Anthony Gepp, both of the Botanical Department, Natural History Museum, will be our authorities for Cryptogams; Mr. J. R. Jackson, Curator of the Kew Museums, for Economic Botany;* Mr. A. H. Macpherson, Mr. Aubrey Edwards or the Rev. H. D. Gordon will determine questions in Ornithology; Mr. W. F. Kirby, of the British Museum, and Mr. T. D. A. Cockerell will deal with Entomology; while the Mollusca will be undertaken by Mr. T. D. A. Cockerell and Mr. Anthony Belt. Answers to questions concerning the treatment of pets will have the advantage of being revised by Mrs. Brightwen.

We must apologise for the great length to which this article has run; but we believe that most of our readers will be glad to have an account of the present position of our Society, together with full information as to the writers who have helped

* Since the above was in type, Mr. Britten, to whom we are under so many obligations already, has kindly written to say that he, also, will be glad to act as referee in matters botanical.

us in the year that is past, and to whom we look for aid in the year to come.

REVERENCE.*

THERE is an inner voice in woods and hills
  Most sweet that it hath no articulate word;
  The mystic chant of rivulet and bird
With dreamlike longing all my spirit fills;
Great Nature with half-spoken mystery thrills;
  And, were the spell with which the heart is stirred
  Laid rudely bare, the voice were no more heard
Ringing from all the mountains, woods, and rills.

And Thou, O God! before whose burning throne
  With folded wings the Seraph veils his face,
I ask not, foolish-hearted, to be shown
  The vast dread secrets of Thy dwelling-place,
But rather, filled with reverent awe, would bend
Before a God I may not comprehend.

W. WALSHAM WAKEFIELD.

A NEW THEORY OF FLORAL STRUCTURE.

IN my last communication to NATURE NOTES† I showed how the leaves of plants can become profoundly altered by a change of environment; and that such alterations of structure they, as well as stems and roots, undergo, are due to the responsive power of the living protoplasm to the direct action of the environment upon those organs.

In the present paper I propose to consider a theoretical Origin of Flowers by the aid of insects and other agencies.

So much has been written about the fertilisation of flowers that I will presume the reader to know what is meant by the process of placing the pollen from the anther upon the stigma of the pistil to secure the fertilisation of the ovule and its subsequent conversion into a seed.

Nature secures this by three different ways. Some flowers, like the Spotted Orchis, require the visits of insects or the pollen can never escape at all. In others, as the Stinging Nettle and Fir trees, the wind blows the pollen from one plant to another. In the majority of cases flowers are capable of setting their own seed, as the stamens and pistils are in the same flower; and though many such are nevertheless adapted to insects conveying the pollen from one flower to another, yet they can with comparatively few exceptions sooner or later succeed in fertilising themselves. In a large number of instances flowers are never

* Reprinted from the *Spectator* by kind permission of the Lord Bishop of Wakefield.

† The Influence of the Environment upon Plants, vol. 1, p. 169.

fertilised in any other way, the anthers being placed in direct contact with the stigmas in one and the same flower. Indeed in many such cases the flowers scarcely or at all open, there being no necessity for doing so. It is worth while remarking that regularly self-fertilising as well as wind-fertilised flowers are the most abundant and the most widely dispersed of all flowering plants over the world.*

When we examine flowers which are specially adapted to the visits of insects, what strikes one is the extraordinary amount of minute details in every part of the flower, which all conspire to enable the insect to extract honey or pollen for food, and at the same time insure that it shall be dusted in such a way as to compel it to carry the pollen direct to the stigma of another flower when it visits it. The pistil is always so situated as to receive the pollen on the stigma. Thus in all flowers growing close to the stem, as the Dead Nettle, Gladiolus, and Snapdragon, the flower is "irregular," that is, the parts are of different shapes. The flower can only be visited in one way, or from the front. Hence there is a large petal or "lip" acting as a landing place, or, if no petal be there, the stamens are bent downwards, and then turn up to support the weight of the insect, as in the Horse-chestnut and Rhododendron. The honey gland is always so placed that the insect can reach it most easily. It is, moreover, perfectly correlated to the position of the anthers and stigmas. Thus, if the Gladiolus be examined, the three anthers will be seen to be arched over the front petals, and strike a bee on the back or thorax, the three-forked stigma overhangs them and readily hits the same place on the insect. In the Crocus, however, which belongs to the same family as the Gladiolus, the three stamens are erect around the style, which terminates in a brush-like stigma. The tube of the flower is so contracted that the bee cannot walk down it, but alighting on the stigma crawls head downwards, grasping the stamens with its legs. The anthers conveniently burst outwards, and so dust the insect in this case on the underside. On flying off to another flower it settles on the brush, and the pollen is then removed by it from the bee and fertilises the flower.

The question arises, How have these innumerable differences in floral structure come into existence? How have all the myriads of forms of flowers been made? The reply seems to be that they have grown in response to the irritations set up by insects, similarly as the leaves of water plants have grown in form and anatomical structure under the action of their environment.

What we know about the properties of the living substance

* It was formerly thought by Mr. Darwin that self-fertilisation was in some way injurious to plants, and that, if persisted in, they would gradually die out. It is now known that this idea was based on an entirely erroneous supposition, and was not deduced from actual observations of living plants. Mr. Darwin himself latterly conceded the importance and recognized the frequency of the process.

of plants called "protoplasm" is this, that it is extraordinarily sensitive to all kinds of stimulants, such as heat, light, air, water, chemical substances and also mechanical irritations. The last is the one specially concerning us now. We know that a merely mechanical touch of a stick will cause the tendril of a Pea to twist round it; that a rough wall induces the slender tendrils of the Virginian Creeper to develop little adhesive pads and then to thicken and twist as well; that the leaf-stalk of a Clematis twists round a support and at once develops a quantity of woody tissue in consequence. These and many other instances show that growth can be made to take place in response to mechanical strains and forces brought to bear upon plants. Now apply this to flowers, and similar or analogous effects are seen. The insect has to alight. If it have to rest on a flower, the latter must accommodate it. This it does by enlarging the lip, &c. At the same time it secretes honey just where the insect sets up an irritation by probing for juices.

If we thought the flower made the honey-glands in anticipation of an insect coming, we should fall into the old mistakes of what is called Teleology. Hence there is no alternative but that the insect itself is the direct cause of the secretion.*

It would take too long to furnish all the facts and reasonings to support this view, that all flowers adapted to insects have assumed their present forms through what may be called the "Responsive power of Protoplasm" on the one hand, and the "Direct Action of the forces of the Environment," using the term in the widest sense, on the other.

Conversely, those flowers which, from some reason or other, such as migration, are no longer visited by the particular insects which attended them, or have found an inclement climate, or have degenerated in structure; they no longer develop honey, they reduce the useless expenditure of too many stamens, and place the anthers in direct contact with the stigmas of the same flower. They thus become perpetually self-fertilising; such are the Knotgrass (*Polygonum aviculare*), Shepherd's Purse (*Capsella Bursa-pastoris*), varieties of Chickweed (*Stellaria media*), &c.†

The reader must understand that these few cases of adaptations in the vegetative organs of plants and in their flowers are but *hints*, as it were, of the vast number of facts which, taken together, offer an accumulative evidence which is forthcoming when we study plants, especially in relation to their environments; so that the conclusion is forced upon one that all kinds of structures which are in adaptation to the environment have been brought into existence by the plant responding to it; that

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* It might be suggested that flowers *spontaneously* vary in all sorts of ways, and that those *best adapted* to insects *only* survive; but there is no evidence in support of this idea. It therefore remains an *à priori* assumption only, without any verification.

† The reader will find the whole subject treated in *The Origin of Floral Structures*, International Science Series, No. 63.

the action having been kept up for successive generations becomes fixed and hereditary. And any feature thus permanently retained becomes a "specific character." Thus new species arise as seeds get dispersed over new areas, and so brought under the influence of new conditions and a new environment.

GEORGE HENSLOW.

THE ORLETON SWIFTS.

(A LETTER TO THE RIGHT HONBLE. THE EARL OF SELBORNE.)

The Vicarage, Orleton, Herefordshire.
August 19, 1890.

DEAR LORD SELBORNE,

Of all the birds in this quiet country place the Swifts have been the favorite objects of my attention for many years. The following notes are the result of observations for which I have had exceptionally good opportunities. This house (the Vicarage) stands but a few yards from the church. A pathway without a fence separates the garden from the churchyard. About 70 or 80 Swifts build in the church, and I have watched them for wellnigh 20 years.

But before you attend further to me I must ask you to read Gilbert White's "Monograph on the Swift," in *The Natural History of Selborne*.* This you will find no penance, though you may often have read it before. I shall ask you to take these notes as supplemental to his paper, for I shall not travel over the same ground, except there and here, just to corroborate or correct some of his conclusions or conjectures.

The Swifts arrive here on or about the 5th day of May. One pair, or sometimes two, will appear first, a day or two afterwards half-a-dozen more, and within a week the main body will have come. And then when the sun shines the delightful scream will be heard, the most joyous of all Nature's sounds to my ear, the sure prelude of Summer.

The birds gather in a close-ordered company, and dash round in a ring between the Church and the Vicarage, chasing or following their shadows along the broad, tiled roof of the nave, as they skim over almost touching it with quivering wing-tips, screaming with all their might in an ecstacy of joy. To those who can enter into the spirit of it, the sound is a joyous one indeed. Their flight when in this chorus is peculiar. When they first join it their wings are spread straight out and held motionless, so that they start slowly and seem to give others time to join in; but when they want to increase the

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* Letter 21, page 179, Original Edition.

pace, they do not move their wings as in ordinary flight, but the ends alone seem to vibrate, as if the merriment of the proceeding was thrilling the birds through to their finger-tips. It seems, to an observer, that if this mode were not adopted, the birds would not be able to proceed in such close order as they do, for their wings would clash.

The Swifts always follow the same course in these concerts, and they accelerate their flight and increase the noise, at the same point as they must have done for hundreds of years, and they always go the same way round—against the Sun. Here, they have two courses. The one on the north side of the Church is along the roof of the nave from west to east, turning at the chancel and round by the corner of the Vicarage, and so back again to the church. Sometimes they will take the steeple in their round, but not often. On the south side, also, they are as fond of getting as near to the church as they can ; they turn at the tower and take a sweep round the churchyard and back to the chancel. I do not remember ever to have seen them going round *with* the sun.

Seven pairs build in the tower, about the same number under the north eaves of the nave, and nearly twenty under the south eaves of the nave and chancel, and one pair has for the last three years built in the north-east corner of the Vicarage.

I can fully bear out what Gilbert White says about the Swifts coupling on the wing, having observed the fact long before I read his book. The bird's wings are stretched out and held quite still as they gently descend through the air.

As to their nests I do not think with him that the Swift would usurp the Sparrow's nest. For one reason, the Sparrow is always the earlier bird and has possession, and a Sparrow is a hard tenant to evict. When a crevice developed in the splitting Church Tower,* I saw a Swift going up repeatedly to see if it would do for her nest, but the Sparrows came and took possession and the Swift left the place alone. Likewise, when the Sparrows were allowed to build under the eaves, the Swifts could not find room in the Church, and some built in the old cottage at the bottom of the Vicarage garden, and did not molest the Sparrows. The Swifts seem to know that the sparrow is not their friend, for I have often seen one swoop at a Sparrow sitting on the edge of the rainpipe on the Church, and the the latter would "duck" as the Swift passed over.

But I should say that when a Swift is actually on the nest, a Sparrow would know better than to seek an interview. Last year I witnessed part of an interesting "scene." Of a pair of Starlings who had for years built in a certain spot in the Church Tower, only one bird was left, and I had not seen it for some time. However, one day I saw it go into the nest in the Tower; but a Swift had forestalled it. There was loud screaming, not the joyous scream of the Swift, but the painful scream

* Now, I am happy to say, braced up with stout iron rods.

of the Starling, which came out on to the pipe, but after thinking it over for a moment went back to expostulate. There was more screaming, and when the starling came out again its feathers were flying. It went away and the Swift was left in peace, and reared her own family. If you will permit a Swift to grip one of your fingers with its sharp and hooked claws, you will be able to sympathise with the Starling. A Swift will not turn a Starling out if the latter is in possession; but in this case the Starling had left the nest and had come back too late. As far as I have been able to observe, Swifts and Sparrows and Starlings generally respect one another's rights of property.

The Swifts build their own nests, and very neat little structures they sometimes are. Small shallow cups with firm hard walls, cemented together with the viscous saliva of the builders. I have seen these nests built of small bits of material, such as lichens and moss, and they are then very neat and very hard. But more often grass is largely used in their composition and then they are not so tidy. Of course, if a Swift finds a nest ready made, it does not take much trouble about building a new one for itself.

Very careful watching is required to see the Swifts bringing materials to their nests. One summer, early in June, having just read Gilbert White's monograph, I went and stood for some hours under the eaves of the church on the south side, and was rewarded by seeing several Swifts come again and again with bents of dry grass in their beaks. This was not easy to detect, for the air presses the material so close against the bird's breast that it can only be seen at a very short distance. One returned with a feather. The bits of dry grass were picked up by the birds as they skimmed over the meadows hard by. Since finding out at that time that they had considerable difficulty in procuring materials, I have always supplied them with feathers. These I scatter on a windy day from the sound-holes in the belfry, and though there may be but few Swifts flying round at the time, the rest are soon made aware of what is happening, and come in numbers to gather the feathers, which I always take care shall be white, as they can be seen further than others, and attract the attention of the birds sooner. It is a very pretty sight to see them swooping at the feathers and racing for them, sometimes from opposite directions, but with never a collision. I have often had them take the feathers at a distance of a few feet from where I stood on the steps of the Cross in the churchyard. A bird will not be content with one feather, but will pursue others until it has quite a burden to take to its nest, which it sometimes finds difficult to reach in the high wind. When in the belfry I have seen these feathers brought up to the nests close to my feet. It would seem that both sexes collect them, for I have seen the two come feather-laden to their nest, and soon it is difficult to discover a Swift without a feather in its mouth or holding aloof from the chase. When feathers are not given to them

they have, of course, to be content with such things as they can find floating in the air, as lichens blown from the branches of the apple-trees, bits of grass taken up by the wind. A dead leaf, floated by a spider's web, I saw one take this Spring, and last year I saw them catching the coloured sepals of the white clematis which grows against the Vicarage wall.

When I was about twelve years of age, and trapped and catapulted without discrimination or remorse, I must confess to having set a cruel trap for the Swifts, but fortunately they were not to be caught. I stretched a fishing line in the path of one of their rings from the top window at the East of the Vicarage to the top of the fir-tree close to the Church Tower, and on this line were several trout flies, fastened as droppers. But, I suppose the gut was not long enough, and the flies were too still. The Swifts would check and look at them, but pass on undeceived. Swallows and Sand Martins have often been unintentionally caught by fishermen on the banks of a stream, but then the fly is moving through the air and the deception is complete. A small feather on a small hook at the end of a fine trace would be very likely to catch a Swift on a windy day.

AUBREY EDWARDS.

[Since this has gone to press I have seen a notice in the *Field*, November 29, 1890, of a Swift being hooked last year on the Test.—A.E.]

(To be Continued.)

THE EFFECT OF ALTITUDE ON PLANTS.

PROF. HENSLOW, in his most interesting paper in the November number of NATURE NOTES, asks for evidence as to the influence of environment upon plants. Without doubt, one of the most marked instances of the effect of conditions of climate and other external influences is afforded by the change which plants undergo at a high altitude above sea level. Many species which abound in the valleys are replaced on the mountain-tops by others differing from them in ways which often suffice to stamp the latter as alpine at a glance. Others, ranging within specific limits through considerable differences of altitude, present, on the high mountains, varieties which never, or very rarely, occur on the plains.

The nature of the changes due to altitude.—In order to obtain a clear idea of these changes, it will be necessary to consider those which are least permanent, and which occur within the limits of a species. Such are called forms or varieties, and embrace differences in the colours of the flowers, the height of the plant, the hairiness of the stem and leaves, the shape of the leaves, and so forth. We shall see that all these characters tend at times to become specific; that is, characteristic of a species.

Alpine dwarfs.—The most simple and least unexpected effect of altitude is dwarfing. Want of nutriment, cold, and the general climatic conditions of a mountain summit are such as one might naturally expect to cause dwarfing. Strong winds, also, may have their influence, and those plants which do not too boldly raise their head to the blast will, perchance, less easily be cut off before the ripening of their seed.

Presently we shall see that the *short* alpine summer is another, and, perhaps, very strong reason for the existence of dwarfs on mountain-tops.

Examples of dwarfs.—All the examples given in this paper will be taken from the Rocky Mountains; the reader who has travelled in Switzerland will call to mind similar instances in the Alps. In Coulter's *Manual of Rocky Mountain Botany*, thirty-nine varieties are described, which are peculiar, in part at least, for their dwarfed stature. Such are *Draba alpina*, variety *glacialis*, a whitlow-grass from the Yellowstone region; *Nasturtium obtusum*, variety *alpinum*, a cress of the Uinta mountains; *Stellaria longipes*, variety *Edwardsii*, "branches an inch or two high," mountains of Colorado, and so forth—reduced alpine forms.

This dwarfing is not confined to herbaceous plants. The "Quaking Asp," *Populus tremuloides*, is a tree 20 to 50 feet high, common on the mountain slopes of Colorado. Near Brush Creek, above 10,000 feet, I found the tree represented by a new form *minor*, only 6 to 10 feet high.*

The tendency of dwarfing to be inherited.—That such dwarfing as I have described above is the result of external conditions can hardly be disputed. But does it tend to become permanent?

Phlox is a genus of fine herbaceous plants; *Silene*, in its usual forms, is not insignificant in size. But on the summits of the Colorado mountains we get *species* of these genera, *Phlox cæspitosa* and *Silene acaulis*, so dwarfed, and densely matted on the ground that people call them "flowering mosses." Here, clearly, the dwarfing has become permanent and peculiar to the species.

Similarly, oaks in most parts of the world where they grow are fine trees; in Colorado the native oak, *Quercus undulata*, is, most commonly, only a bush clothing the slopes of the mountains.

The flowers do not become dwarfed.†—The low stature, but bright and *large* flowers of high mountains are familiar to alpine travellers. The Polemoniums, Phloxes, Gentians, and others have *large* flowers, at least in comparison to the size of the plant.

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* *Populus tremuloides* f. nov. *minor*, 6 to 10 feet high; stems branching from the base upwards; leaves small; petioles red. Gulch above Micawber Mine, Custer Co., Colorado.

† This refers to entomophilous plants; there is a class of exceptions to be explained later on.

Often, they seem nearly all flower, with little foliage. This is a character of Alpine *species*, but we see it also in varietal forms. *Erysimum asperum* is a pretty crucifer, not very unlike our wall-flower, growing abundantly in Wet Mountain Valley. At timber line, I found a dwarf,* not 2½ inches high, but with *the flowers of the usual size of the typical form.*

The advantages of these peculiarities.—As stated before, it may be an advantage to plants where the winds blow strongly, to be dwarf: but this is hardly the main advantage of dwarfing. Transport an ordinary valley seedling plant to a mountain top, and watch its growth. Without having made the experiment, we can judge what might happen. Supposing that the forces of heredity were strong enough to prevent dwarfing (which I can well imagine), our plant would throw out abundant foliage, a well-developed stem would be produced, and finally, as the buds were forming, the short alpine summer would be ended, and it would die under the violence of the storms. With true mountain plants it is different. When the snow and ice melt in the early summer, every energy is thrown into the main purpose of producing flowers and seed. There is no time or use for luxuriant foliage or diffuse growth, but quickly opening attractive flowers appear, and as quickly vanish, having received their insect visitors in the short sunny season, and perfecting seed before the winter snow blows over them.

Such plants, indeed, are intensely *katabolic*, full of energy and change. Later on, the frequent blue colour of their flowers will be seen to be probably a result of this.

One other advantage of dwarfing remains to be mentioned. Where it is so cold, some additional warmth may be secured by close proximity to the ground, which is warmed in the daytime by a brilliant sun. So altogether, in the production of alpine dwarfs, it seems that both environment as such and natural selection may come into play. T. D. A. Cockerell.

(To be continued.)

ANECDOTES OF ANIMAL INTELLIGENCE.

EVERY month we receive for insertion in Nature Notes a large number of letters setting forth the marvellous sagacity of the writers' pets. We much regret that considerations of space, as well as of the special objects of the Selborne Society, prevent us from publishing all these wonderful tales, but we are unwilling that they should be entirely lost, and therefore wish to intimate to our correspondents that there are several of our contemporaries who have more space at their disposal, and who would probably gladly receive

* *Erysimum asperum* f. nov. *nanum*. Only 61 millim. high, flowers yellow and of typical size. Timber line above Micawber Mine, Custer Co., Colorado.

the stories, most of which we are obliged reluctantly to decline. Several newspapers whose columns were until lately reserved for such comparatively trivial subjects as politics, finance, and parliamentary intelligence have recently admitted letters from correspondents, who vie with each other in proclaiming that the particular pet of each is superior to all others. The *Daily News* has initiated an interesting and amusing discussion of this kind, which took its rise from a false reading of a passage in Mrs. Brightwen's *Wild Nature won by Kindness*. But the *Daily News* has been by no means alone in its readiness to march with the times and its discrimination of the subjects most likely to attract the British Public. In the words of a contemporary "For some time past there has been a great boom in animals. The *Spectator* has told us of their imitative instinct. We have read 'Notes from the Zoo' in the *Saturday Review*." To these we must add a series of articles on "Home Pets" begun in the *Speaker*, which promise to throw much light upon questions of comparative psychology, if those which are to come prove of equal value to the first in which a lively writer narrates how he has comparatively tamed and kept in captivity some specimens of that interesting but irritating animal the "Human Boy!" Besides the various journals we have enumerated as newly acquired allies in the work of popularising Natural History there is of course the *Animal World*, which has for many years supplied its readers with invaluable anecdotes of intelligence, shewn by the so-called "brute creation," and its new companion, the *Animal Guardian*, whose appearance we are glad to hail, although we do not necessarily endorse the whole of its "platform" (if one may be allowed that convenient Yankeeism). Many of the communications for which we are unable to find space in our over-loaded columns, might well be sent to some of the quarters indicated above: some, indeed, are of such a wondrous nature that we fear they would only find admittance in those periodicals whose useful function it is to purvey harmless fiction for the reading public.

But to the "self-denying ordinance," which we are often obliged to enact with regard to the greater part of the tales which reach us, there are some exceptions. The value of a narrative is often dependent on the known character and position of the narrator. Without any disparagement to anecdotes kindly sent by contributors, we must confine ourselves to the following received from the Rev. F. O. Morris, of Nunburnholme Rectory. With regard to at least one department of the Selborne Society's work, Mr. Morris was an ardent and active Selbornian long before the Selborne Society was founded. He has given a large part of a long and busy life to the protection of and pleading for unprotected animals, especially birds.

Mr. Morris is a man of strong views strongly expressed. Many Selbornians may not agree with all the opinions which he advocates with the vigour of a youth and the experience of a veteran, but we all doubtless agree in our admiration of the

spirit which animates one who has earned for himself, as the result of untiring energy in the advocacy of a good cause, the honourable title of "The Friend of the Birds." [Ed. N.N.]

The Rev. F. O. Morris writes:—I think there is nothing, or at least I think that there ought to be nothing, which should more call upon us for the exercise of good feeling and kindness towards animals than authentic accounts of their wonderful intelligence, and even reasoning powers so closely allied to our own, and their many good qualities, which I can only wish were equalled by far too many among ourselves. I have determined to send you some such for insertion in NATURE NOTES, in the hope that they may be useful in this direction. The first communication which I wish to lay before your readers is from T. C. Thring, Esq., of the Chauntry, near Bradford-on-Avon. He sends the following details of a tame rook:—"Grip made her abode with us of her own free will, she was released from a cage after a short confinement, with the intention that she should rejoin her kindred. These are wont to come on to our lawn, make their nests in trees close by, from one of which she had been taken. She struck up an ill-assorted friendship with King Tom, a fine peacock, and learnt to imitate his cry very perfectly. She evidently enjoyed the jugglement created by the imitation of the cackling of a hen, the barking of a dog, and 'other queer sounds she made. She knew the members of the family, and always became one of the party when my daughters sat out on the lawn, and would hide all sorts of 'finds' under their gowns. She was certainly the most amusing and intelligent pet we ever had, and her loss, which we believe was caused by a gun-carrying loafer, is irreparable. I suppose it is natural to attribute our own ideas to animals, yet their capacity for understanding, and evident pleasure in conforming to our habits, entitle them to close companionship and friendship. It is clear to me that they understand the meaning of words, though the vocabulary be a short one; yet I hardly know whether to wish that they could express their feelings to us by them or no. The speech of Balaam's ass is no exaggeration of what those feelings must be, though they be inexpressible by word of mouth. Kindness to them is certainly well repaid, and life has doubtless been more often saved by their love than has found grateful record; while cruelty has incurred punishment from a dumb, but not a forgetful, recipient of needlessly inflicted injuries."

Here is one from a valued correspondent, than whom the animals have no better nor more useful friend, Mrs. Sheppard, of The Cottage, Frome, Somersetshire:—She had it from the wife of the Bishop of Mackenzie River, who vouched for the truth of it herself—"A small white terrier, belonging to Mrs. Alliam, had the bad habit of barking violently at the carriage horses when about to start. In vain was Pet scolded, he still persisted in his evil doings. At last one day he got too near one of the horses, and received a severe kick which sent him away yelling with pain. From that time Pet felt the danger

involved in his rude and objectionable conduct, and yet he knew that his tumultuous feelings were beyond his own control, and accordingly hit upon the device of holding a log of wood in his mouth whenever he saw the horses harnessed! He does this still every day, hiding the log in readiness and carrying it in his mouth."

In conclusion let me invite the attention of owners of property to the following good example which is described in a letter from Stephen L. Simeon, Esq., who writes to me as follows from the Committee Office, House of Commons. "I feel very much for the poor little birds whose nests are so ruthlessly robbed and destroyed. You may be interested to know that my brother Sir Barrington Simeon will not allow a nest to be taken, or a squirrel killed anywhere in his grounds in the Isle of Wight. The result is that the place is full of squirrels and alive with birds, and they really don't do half the damage they are popularly supposed to. And even if they do some harm, surely the world is big enough for us and them! Though we are of "more value" than the sparrows, we are often not half so pleasant, and certainly not so musical as most of our feathered friends."

F. O. MORRIS.

BOOKS RECEIVED.

OWING to the great pressure on our space it is impossible for the present to insert reviews of the following books which have been sent to us. In the next number of NATURE NOTES a number of them shall be dealt with.

As many of our readers have asked that the prices of books should be given, we have endeavoured to do so. It would be a great convenience if publishers, when sending books, would kindly state the price.

Monograph on the British Cicadæ, by George Bowdler Buckton, F.R.S., vol. 1 : Macmillan and Co. [In 4 parts, price 8s. a part.]

The River-side Naturalist, by Edward Hamilton, M.D., F.L.S. : Sampson Low, Marston and Co. [Price 14s.]

'Twixt School and College, by Gordon Stables, M.D. : Blackie and Son, 1891. [Price 5s.]

Nature and Woodcraft, by John Watson, F.L.S. ; Walter Smith and Innes. [Price 5s.]

Modern Ideas of Evolution, by Sir J. W. Dawson, 4th edition : Religious Tract Society. [Price 5s.]

The Pinks of Central Europe, by F. N. Williams, F.L.S. : West, Newman and Co. [Price 4s. 6d.]

Natural History of Selborne, by Gilbert White, Ed. J. E. Harting, F.L.S. : Swan Sonnenschein and Co., 1891. [Price 4s. nett.]

Voyage of the "Beagle," by Charles Darwin : T. Nelson and Sons. [Price 4s.]

Wanderings in South Africa, by Charles Waterton : T. Nelson and Sons, 1891. [Price 4s.]

The Science of Fairy Tales, by E. S. Hartland, F.S.A. (in the Contemporary Science Series) : Walter Scott, 1891. [Price 3s. 6d.]

The Hand-book of Folk Lore, by G. L. Gomme, F.S.A. : David Nutt. [Price 2s. 6d. nett.]

The House Sparrow, by J. H. Gurney, C. Russell and Elliott Coues : William Wesley and Sons. [Price 2s. 6d., pub. 3s. 6d.]

The Natural History of Selborne, by Rev. Gilbert White, Ed. by Thomas Brown, F.L.S. : Chatto and Windus. [Price 2s.]

Practical Observations on Agricultural Grasses, by William Wilson, jun. : Simpkin Marshall and Co. [Price 1s. 6d.]

Wild Berries and other Edible Fruits of Newfoundland and Labrador, by Rev. Arthur Waghorne: Mercury Office, St. John's, Newfoundland. [Price 10 cents.]

The Antiquary: Elliot Stock. [Price 1s. monthly.]
The Bookworm: Elliot Stock. [Price 6d. monthly.]
The Field Club: Elliot Stock. [Price 3d. monthly.]

SELBORNIANA.

Sympathy of Birds with their kind.—The Bishop of Wakefield sends us the following communication in reference to Miss Buckton's article in the November No. of NATURE NOTES:—I can add a very pretty instance of sympathy of birds for other birds not closely related to themselves, which occurred in my own house. We had a large cage containing many various birds, and among them a male canary, and two little mannikins. The latter we thought highly uninteresting until one day I brought home a hen canary in a small cage, and introduced her into the somewhat mixed society of which she was to be a member. I am sorry to say her intended husband paid her no sort of attention, but the two little mannikins immediately went to the seed-vessel, and brought her seeds, feeding her with them in turn. This courtesy to the strange lady was very pretty. Plainly they thought she would not know where to find the seed. They never did this, or at least they were never seen to do this, after the first day.

WM. WALSHAM WAKEFIELD.

Evolution.—I have no doubt but that many of your readers will go with me in being gratified by your remark at the end of the article on the above-named subject in the November number of NATURE NOTES, *viz.*, that you will gladly open your pages to any reply to it. I am not myself competent to offer such, having never studied the subject of Botany beyond having been very fond, when a boy, of collecting and drying wild plants; but I think there are difficulties on the surface in the article referred to. It states that under changed circumstances one and the same plant can throw out leaves adapted to its new state. But if it has had these two capabilities already in one and the same individual existence, there is no new species involved. The question, I think, is, if the species under a change of conditions will produce a different form of leaf adapted to its changed state, will it or will it not, in its progeny, revert to its original form, if the old circumstances are recurred to? If so, it can be but one and the same species all through, endowed, from the first, with power to adapt itself to a new condition of existence.

Nunburnholme Rectory. F. O. MORRIS.

The Eyes of Albino Birds.—The occurrence in the last number of two references to cases of albinism among birds encourages me to ask readers of NATURE NOTES for information on a point of some interest. It is well known that among the Mammalia an albino individual has pink eyes, and, judging from stuffed specimens, taxidermists evidently believe the same rule holds good among birds. This, however, appears to be by no means certain, and the records of any observations readers may have made on the subject would be valuable help towards settling an interesting biological question.

Ealing. ANTHONY BELT.

OFFICIAL NOTICES, &c.

THE object of the Selborne Society is to unite lovers of Nature for the following purposes:—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

At a largely-attended meeting of the Council of the Selborne Society, held on January 7th, the following resolution was passed by acclamation :—

That the best thanks of the Society are due to the Rev. Percy and Mrs. Myles for the manner in which they have so successfully produced NATURE NOTES during the past months, in spite of the very serious illness of Mr. Myles.

Cordial and unanimous votes of thanks were also passed to Mr. Edward King for the great trouble taken by him in making arrangements for the business management of the Magazine, and to Mr. T. F. Wakefield for his services as Hon. Sec. of the Magazine Committee. The resignation of Mr. James Britten as co-editor was accepted with much regret.

A new Branch of the Society at Halifax (Hon. Sec., Mrs. Oakes, Southwood), was formally enrolled, and applications were made for the formation of two other Branches. Miss Mabel Parmenter, The Limes, Braintree, Essex, was appointed Hon. Sec. of the Atalanta Branch, instead of Miss K. M. Wyatt, who has been obliged to resign on account of her leaving England for the Continent. Miss Isobel Waterston (Hon. Sec. of the Forth Branch), 45, Inverleith Row, Edinburgh, would be glad to hear of any Selbornian who would undertake to be Hon. Sec. of a Clyde Branch, as there are several members of the Society in the neighbourhood of Glasgow, but as yet no local organisation.

Several members of the Council expressed their gratification at the continued advance of the Society, the active work done by its Branches, the great success and hopeful prospects of its magazine.

The new design for receipt-books prepared by Prof. F. E. Hulme was warmly approved ; but many of those present did not think that the engraving did full justice to Professor Hulme's beautiful drawing.

Strongly-bound *Books of Receipt-forms*, with counterfoils, may be obtained from the office of the Society, price 2s. per book of fifty.

Cases for binding the first volume of NATURE NOTES, with an appropriate design, have been prepared, and may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi, price 1s. each, or, if desired, the numbers of the magazine for the year will be bound in case at a cost of 1s. 3d. plain edges, 1s. 10d. gilt, by John Bale and Sons, 87-89, Great Titchfield Street. The name and address of sender, together with the amount in stamps, should in every case be enclosed with the magazines to prevent mistakes and delay.

NOTICE TO CORRESPONDENTS.

To prevent mistake or disappointment, we request attention to the following rules : —

As NATURE NOTES is published on the 15th of each month, and the amount of MS. material received is always far greater than the available space, contributions should be forwarded *before* the 1st of the month in which it is desired that they should appear.

Correspondence intended for insertion in the magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with botany or zoology will be answered if possible, and advice will be given as to the best books for students in any department of natural science ; but all questions must be accompanied by the names and addresses of the writers, not for publication, unless it is so desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

No. 14. FEBRUARY 14, 1891. Vol. II.

FEBRUARY.

THOUGH the lover of Nature finds at all seasons objects of interest, it is idle to gainsay the fact that the sweet spring time, the glorious months of summer, and the fruitful autumn, are far richer in these than the brief hours of daylight of inclement winter. We therefore welcome the advent of February less for its own sake than as a distinct and realisable step forward to those brighter, longer days which in November or December seemed so hopelessly remote, but which each lengthening day now brings within more measurable distance.

The proverbial wisdom and folk-lore of our ancestors have clearly established the fact that February ordinarily has an exceptional amount of snow or rainfall, and modern experience confirms the observations of the past. Our ancestors also amply realised the fact, as we must do, that such inclemency of weather, whatever personal inconvenience it may cause, is emphatically the right thing in the right place; hence we find the adage, "Feb, fill the dike, with what thou dost like," while another old saw says, "February, fill-dike, be it black or be it white, but if it be white it's better to like." Farmers well know what protection to their crops is afforded by a coating of snow. Nothing is more common than to see, during a hard winter, great injury done to wheat, turnips, or the like in exposed places from which the snow has drifted away, while those parts which are well covered by it are perfectly unhurt. The plants below the snow are usually subject to a temperature very little below the freezing point, while those that are exposed suffer a far more intense cold not only from the air around them but from the effects of radiation. Hence the Esquimaux takes refuge from the biting cold in his hut of snow, not because he has read Tyndall or Glaisher on the point, but from the very sufficient reason that he finds beneath its shelter the welcome warmth that he seeks.

"All the months of the year curse a fair Februeer;" hence the agriculturist regards with much equanimity the downfall, be it either black or white, rain or snow. To dwellers in towns a fall of snow is but a nuisance, to be as quickly removed as may be, but in rural districts its softly-falling flakes clothe the whole country side with a mantle of exquisite purity. There is scarcely a more charming object in nature than the beautiful modelling and light and shade of a great snowdrift seen in the clear frosty air, with its play of surface lighted up in the sunshine, and over all the blue sky that even February can often show in the great downlands far remote from the contaminations of towns. While the Londoner is sitting poisoning himself all day in his gas-lighted office or groping his way through dense fog, twenty miles away the keen bracing air is exhilaration and life, and the clear atmosphere reveals the wide-spreading prospect robed in dazzling brightness, while at night in the frosty atmosphere the starry dome has a brilliancy, beauty and clearness that no other season can afford.

It would not be fair, however, to omit to point out that the question has another side. Long-continued frost means acute distress to the poor, and "lovely skating weather" is enforced idleness to thousands to whom work is life. In the country too we may well exclaim with Kirke White:—

> "God help thee, traveller, on this journey far;
> The wind is bitter keen, the snow o'erlays
> The hidden pits, and dangerous hollow ways,"

as we recall how, within a radius of a few miles of our home on the Wiltshire downs, over twenty shepherds and others perished in one night beneath the shrouding snow, or how a waggon, four horses, and three men in the blinding storm got off the track, and though searched for by scores of willing helpers, were not discovered for many days in the gently falling snow that had hour by hour more deeply buried them. In the same way long protracted rain or too speedy thaw may lead to floods that may cause immense injury and loss of life and property, another of our painful experiences consisting of standing helplessly watching the rushing waters that surrounded cottages, to the inhabitants of whom the flood might mean destruction, the loss of pig and chickens, the floating away of woodstack and furniture, and the imminent risk that the cottage itself might be undermined and sink to ruin in the swirling torrent.

We notice from observations before us that in 1880 rain fell in greater or less degree on twenty-six days of the twenty-eight of the February of that year—an amount that would surely satisfy even the most exacting. "If in February there be no rain, 'Tis good for neither hay nor grain;" but whether the hay and grain of 1880 were above average we cannot recall. We note, too, that in February, 1883, one-sixth of the total of the rainfall for the whole year fell in three weeks, necessitating the entire suspension of all farming operations, and causing very serious

floods. It is, of course, needless and inadvisable in the short space at our disposal to particularise individual years: it will suffice, then, as a proof of the rainy character that February bears when we give the following figures—eighteen, twenty-two, twenty-one, twelve, nineteen, twelve, fifteen, twenty-two—as the number of days of rainfall in the Februaries of eight consecutive years. On the Republican reconstruction of the calendar in France, in the year 1792, the twelve months received names descriptive of their characteristics: thus January was Nivose, the snowy month; March, Ventose, the windy month; and February became Pluviose, the month of rain.

The second day of the month is the Feast of the Purification of the Virgin Mary, more commonly called Candlemas Day, from the great number of candles burnt in the services of that day, increased devotion and a greater consumption of wax being in some peculiar way then held to go together. While this was the case in matters ecclesiastical, our frugal forefathers devised, and acted on, the adage—"You should on Candlemas Day throw candles and candlesticks away," as it was held that the lengthening days rendered such artificial light a wasteful extravagance. As there are barely ten hours of daylight on Candlemas Day, our ancestors must have sacrificed a good deal to principle, and might, one would suppose, have found employment that would at least have been profitable enough to have paid its expenses for the cost of light. "If Candlemas Day be dry and fine," it was held that more winter was yet in store; but that if it were wet, then the winter was almost over. The badger, our forefathers believed, or at all events said, peeped out of his winter quarters on Candlemas Day, and if he saw snow on the ground settled down again to another spell of sleep; but if the sun were shining, made the necessary domestic arrangements for a speedy termination of the hybernating period.

Though we can scarcely say in February that "Winter is worne that was the floure's bale," yet does Nature to some degree "dress with humid hands her wreath again," and gives us pleasant foretaste of verdant spring and flowery summer. In sheltered spots the primrose may be found, and the snowdrops, "fair maids of February," as they were once named, are in full flower in the copses and meadows. Some seasons are naturally more forward than others, but we find in our record of such things that we have also come across the wood anemone, the marsh marigold, furze, daffodils, the bulbous crowfoot, the celandine, coltsfoot, and some few other flowers in our February rambles; while the brimstone butterfly, equally striking from the beauty of form of its wings and the brilliancy of their colouring, flits by us in the sunshine. "On mossy pale the redbreast tunes his lay," and the sweet singer of Yuletide is as welcome as ever; but now the woods and hedgerows grow vocal with the song of the thrush and blackbird and other songsters, while overhead—

"The skylark warbles high
His trembling thrilling ecstacy,
And, lessening from the dazzled sight,
Melts into air and liquid light."

Though the aspect may be as wintry as in December, and the soaking rain as remorseless as only a February downpour can be, and we have yet before us the boisterous and cutting blasts of March, Spring nevertheless is in the air: "The flowers appear on the earth, and the time of the singing of birds is come." It is an old belief that St. Valentine's Day (need we add February 14th?) is the occasion chosen by the birds to take upon themselves the cares of housekeeping, and that in fact "their anthemes sweet, devized of love's prayse" may be considered specially as variations of "Home, sweet home" as well as their contribution of happiness to the grand *Benedicite* of Creation.

The old German name for February was Sprokkelmonat (the sprouting month), and all grafting, pruning, and shifting of trees that has been neglected or postponed must be no longer overlooked. Spenser in his "Faerie Queene" represents the symbolic figure of February as bearing

"Tooles to prune the trees before the pride
Of hasting Prime did make them burgein round."

The farmer, despite the weather, is busily engaged, for "he that regardeth the clouds shall not reap" hereafter, and a neglected seed time is a season hopelessly lost. Hence an old writer, not unmindful of St. Valentine, writes of February—

"Spend not thy time in fruitless wooing,
Be sure to keep the plough a going."

In the old picturesque days before the introduction of machinery, a thoroughly wet or snowy day led to an adjournment to the barn, and the threshing of such quantity of corn as the swinging flails could compass. In the frosty air the resounding axe of the woodman as the fragrant chips fly before his vigorous strokes, and then the dull crash of the falling tree, are very familiar sounds. The "February" of Spenser bears amongst other tools —"an hatchet keene, with which he felled wood."

Nature-lovers may be reminded that on the 11th of this month died William Shenstone, whose writings abound with happy allusions to rural life; while on the 27th, John Evelyn, the author of "Sylva, or a Discourse of Forest Trees," and many other excellent works, passed away. Had not chronological difficulties stood in the way, we may gladly assume that each of them would have been a distinguished member of the Selborne Society.

F. Edward Hulme.

THE EXTERMINATION OF BRITISH BIRDS.

THE great historian of the Crimean war, who has just been taken from us, speaking of the Russians at the battle of the Alma, has a famous passage in which he describes the vanquished. "From the enemies' battalions standing massed in the hollow, there rose up—as though it had been rung from the very hearts of brave men defeated—a long, sorrowful, wailing sound. This was the bitter and wholesome grief of a valiant soldiery not content to yield. For men who so grieve there is hope." (Kinglake's *Crimea*, ii. p. 333.) Such words may describe the present condition of those lovers of birds who have seen now for three years running the internecine war and massacre on harmless wild birds on our shores and in our woods, done to death not for food, or its protection, but for their beauty and plumage and sprightliness of form; to adorn, it may be, a bootmaker's shop, or a grocer's Christmas front, or a fishmonger's slab, or (if found worthy to reach the present dead-bird's paradise, so different from Ovid's) the human face divine of English ladies, surmounted in its citadel of thought by nests of dead and agonised birds that wriggle like Medusa's serpents, all awry. At this witless, reckless, most cruel fashion, for many of the birds have died in protecting their young, thoughtful people give vent to the low wail of indignation and wrath. The madness may pass away some day, as the sour Puritan madness that reigned in England during Cromwellian times for about ten years, and after it had destroyed ten thousand lovely things, left England poor indeed, but at all events wise enough never to tolerate such madness again. Scarecrows, however terrible, have their uses.

Now, some people may say this is exaggeration. The first witness that I shall summon is the Kingfisher, *Alcedo ispida*. Who has ever adequately described his vivid lustre, that flash of living turquoise blue, brighter than the blue-bell because it moves, outshining the more azure blue of the swollen March streams, and the white frill of their waves, and the new spring green of the bushes, and as it flies from you first taking the shape of a passion flower over the waters, and then at last looping into an old-fashioned Medieval M similar to that which Millais used for the signature of his masterpieces? The Kingfisher has its praise from Tennyson, who described it in *In Memoriam* as "The sea-blue bird of March;" and this year, in the *Progress of Spring*, the halcyon or Kingfisher has its throne

> In her open palm a halcyon sits,
> Patient—the secret splendour of the brooks.

But where are our Kingfishers? Almost gone. Hampshire says "decreasing." Oxfordshire "cruelly persecuted." Sussex may say the same. It is not the cold long frosts that have killed them (for we have not had many of late), though beyond doubt

without fish in frosty weather they starve. Twelve years ago Frank Buckland said to me, "The ladies have taken to the Kingfishers and they'll have to go." And, alas, they have gone.

To give an idea of the present rareness of the Kingfisher, the last one brought to me, until quite lately, was in 1886, about this time; the bird was frozen, and a small fish called the miller's thumb stuck in the gorge of its throat. A few weeks ago a Kingfisher frozen out, and with its eyes dazed with starvation, struck against the plate glass of my dining-room, within six feet of the chair in which I was sitting. It lay on its side stunned, but managed to fly a few yards into a field. When caught it pecked in a mild way, and seemed very weak; its crop was quite empty. A physician who happened to be present administered a cordial, some brandy and water, and it was wrapped in flannel. Sardines were inquired for, but were judged to be too artificial a food. Ultimately an intelligent young saddler of 17, who acts as general gamekeeper to my Kingfishers, went out in hard frost and snow, and caught three sticklebacks, all of which the Kingfisher swallowed, digesting one in an hour (the digestion of birds being most rapid) and developing moisture and heat; and when we returned him to his habitat by the mill-stream, the bird flew out of his own accord from his basket, and shot in two long low loops quite 200 yards in my sight, just topping the wood. Thus a most valuable life was saved.

The Goldfinches have been long becoming rarer every year. They are caught by professional bird-catchers from London for sale in the London markets, and the home counties suffer most. The New Forest gives more shelter and is at a greater distance from London, and Mr. Kelsall says the Goldfinch is resident in Hants, universally distributed; and this is the happy result of the Birds' Protection Act. The Redstarts are rarer still; in Hampshire it is said that they are "nowhere common;" and with us the black Redstart (*Ruticilla titys*), till lately a very uncommon bird, has occurred about as often as the old Firetail, that used to be so common (*Ruticilla phœnicurus*).

The Woodpeckers whose nest is called by the Germans a "fortress or citadel against tree vermin" (the black Woodpeckers take 10 to 14 days' hard labour for excavations of the timber alone) (Bechstein, 616), are now better understood "and preserved by all sensible foresters." Still the Greater Spotted Woodpecker has small chance of life, as he is so rare as to be generally unknown—and the first impulse of wayward man is to shoot any rare thing that he sees, to find out what it is.

Among other instances of the persecution of birds may be mentioned the Swallows, now for the last two years visibly fewer. Lately several have been sent up from this neighbourhood to be dyed black in London—and I am told that there is a man somewhere in Sussex who eats Swallows, which is incredible. Pliny (xxx. 14, 76), says, *Sanguis hirundinus fel*—swallow's blood is poison. In Lincolnshire and Yorkshire in 1886 there were

hardly any Swallows, and early in October the air was so full of midges in the neighbourhood of Doncaster that you couldn't talk as you walked.

The Gulls, the white-aproned housemaids of the sea, that day by day sweep off from the ocean's floor the impurities of the towns—what have they done, what are they doing, to be massacred by tens of thousands for a moment's fashion? The lavender-plumed Terns, the gray Phalarope and little Stint, birds of whom it may be said that of them "the world was not worthy," harmless and lovely in their lives—links of ancient life between land and land—why are they to be torn and trampled by the Juggernaut wheel of human vanity? Much is lost and can never be replaced, and the fashion of 1890 will make the rest of the century poorer. The diamonds and gold and coral and precious stones of ancient civilisations were beneficent; they fed the searchers, and held and increased their own value, and killed none; now we are killing for a moment's whim and luxury the living diamonds of the earth, the birds, just as some of us are beginning to know and love them as they never have been known and loved before. It is shameless irreverence for life.

H. D. Gordon.

THE ORLETON SWIFTS.

(A LETTER TO THE RIGHT HONBLE. THE EARL OF SELBORNE.)

(*Continued from p.* 13.)

THE first eggs are laid here about the 1st of June. One Swift laid three eggs two years running. This is the only instance I know of the usual number being exceeded. The period of incubation is unusually long for such a small bird. It is nineteen or twenty days. I can be quite sure of this, for I have had the eggs in my hand before sitting began, and have examined them every day towards the end of the time, and seen them pipped and the young ones free the next day. I have never found the old one sitting until the second day after the second egg was laid, and yet, though the two eggs seem to start fair, one is generally hatched out a day before the other. This was notably the case in the nest with the three eggs, and the young ones were of three sizes.

The eggs are generally long and narrow, and so take up but little inconvenient room in the body of the bird, but sometimes they are short and in shape much like those of the House Martin. The two eggs of the same bird are of course alike, but one bird's offspring will differ from another's. They are beautifully white when fresh, and, like all small birds' white eggs, very transparent when held up to the light. It is easy to tell whether a Swift's egg is fresh or not.

The young are certainly unsightly things, and are blind for about nine days* after leaving the shell. From the eggshells I have found in the churchyard I think the Swift, like the Partridge and other birds, takes the trouble to pack one part of the shell into the other.

It is wonderful that the small naked birds can preserve sufficient warmth to keep them alive during the long periods in which they are left by the flycatching dam. Some of them lie in open, shallow nests set in draughty corners; they have no blanket, and look very uncomfortable.

I have been fortunate enough during my observations to see the young ones being fed, a sight which probably no one else has seen. The church bells are hung in a wooden steeple which surmounts the tower, and it is on the top of the tower wall that the belfry Swifts make their nests. In each corner, where converging beams meet the wall-plate, there is a nest, but these are not visible to the eye direct. Access from the outside is gained through holes in the decaying timber. I was up there one day looking after the Swifts, when I moved a piece of wood that was lying on the top of the western wall—not in a corner, but near the middle—and I found underneath the one end which rested against the wall-plate a nest containing two young ones. Sufficient light came in under the wall-plate to expose them perfectly to my view. I stooped down beside the nest, and waited for the old one, my face being within four feet of the young ones, which were still in the blind and naked stage. In about a quarter of an hour the old one came in and began feeding them. This was done after the manner of birds which feed their young with soft food, but with a tremulous poking motion of the heads of both birds, the mother's beak being placed in that of the young one and kept there for some seconds. Each was fed two or three times alternately. They make a feeble, squealing noise the while.

Some birds have strange sanitary arrangements. After feeding its young ones, the old one sat on them, and then surprised me by stretching out its neck and taking one after another four of their fæces that were lying outside the nest and swallowing them, straightening its neck for the purpose. It then lay still on the nest for about ten minutes, when, owing to an involuntary movement on my part, caused by my cramped position, the bird slipped off and out into the open air. It returned in less than two minutes and sat on the young ones,

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* I do not know the exact time, but it is certainly as much as nine days, and may be a day or two longer, but not more. The three young ones that I was watching last year, in order to settle this point, were killed and partially eaten by mice just when the eyes of the largest seemed about to open. I caught the two mice in a trap. I think the doe had attacked the birds after giving birth to young. This year I might have ascertained the time, but not being able to go up to the belfry I had to watch the Swifts by deputy, and forgot to have the matter looked to until too late.

but did not again feed them. I watched for another ten minutes, and then, wishing to examine the bird, put out my hand to take it, but it slipped through my fingers and was gone. I was not able to look at this nest again for a week or more, and then found the young ones dead. This may have been the result of my interference, but if so, it was an unusual one, for I have handled many Swifts on the nest and never known them desert; but I have found other young Swifts dead in the nest without apparent cause, and certainly without being at all disturbed by me or anyone else. Gilbert White also mentions finding two young ones dead in a nest.* I have watched young ones being fed since, but the help of a hand-mirror has been necessary to enable me to see round a corner.

The young are a long time coming to maturity. I weighed one that had been hatched for fifteen days and had died unaccountably. It was in good condition and weighed 1¼ oz., only a quarter of an ounce under the weight of an old bird. Its back was covered with the bluish down, and the quill feathers were half an inch in length. The young Swift does not leave the nest until it is completely fledged and fully equipped for its aërial life, without needing further assistance from its parents. But it takes six weeks from leaving the shell to bring it to this state of perfection, and often more, especially if there are two young ones. The time varies a good deal. There were two nests here, each containing a single bird hatched on the same day, but one flew three days before the other. And in another nest the stronger of the two birds took more than its share of the food, and so fledged faster and flew seven † days sooner than the other, and yet they were hatched on the same day, or, to be more exact, there was less than twenty-four hours between them.

If we count the period of incubation (three weeks including the day the egg is laid), the total time required for the development and growth of a Swift is more than two months. The Swallows and Martins have a second brood, but the Swifts are contented with one, which is not to be wondered at.

They leave Orleton on or about the 11th of August. The climate has nothing to do with their departure at this date, nor has the question of food. They go as soon as the young take to the wing, and they do not even wait for one another. But the young come out so much about the same time that most of them leave together. The Swifts come to Europe to breed and for that purpose alone, and as soon as the business is over they hurry back to Africa. This explains the mystery of their leaving suddenly when everything seems conducive to their

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* Letter 52, page 264, original edition.

† I stated in a letter to the *Times*, Sept. 10, and elsewhere, that it was nine days, but I find that owing to the way in which the entries were made in my notebook I mistook the time. It was seven full days.

stay—the weather warm, food abundant, and their fellows the Swallows and Martins enjoying themselves and remaining for another month or more.

The question whether there is a continuing necessity for the Swifts to come northward to breed, or whether it is only the retention of a custom which was once a necessity in different climatic conditions, will probably not be answered until the birds have been observed in their African home. If they all leave, that would be strong, though not conclusive, evidence of an existing necessity. But if some stay and nest in their usual haunts, the necessity must have ceased, and the force of habit alone brings the birds over to us.

These remarks on migration apply, of course, also to the Swallows, and, to a certain extent, to all the soft-billed summer migrants. AUBREY EDWARDS.

(To be continued.)

THREE NEW BOOKS ON FOLK-LORE.

The Hand-book of Folk-lore, edited by George Lawrence Gomme, Director of the Folk-lore Society. London: David Nutt. [8vo, limp cloth, pp. vii., 193. Price 2s. 6d.]

The Folk-lore Society has many points of contact with the Selborne Society. The love of Nature includes within it an appreciation of the numerous and varied fables, traditions, sayings and beliefs which have clustered round natural objects, and which are comprised under the convenient term "Folk-lore." The importance of recording these various items of popular belief, and of correlating them with traditions in other lands has but lately been recognised; and the establishment of the Folk-lore Society some twelve years since was the first attempt at anything like a systematic bringing together of our popular superstitions and beliefs.

There are many Selbornians who have the opportunity of adding materially to the stock of knowledge already collected bearing upon the subject of folk-lore. Fragments of popular tradition are often associated with the names of animals or plants, and may often be elicited by the simple question, "Why is it called so-and so?" It must always be remembered that folk-lore of this kind is yearly becoming more difficult to collect, and also that the merest scrap may be valuable as supplying a link which has been wanting in some chain of information.

In the handy little volume before us, Mr. Gomme, the Director of the Folk-lore Society, has made the collection of such items upon a definite plan an easy matter by the tabulation of a series of questions, the answers to which will embrace the principal divisions of the subject; and he has prefaced each section with a short but interesting summary of its principal development. With regard to the animal world, for example, after paralleling some of our common superstitions with those in other parts of the world—"To tell bees of the death of their owner is a Hindu custom; the descent of a spider is a lucky omen in Polynesia; a hare crossing the path is unlucky in India, among Arab tribes, the Laplanders and in South Africa"—he gives a series of questions as to lucky and unlucky creatures, their being regarded as death or harvest omens, their connection with family life, their influence on the weather, their connection with the supernatural, their transformations, their creation, introduction and speech, and numerous other points of interest to the folk-lorist. Plants suggest a similar series of enquiries; and everyone who will take the trouble to collect information of the kind with regard to any particular place or district will be doing something towards bringing together a complete body of folk-lore for these islands.

This, of course, is much less ambitious work than the production of one of those volumes purporting to deal with folk-lore, of which we have already too many examples, and which can be carried into existence with the greatest ease by anyone possessed of a little intelligence, a few books, and a pair of scissors—the first qualification is the least necessary of the three. But the collectors will receive the thanks of the scientific worker, while the compiler can only excite his annoyance.

The Folk-lore Society has done well to issue so suggestive a hand-book in so cheap and convenient a form, and we warmly commend it to the notice and for the use of members of the Selborne Society. J. B.

The Science of Fairy Tales, an inquiry into Fairy Mythology, by Edwin Sidney Hartland, F.S.A. London: Walter Scott, 1891 (Contemporary Science Series). [8vo, cloth, pp. viii., 372. Price 3s. 6d.]

In the handy little volume before us Mr. Sidney Hartland has endeavoured to embody the general conclusions to which his wide reading on a very interesting subject has led him. After some general remarks on the art of story-telling and on savage ideas, in the course of which he distinguishes between traditional narratives (supernatural or not) believed to be true (Sagas), and tales told merely for amusement (*Märchen*, or nursery tales), he discusses at some length a selection of narratives of various countries and ages relative to fairy births and human midwives, changelings, robberies from fairyland, the supernatural lapse of time in fairyland, and swan-maidens, and finally recapitulates his principal conclusions, combating other theories with which he does not agree.

In general terms, it may be said that Mr. Hartland regards all fairy tales either as remnants of the animism of savage races, or as distorted reminiscences of the ancient gods. Thus, he regards the Lady Godiva of Coventry legend as originally a goddess similar to the Roman Bona Dea, or to the German Berchtha, whose rites were performed in secret by women only. Similarly, he identifies the sleeping Frederick Barbarossa with the red-beard Thor. The Solar theory, once paramount, but now moribund, is not so much as alluded to; perhaps because this theory, even if true, to a wider extent than is now generally believed, would lie behind mythology itself, and would therefore have no immediate connection with the modern reflection with which alone the author deals.

With Professor Liebrecht's theory that swan-maidens are to be regarded as ghosts of the departed, Mr. Hartland makes short work; but he is not only less successful, but appears to us to claim too much for his own views in combating those of Mr. Mac Ritchie, who identifies the Picts and Finns with the fairies of Scotland and Ireland. That some of the legends of fairies in Scotland and Ireland may have an historical basis, although they may show a close resemblance to stories in other countries which have none, does not seem altogether impossible. Mr. Hartland says, "No theory will explain the nature and origin of the fairy superstitions which does not also explain the nature and origin of every other supernatural being worshipped or dreaded by uncivilised mankind throughout the world." This seems to us to be far too sweeping an assertion. If history has a tendency to repeat itself, some fables, at least, may be founded on actual fact, or on the misinterpretation of fact; and, again, fable may convert itself into actual fact. But folk-lore and fact are not the same; for folk-lore deals not with facts so much as with the popular opinions respecting facts. Thus, as long as the Ornithorhynchus was regarded as viviparous, its oviposition was a piece of folk-lore; now that it is known to be oviparous, the fact is transferred to the domain of natural history. Other parts of folk-lore, nay, even of so-called fairy mythology, may ultimately prove to be based on more or less distorted historical or scientific facts. And we cannot agree with some writers that the repetition of the same unusual circumstance in different parts of the world is in itself an argument that it never happened at all. Thus, even if the most ancient form of the Tell legend is a mere fable, there is nothing *impossible* in a tyrant like Harald Hardrada or Gessler putting into practice what he might easily have heard as a popular legend. The science of folk-lore appears to us to be a far wider and more complex problem than it appears to Mr. Hartland, or, let us add, to the majority of folk-lorists.

Returning from this digression, there are one or two points of detail on which

we think Mr. Hartland might have been somewhat more explicit. More stress might have been laid on the close connection in some groups of legends (especially Scottish) between fairyland and hell, and we doubt whether the idea of tynes paid by the fairies every seven years originated, as Mr. Hartland seems to think, with the legend of Thomas of Erceldoune. Hogg's poems, and, we imagine, Scotch fairy mythology in general, contain many references to tynes. Again, in discussing the swan-maiden stories, some allusion might have been made to the feather-dress being, sometimes, at least, used simply for the purpose of wings (as in the fine Danish ballad of German Gladenswain), in which it has no connection with the nature or powers of the wearer (supernatural or otherwise). Again, the curious incident in the story of Janshab, in the *Thousand and One Nights*, in which Shamsah discovers her stolen property by means of her keen sense of smell, might have been mentioned.

The book will probably be found interesting to most classes of readers; and its value is increased by a fairly complete list of authorities, and a good index.

W. F. K.

Beside the Fire, a collection of Irish Gaelic Folk Stories, by Douglas Hyde, LL.D., M.R.I.A., with additional notes by Alfred Nutt. London: David Nutt. [8vo, cloth, pp. lviii., 204. Price 7s. 6d.]

Any reader conversant with the subject will at once recognise the fact that this book is distinctly the most valuable contribution that has ever been made to Irish folk-lore. It would be hardly an exaggeration to say that it is the only work in that particular department that is trustworthy in its details and scientific in its treatment. The present reviewer has more than once pointed out in other quarters that the interesting collections of Irish fairy tales which have been popularised by Crofton Croker, Lover, Lady Wilde and others are almost entirely valueless from a scientific point of view. "Everything which real students most desire—mention of authorities, local touches, chronological and topographical details, anything that would render it possible to separate genuine ancient legend from modern invention or artistic embellishment—all these are either carelessly omitted or carefully suppressed."* In the volume before us Dr. Hyde has not only complied with all the conditions here laid down, but has given us a collection of folk stories superior in interest as they are in fidelity to any that have preceded it. It would take up far more space than we have at our disposal to give any idea of the value of this remarkable book, but we would strongly recommend it, not only to lovers of folk-lore but to lovers of nature, for its many examples of that "animism," so well defined by Mr. Alfred Nutt in his admirable introduction as "the acceptance of a life common to, not alone man and animals, but all manifestations of force. In so far as a distinction is made between the life of man and that of nature at large it is in favour of the latter, to which more potent energy is ascribed."

There is one very beautiful example akin to what Mr. Joseph Jacobs calls "the bird, beast, fish type," which he explains as follows: "1. A man does a kindness to a beast of the earth, a winged creature of the air, and a denizen of the water. 2. He falls into danger, or has tasks to perform. And these—3. He accomplishes by means of the thankful creatures."

It occurs in the "Hags of the Long Teeth," in which, oddly enough for an Irish story, a bishop and a priest are unmercifully put to shame by the hags and their father Dermod O'Muloony, who discomfits their reverences in the form of a big black dog. "About a week after that," the story goes on to say, "the priest was one day by himself in his chamber alone. The day was very fine and the window was open. The robin of the red breast came in and a little herb in its mouth. The priest stretched out his hand and she laid the herb down on it. 'Perhaps it was God sent me this herb,' said the priest to himself, and he ate it. He had not eaten it one moment till he was as well as ever he was, and he said: 'A thousand thanks to Him who has power stronger than the power of enchantment.'

"Then said the robin: 'Do you remember the robin of the broken foot you had, two years this last winter?'

* The *Academy*, September 27, 1890.

"'I remember her, indeed,' said the priest, 'but she went from me when the summer came.'

"'I am the same robin, and but for the good you did me I would not be alive now, and you would be deaf and dumb throughout your life. Take my advice now, and do not go near the hags of the long tooth any more, and do not tell to any person living that I gave you the herb.' Then she flew from him."

After reading this who can say that Selbornian ideas did not exist among the ancient Irish, even if the "exigencies of the situation" forbade the establishment of a Selborne Society? P. M.

SELBORNIANA.

[We wish to explain that this very popular department of Nature Notes was not purposely curtailed last month. Several paragraphs were in type besides those which appeared; but, owing to an accidental miscalculation on the part of our printers (usually most accurate in estimating space), they were necessarily omitted. Some of these, which we print now, afford internal evidence of their comparatively ancient date.]

Feeding the Birds.—It is surely unnecessary to remind Selbornians of the claims of the birds upon them in this terrible weather; but we may congratulate them, as we have done in a previous page, upon the very general advocacy of these claims in all our leading newspapers, and we urge them to follow the example of many members of our Society who have written to the papers, urging kindness to the feathered tribe in their sore distress. Some admirable letters were written to the *Standard* by Mr. Thomas Pole, a new adherent to the Selborne Society, and others. Mr. Pole had also several useful letters in the *Bristol Times and Mirror*. Literally scores of extracts have been sent to us from the provincial press, which show how general this practice of supplying food for the poor starving sufferers has become, and, we may add, with how much more discrimination as to proper kind of food suitable for each. A very interesting communication has reached us, showing that at "The Wakes," Selborne (the old house of Gilbert White), food is amply provided for large numbers of birds, who thoroughly appreciate the relief afforded.

England *v.* America *re* Seal Slaughter.—It would seem almost inconceivable, did we not see it with our eyes, that one can read in some of the daily papers the question calmly discussed, as if it were quite "within a measurable distance," whether two Christian nations, speaking the same language and springing from the same blood, should seek to slay each other in order to ascertain which should have the privilege of slaying in most brutal fashion the unfortunate seals, who are, we believe, being rapidly exterminated by the greed and cruelty of English and American traders. In an extract from the *Standard*, sent by Miss Agnes Martelli, we read: "It is reported that there are to be certain regulations enforced which will protect the seals about Hudson's Bay for a period of seven years. Trappers will be forbidden to take any during that period, owing to the scarcity that has begun to make itself felt. It is feared that, should the traffic be permitted to continue, the seal may become extinct in these regions—the goose that lays the golden eggs will be destroyed." Well may the *Echo* say, dealing with this matter:—"It is a pity that the nations, instead of quarrelling about their respective flags in the Behring Sea, do not establish there a kind of international society for the prevention of cruelty. There is more than enough of trustworthy evidence to show that the brutalities of the seal-fishing trade surpass everything in the way of cruelty to dumb creatures. It is much less hunting or fishing than slaughter and murder—though the word murder is conventionally retained for two-legged, articulately speaking mortals. We defy anyone to read the authoritative accounts of these barbarities without a shudder. But then the fashionable market must be supplied."

Gilbert White's House.—It is a great pleasure to us to know that "The Wakes," which must always seem a sort of sacred shrine to all true Selbornians,

has not only survived the attacks of time and the ravages of the "restorer," but has been occupied by a succession of appreciative tenants. It is rarely that "the fitness of things" produces such a desirable coincidence as the occupancy of Gilbert White's house by Gilbert White's best biographer and editor, Professor Bell. Our readers will be pleased to know that the good traditions are kept up by the present occupier of "The Wakes," General Parr, who is a Selbornian, not only in name but in deed. The following interesting letter was sent to us by Mrs. William Chase Parr, on December 30th, 1890, but has not been printed before for the reason explained above :—

"Some of your readers may, perhaps, be interested to hear that since this severe weather has set in we have thrown out twice a day a large plateful of scraps of meat and potatoes, as well as quantities of bread, in front of our dining-room, originally Gilbert White's 'summer parlour.' At first only the usual familiar robins and sparrows came, but now we generally have in addition four or five blackbirds, two thrushes, three or four starlings, five or six chaffinches, a couple of bullfinches, and one or two pied wagtails—great frequenters of our lawn in mild weather. A little wren comes sometimes, and this morning we had three examples of the greater titmouse. A couple of the latter frequent the thick stems of ivy growing up the old part of the house. A few days ago I hung a bit of bacon by a string out of the casement window of the school-room, formerly Gilbert White's bedroom. The two little titmice were seen eagerly pecking at it, and it soon disappeared. We also have a robin who has lived for the last fortnight very happily in the conservatory, where he is daily fed. A little cole titmouse was also there for some days; we watched him climbing about the chrysanthemums searching for insects. Four or five winters ago we had three robins in the conservatory for several weeks; two of them became so tame that, when a plate of crumbs was brought in, they would at once fly down, and perch on the plate or the hand, and begin pecking away. The three quarrelled constantly, till one day, when the gardener left the door open, one of them flew out; the remaining two then lived in peace and quietness together until the mild weather came, when they, too, bid us good-bye."

Toads as Purifiers. — Your correspondent, Miss W. M. E. Fowler, in the December number of NATURE NOTES, in an article on "Frogs and Toads," speaks of a superstitious belief that "frogs take in all the poison from water, and that if one be placed in impure water it will in a short time render it fit to drink." This reminds me of what an old woman in this parish told me many years ago. Speaking of her younger days, she said: "I was always a very tender-hearted girl, and never could abear to see a boy take delight in a toad with a stick; besides, I have always understood they are very useful creatures, and help to make the water good, and that the reason why the Irish are so fierce is because they have no toads in Ireland to make the water pure." This remedy for "the ills of Ireland" has not yet been suggested "in another place," I think. Does not the common belief that toads spit poison arise from the fact that the lumps in their skin contain an acid that will make a dog foam at the mouth slightly if he bite one?

Costock Rectory, Loughborough. C. S. MILLARD.

"A New Theory of Floral Structure."—No papers in NATURE NOTES have been more weighty and interesting than those of Professor G. Henslow, and it is not without trepidation that I venture to raise a question respecting his last contribution. Professor Henslow writes (NATURE NOTES, p. 9): "If we thought the flower made the honey-glands in anticipation of an insect coming, we should fall into the old mistake of what is called teleology. Hence there is no alternative but that the insect itself is the direct cause of the secretion." Now, I hope I should not be perverting these words—which I have certainly no wish to do—if I paraphrased them thus:—We may not say "honey was placed in the flower, hence the visit of the insect," but we may, and we must say, "the insect (or many different kinds of insects) so persistently and pertinaciously probed and searched the flower (or several different flowers) for (*ex hypothesi*) non-existent juices, that a fixed habit of secreting honey was formed in all these flowers." But if we may not say that the honey brought the insect, on pain of being found teleological; if we can see no motive for the different insects' systematic visits

(for surely no mere casual ones would be sufficient), does not a third alternative appear possible—viz., that we do not know how the honey came there, or which came first, the honey or the insect? Orlando, in "As You Like It," says to Adam :—

> "But, poor old man, thou prun'st a rotten tree,
> That cannot so much as a blossom yield,
> In lieu of all thy pains and husbandry."

Were Adam living now he would reply somewhat as follows :—

> "Nay, stay me not : so work the honey-bees,
> Which probe and search the dry and barren flower;
> And, by much probing, stir nectareous bile
> E'en in the bosom of the scentless rose," &c., &c.

Otham Parsonage, Maidstone. F. M. MILLARD.

[Professor Henslow, who is wintering in Egypt, will doubtless in due time send therefrom replies to Mr. Millard and his other critics.—ED.]

Swifts and Sparrows.—The Rev. H. D. Gordon, M.A., writes in opposition to the opinion expressed by Mr. Aubrey Edwards in our last number (p. 11), that swifts are not likely to usurp sparrows' nests. Mr. Gordon quotes as follows from his work, *The Birds of Harting* (p. 22) :—"Last month [July, 1886] Mr. S. Bryan, of South Harting, showed me the dead body of a sparrow hanging out under the roof over his door. The swifts coveted their neighbours' nest, and made short work of the poor sparrows, male and female, killing them both, and throwing out the eggs they found in the sparrows' cot." Mr. Gordon adds : "I saw, myself, the dead sparrows which had been killed by the swifts, and I saw the swifts passing to and fro to the recently-acquired nest. Mr. S. Bryan, registrar, is still living here, and can verify the facts."

Seagull Shooting at Bournemouth.—Permit me to call attention to the destruction of seagulls at Bournemouth. Almost every day during a short visit to that place at the beginning of the year, men were shooting the gulls from the beach close in front of the houses, or from a boat a few hundred yards from the shore. I regretted much to see that many fell victims to their shots. Not only does the presence of the gulls add a charm to the coast, especially at this season of the year, when there is little to enliven the dull monotony of the leaden sea, but the continual shooting of them in the very midst of the people who frequent the beach and pier must detract from the pleasures of that place, as well as have a hardening influence on the children, as they see those beautiful birds falling dead and wounded around them, simply to give amusement to a few heartless men. R. C. C.

[We have received from other correspondents similar testimony as to the brutality practised at Bournemouth. The Bournemouth Branch of the Selborne Society is one of the very few which have ceased to exist. We hope that this cannot be taken as a proof that the inhabitants of that watering-place are insensible to the cruel slaughter of the beautiful birds which add so much to the pleasure of a visitor at any seaside resort. It is impossible to say how much delight it gives one to see at the present moment flocks of gulls gracefully wheeling over the town and harbour of Ramsgate, apparently as tame and fearless as if they knew that they had in every visitor a protector and a friend. We hope that the very active Southampton Branch will add to its other good deeds some endeavour to prevent Bournemouth becoming a blot upon the Hampshire coast.]

Since the above was written, C., M.S.S., has sent us the following from 3, Anglesea Terrace, St. Leonards-on-Sea :—Can it be that the Selborne Society has no one residing at Bournemouth attached to its ranks, and that this fashionable place is destitute of people having hearts to feel or minds to reflect on consequences? I recently read in the *Daily Graphic* that a gentleman a few days since, while walking in the public gardens at Bournemouth, counted as many as 250 birds which had evidently perished from hunger. A large proportion of these poor birds are said to have been thrushes. If this account be correct, it seems to me to afford terrible evidence of the thoughtlessness, if not the absolute selfish cruelty, of the people of Bournemouth. Can nothing be done to stir them to consider their ways, and mend them?

Shall we Eat our Songsters?—Mrs. Hervey Pechell, whose sojourn in Italy brings no forgetfulness of the dangers which threaten bird-life at home, sends us a letter on the subject, with an excellent article from the *Morning Post* on the report that song thrushes and other members of the family *Turdidæ* are being sent to the London market in great numbers for the purpose of human consumption. The *Morning Post* says well: "These birds have become a portion of the national life, and over and over again have been worthily commemorated in the literature and poetry of the land. It matters little to the world at large what kind of creature the leviathan or the megatherium may have been. But an England without song thrushes and blackbirds would be all the poorer for their loss from every point of view except the strictly commercial. If they are really being destroyed for the purposes of the kitchen such a proceeding deserves general reprobation."

Mr. Edward Clifford, writing to the *Standard* on "A Dish of Larks," mounts up to quite lark-like flights of rhetoric. He says he "would almost as soon eat little cherubims!" Quite a safe assertion indeed, for even the wealth and ingenuity of the "City Fathers" have not yet secured this dish for their banquets; so that Mr. Clifford runs little risk of being called upon to carry out his threatened gastronomic audacity. There is much truth in his saying, "Those who devour a singing bird deprive the world not only of the music which comes from one throbbing throat, but from fifty future throats." Mrs. Pechell makes the practical suggestion that some Selbornians in London should be asked to inspect the birds offered for sale at the poulterers' shops in order to ascertain what species of thrushes are sold for food, and, if song thrushes are found, to inquire from what part of England they come, in order, if possible, to stop their wanton destruction.

The Poisoning of Birds.—Miss M. Hope, Hon. Sec. of the Kensington Branch of the Selborne Society, Mrs. E. Phillips, President of the Tunbridge Wells S.P.C.A., and Miss Katharine Hills, of Ambleside, write strongly on this subject. Mrs. Phillips says: "In this time of dire distress, the farmers and fruit growers of Kent are taking advantage of the hunger of the starving birds to destroy them wholesale by scattering poisoned grain over the land and manure heaps. In the Crays district alone baskets full of dead poisoned birds have been picked up, as much as two baskets being found in one or two large fruit farms in the same district on the same day. Is not the laying about of poisonous grain illegal? and if so, is it not the duty of a local authority to investigate the matter?" Our frequent correspondent, Mr. G. T. Rope, who is by no means an uncompromising defender of the sparrow, writes: "Above all, I hope the abominable practice of poisoning will not be made legal, as the harm done by this means is incalculable—so many innocent and perhaps useful creatures are sure to pick up the poisoned grain. Laying poisoned meats for rats and mice has long been general here, and I fear that the few weasels, stoats, &c., which escape the keepers are often killed from their feeding upon these creatures after they have taken the poison."

Newspaper Opinion.—As was noticed in our last number, members of the Selborne Society are much to be congratulated on the distinctly Selbornian tone of the articles in the daily papers. In addition to the list then given we print in the present number extracts from excellent articles in the *Morning Post* and the *Echo*. We should be very glad to receive from some of our readers promises to carefully read some particular paper for the purpose of noting such articles and communicating them to us. The *Times* and the *Daily News* have been already undertaken. Almost the only paper from which we have had no such Selbornian article forwarded to us is the *Pall Mall Gazette*. Indeed a letter inserted in that paper seems to give it a very well-deserved slap in the face for its attitude in the matter of the extermination of our fauna. "In your paper I read," says Mr. Reginald Livesey, "Lovers of natural history will be interested to know that two wild cats have been shot in Scotland. Without fear of contradiction I have no hesitation in asserting that all true lovers of Natural History will be thoroughly disgusted at the information." Of course Mr. Livesey is perfectly right, but the question arises whether the expression quoted represents merely a solitary lapse or is characteristic of the general tone of the paper. A correspondent, plainly no admirer of "The New Journalism," has no hesitation on this point. He says, "Doubtless this gushing and versatile exponent

of the system by which the press is to supersede the pulpit and the platform is too busy in denouncing any one who disagrees with the standard of morality it happens to set up for the day, to spare a line in behalf of those common principles of humanity and justice which happily existed before it was invented." There may be some truth in his contention that "the *Pall Mall Gazette* is certainly more dogmatic in its creeds (for the moment) and more excommunicatory in its anathemas (to all eternity) than any priest or parson; how can you expect an authority which holds the balances of heaven, to concern itself with the fate of dickey-birds, who are cared for by its less pretentious but far more generally respected contemporaries!" But this is, of course, quite an *ex parte* statement, of which we should be glad to obtain either confirmation or contradiction. If any enthusiastic "Pall-maller" will furnish us with proofs that his paper is sound on Selbornian questions (other things are of no importance whatever to us, editorially) we shall be glad to publish them. But we certainly cannot be expected to read through the *Pall Mall Gazette* ourselves, in order to ascertain its guilt or innocence in this matter.

NATURAL HISTORY NOTES AND QUERIES.

Sowing Flower Seeds in Hedges, &c.—Miss Margaret Marchetti, Manor Heath, Halifax, who is to take the post of Hon. Sec. to the newly-formed Halifax branch of the Selborne Society, writes to know "what is the easiest and best way of obtaining seeds that we may be able to sow in the woods and lanes about us."

Miss Agnes Martelli, Hon. Sec. of Northern Heights Branch, writing on the same subject, rightly points out the "undesirability of introducing specimens not natural to the locality."

[The object of the Selborne Society is far more to prevent the extermination of rare wild flowers in their original stations than to encourage the sowing of wild plants where they have not naturally flourished, although for the latter practice the authority of Gilbert White has been appealed to. We fear most of our scientific botanists would wax wroth at such a corruption and confusion of our native flora.]

Parkinson Society.—In connection with the subject just mentioned we have received several queries as to the work of this society, which sprang, as most of our readers know, from Mrs. J. H. Ewing's delightful gardening book, "Mary's Meadow." The Society was formed in 1884, and in May, 1886, the Secretary was Miss Alice Sargant, 7, Belsize Grove, N.W. In April, 1888, it was intimated in the columns of the *Selborne Magazine* that the Parkinson Society already possessed more members than was convenient. If this is still the case, there can be no objection to the formation of a department of the Selborne Society for such of the objects of the Parkinson Society as may be found in accordance with our own aims. Several of our members would be glad to co-operate in the introduction of some of the most beautiful plants in our native flora into gardens, the cultivation of old garden flowers which have become scarce, the exchange of seeds and plants, &c. But if these things would only give an impetus to the already existing devastation of our rare wild flowers for the purpose of replenishing herbaceous gardens, they would be clearly contrary to, instead of in accordance with, Selbornian views. We shall be glad to have the *pros* and *cons* of this interesting subject discussed by our correspondents.

Notes of Birds, &c. (Answer to "Studens").—The accentor does not intone in the ordinary acceptation of the word.

Perhaps you are not aware that the French name for the Woodlark is "l'Alouette lu-lu," an instance of onomatopœia. "Lu-lu" repeated quickly a good many times represents the song fairly well. Yes; "Gre-gre" may be said to resemble one phrase of the Thrush, but this bird has many hundred different phrases in its song. Syllables, such as those you mention, may help to remind you of songs which you have already heard; but they are apt to be very misleading, for though they may suggest the rhythm, they can convey no idea of either pitch or *timbre*.

The Wren *may* be said to sing, as you say, in "tirades."

"Juggins" sounds like a local name of the nightingale.

The lower notes of the Blackbird are deeper than any notes in the songs of the singing birds which you mention. Perhaps the deepest sound of all is the bark of the heron (Ardea cinerea).

The Shrike has many local names, *e.g.*, Butcher-bird, Flusher, Murdering-pie, Cheeter, Jack Baker, Whiskey John, Nine Killer. A. H. M.

"Gravyes."—May I repeat a question not yet answered, which was kindly inserted in NATURE NOTES some months ago, and ask if any of the numerous new readers of NATURE NOTES can tell me what bird is meant by "Gravyes," spoken of in Nicholson and Burns' *History of Cumberland and Westmoreland* as a bird "rather larger than a duck, and breeding on Windermere"? The book was published about the close of last century, but "the oldest inhabitant" here can tell me nothing about the bird. A. RAWSON.

Windermere.

["Gravyes" must surely mean Goosanders: these birds are now called "Gravel Ducks" in Cumberland (see *Birds of Cumberland*, by Rev. H. A. Macpherson, p. 196). They are for the most part winter visitors to our estuaries. Perhaps the word is connected with O. Fr. grève—a sandy shore. A. H. M.]

The Eyes of Albino Birds.—In the January number of NATURE NOTES Mr. Belt enquires as to the colour of the eyes of Albino birds. In cases of true albinism the eyes are pink or bluish grey, assuming a pink tinge in certain lights. But birds are more often pure white with eyes of the ordinary colour. Many cases of this partial albinism or "leucotism" occur among young birds. It seems, however, to be frequently only a temporary state, the birds assuming normal plumage at their first moult. A. H. M.

Mr. J. Jenner Weir, F.L.S., writes:—It is an error to suppose that albino birds have pink eyes. I have never seen a single instance of such a case in birds, nor is it by any means common in mammalia. For instance, white cats have never pink eyes; their eyes are either blue or yellow, and not unfrequently the eyes are odd, one yellow and one blue. Neither do white dogs have pink eyes; the colour is invariably pink in Albino rodents. White mice, rats and rabbits are familiar illustrations; white pigeons have often, but not always, what is known as "bull eyes," the colour of a very dark carbuncle. I have seen white linnets, goldfinches, blackbirds, and other cage birds, but none of these had pink eyes.

Chirbury, Beckenham, Kent.

Referring to Mr. A. Belt's remarks in the January number of NATURE NOTES on the colour of the eye in albino birds, I may say that I have a specimen of a pure white rook, picked up while still living by my daughters, in my old parish in Kent. The colour of the irides in the living bird were of a lovely pale *blue*, as nearly as possible like those of the jay; the legs and beak were *pink*. I think this will settle the question as to whether or not albino *birds* have always *pink* eyes, as mammals are said to have. A. RAWSON.

Windermere.

I have kept Cajuga ducks many years, and taken great pains in breeding them, and have taken prizes. They often throw white feathers with age, but we never keep those that have any white when young. Two years ago we had a pure white one; it was blind of one eye, and the sight of the other was not good, but the eyes were dark. Last year again we had a pure white one, a large duck; her eyes were exactly like the others, and she was very hardy and strong. M.

Seagulls Inland.—Lady Fry writes from 1, Palace Houses, Bayswater Hill, W., referring to seagulls seen flying over the Thames during the recent severe weather. She wishes to know if such an occurrence is rare. [In the *Birds of the Ealing District*, by Mr. Anthony Belt, mention is made of the common gull, the black-headed gull and the herring gull, as appearing in flocks on the Thames about Kew and Richmond after severe weather. This winter seven sea-gulls were noticed in one of the ponds in Bushey Park, near Hampton Wick. Other instances will be given in "Some London Birds," an Avifauna of Hyde Park and its vicinity by Mr. A. H. Macpherson, B.A., which will shortly be printed in NATURE NOTES.]

OFFICIAL NOTICES; WORK OF BRANCHES, &c.

THE object of the Selborne Society is to unite lovers of Nature for the following purposes :—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

AT the meeting of the Council of the Selborne Society, held on February 2nd, Mr. J. L. Otter, Hon. Treasurer, announced that the following contributions had been received from the Branches :—Kensington, £5; Northern Heights, £1 11s.; Forth, 6s. 6d.; Rape of Lewes, £4 15s. 3d.; Bolton, 19s. 6½d.; Bayswater, 16s.; Nottingham, 8s.; Weybridge, 15s. 4d.; Clapton, 10s.; Southampton, £1 7s. 6d.; Wimbledon, £6 10s.; Brighton, £1 10s.; Chichester, 12s. 6d.; Tudor, 8s. 3d.; Atalanta, 9s.; Lower Thames Valley, £4 18s.; Birmingham, £2 10s.; Liverpool, 6s.

As some misconception seemed to prevail upon the point of the obligation of the Branches towards the Society in the matter of contributions, reference was made to the rules, and to the minutes of the last annual meeting, and the Council decided that, by the constitution of the Society, every Branch is bound to contribute to the General Fund at least 10 per cent. of their gross receipts, and *also* that if any surplus funds remain after the payment of the annual expenses of a Branch, they should be paid to the Trustees of the Society for the general purposes of the Society and its Branches. The Hon. Treasurer had prepared for the convenience of the Council a rough balance-sheet, preparatory to that which will be laid before the annual meeting. It showed that in addition to the sums expended in local organization, more than £330 had been received by the Central Council during the year, and spent for the purposes of the Society, leaving still a fair balance in hand, in spite of much unusual expense incurred during the past year which is not likely to recur at any future time. The operations of the Selborne Society were reported as extending in all directions, and the Council look forward to a very prosperous year, but beg of all the supporters of the Society to do their utmost to secure that result by enlisting new members.

The annual meeting of the Lower Thames Valley Branch of the Selborne Society was held at the High School, Richmond, on Jan. 29th, Mr. Edward King in the chair. At the annual meeting, and at the Committee meeting on the previous night, the principal subject of discussion was the balance-sheet. Of the two divisions into which the Branch is divided, the Richmond Division had received £48 7s. 1d., and expended £49 0s. 7d. (including £7 10s. 11d., the surplus of last year paid to the Hon. Treasurer of the Selborne Society), showing a deficit of 13s. 6d. The Brent Valley (Ealing) Division had received £8 8s. 6d., and expended £5 19s. 3d. (including £1 15s. paid, by wish of subscribers, to Magazine Fund), leaving a surplus of £2 9s. 3d. Total receipts of Branch, £56 15s. 7d.; expenditure, £54 19s. 10d.; surplus, £1 15s. 9d. Attention was called to the very large sum spent in expenses of management at Richmond, and the hope was expressed that by judicious economy a very large portion of this expenditure might be saved to the Society, and devoted to some more useful purpose. Miss Annie Wallis, Principal of the Richmond High School, was appointed Hon. Secretary, and Mr. S. F. Higgins, Manager of the London and Provincial Bank, Hon. Treasurer. Mr. Anthony Belt was appointed Hon. Secretary for the Brent Valley Division, and Mrs. Percy Myles Hon. Treasurer. During the year the Richmond Division has lost more than fifty members, and the Ealing Division has gained about an equal number, so that the Lower Thames Valley Branch still continues superior in numbers to any other section of the Selborne Society. A feeling of the greatest confidence was expressed by most of the members that in the year to come both Divisions would surpass anything they had done before either in activity or increase of numbers.

In connection with the Lower Thames Valley Branch, a most interesting lec-

ture was given at the College Hall, Richmond, on February 2nd, by Dr. Henry Woodward, F.R.S., of the British Museum, on "Early Man in the Thames Valley, and the Animals he Saw and Hunted." By the aid of a large number of diagrams, the learned lecturer reproduced pre-historic times in such a graphic manner as to give the greatest pleasure to a very numerous audience. It was explained that, while primitive man did much to exterminate many of the lower animals, he was driven to do so by the law of self-defence and the pangs of hunger—excuses which are certainly not available for the more barbarous products of civilisation who are committing such ravages on the British fauna at the present time. Dr. Woodward said that he considered it a great honour to be addressing an audience who were associated with White of Selborne. He offered to give more practical explanations to those who were interested in the subject of his lecture, if a party of them would arrange for him to conduct them through the galleries of the Natural History Museum. He was glad to see a protest against modern savagery on the part of ladies of the Selborne Society, who refused to wear the plumage of birds in their hats and bonnets. They were setting an excellent example, and he hoped it would spread. Selbornians present expressed their hearty thanks, not only to the lecturer, but to Mr. Pacy, the Hon. Secretary, and the committee of the Richmond Athenæum, one of the most flourishing literary societies in the neighbourhood of London. The members of the Athenæum have kiudly agreed to set apart a certain number of their gatherings for "Selborne Lectures," to which members of the Selborne Society are admitted free. The next Selborne lecture will be given by the Rev. Percy Myles on "Gilbert White: his Life, Surroundings, and Influence."

A meeting of the Forth Branch was held on January 16th, at the residence of Miss Waterston, Hon. Secretary and Treasurer, 45, Inverleith Road, Edinburgh. Miss Waterston gave a short account of the position of the Branch, and future meetings were arranged for the study of natural history and the protection of the Scottish fauna and flora against exterminators. The Forth Branch, which has not long been started, numbers forty-six members and associates. Miss Waterston writes that the interest in the Selborne Society is increasing very much in Scotland, and she hopes that a new Branch will soon be started for the Clyde District.

We are pleased to learn that Miss W. M. E. Fowler has undertaken to be Hon. Secretary for the "Gilbert White" Branch (Selborne and Liphook). Miss Fowler and Miss Annie Wallis, the new Hon. Secretary of the Lower Thames Valley Branch, have given valuable assistance to NATURE NOTES during the past year.

NOTICE TO CORRESPONDENTS.

To prevent mistake or disappointment, we request attention to the following rules:—

As NATURE NOTES is published on the 15th of each month, and the amount of MS. material received is always far greater than the available space, contributions should be forwarded *before* the 1st of the month in which it is desired that they should appear.

Correspondence intended for insertion in the magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with botany or zoology will be answered if possible, and advice will be given as to the best books for students in any department of natural science; but all questions must be accompanied by the names and addresses of the writers, not for publication, unless it is so desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

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NOTES ON THE DISTRIBUTION OF RARE PLANTS IN BRITAIN.

IN laying the following results of holiday rambles before the readers of Nature Notes, I must premise that they have no pretensions whatever to be brought up to the level of the advanced biologists of the present day. Engrossed as I necessarily am in my own professional duties, it is impossible for me to consider the products of my excursions into the botanical field as more than the gleanings from the bye-paths of hasty recreation; and it is as such that I wish these somewhat superficial remarks to be received and judged by my fellow Selbornians.

I confess in the outset that I have no theory to maintain or even to propose. Indeed, my object is not to air a theory, but simply to set the botanists among your readers speculating, observing, reading, and comparing facts; it is to arouse enquiry and stimulate the further collection of data; and I leave to cleverer and maturer students of nature than myself the formulation of a theory on the subject.

Let me more clearly limit my field of enquiry. I am not going to propound such obvious truths as every field collector knows by experience and every book-student learns from his manual, viz., that different soils (geologically and lithologically speaking) produce a different flora; *e.g.*, that we might almost *a priori* predict the plants we should find on mica-schist, mountain limestone, oölite, chalk, sandstone; that the mountain side, the moorland, the saltmarsh, the inland bog, the brook-side, the sandy warren, have their regularly appointed plant denizens; and that if we wish to pick up exotic stragglers, we must scan the corn-field, the clover-field, and (best of all) the ballast-heap.

The special subject I purpose to deal with is the *raræ aves* of British Botany, the plants that are restricted to one locality, or to a very few: these are, to vary the metaphor, the ἅπαξ λεγόμενα of Plant-life. Every civilized language has its

ἅπαξ λεγόμενα, its words which occur once and once only in the whole range of classical literature, and they are a source often of perplexity and speculation, always of interest to the linguistic scholar. Such are our plant rarities, utterly puzzling as to how they came there and why they confine themselves to that locality, but a source of inexpressible delight to the botanist who comes upon them and sees them growing in the habitat of their choice.

My first puzzle is the existence of what I can only describe as natural Botanic gardens in certain favoured spots in Britain. In North Britain there are three of the first class: Ben Lawers with the neighbouring Breadalbane mountains, the Clova mountains, or Braes of Angus, in Forfarshire, both of which contain within a very limited geographical area the most astonishing collection of rare plants of all sorts, and the south-west corner of Aberdeenshire, *i.e.*, Craigindal, Cairngorm, Lochnagar and their glens, to which we must add, as nature gardens of the second class, West Sutherland, Arran (for ferns), and, perhaps, the Lowther Hills round Moffat. In England, the choicest spots that, like Ben Lawers, swarm with rarities are (best of all) Upper Teesdale; then the Craven district of West Yorkshire, North Northumberland, the heart of the Lake district, Snowdonia, including Orme's Head and Anglesea, and the extremity of the Cornish Peninsula. While to the second rank belong Kent and Sussex for orchids, the Surrey Hills, the New Forest, the neighbourhood of Cambridge, and Shropshire with the district of the Meres. My enumeration is not exhaustive, but enough to illustrate my point, viz., that Flora seems unequally to have distributed her favours, and in doing so to have acted capriciously, and on no assignable principle.

Let me take you to some of these floral centres, and introduce to you a few of their treasures that it has been my good fortune to see there growing. For in this paper I prefer to confine myself almost entirely to rare plants that I have myself observed or gathered, whose environment and conditions of growth I have myself carefully noted. I begin with Ben Lawers and pass over the floral treasures which attract attention, whether by their surpassing beauty or their rarity, such as *Polystichum Lonchitis*, which abounds in every fissure, and flourishes like so many thistles, under every projecting stone all over the amphitheatre which encloses Loch-a-Cat; *Silene acaulis*, with its cushion of starry pink blossoms; *Potentilla alpestris*, with its masses of golden yellow; *Veronica saxatilis*, with its large purple blue corolla (an easily cultivated rock plant, I may observe in passing, and one which amply repays the care expended on its comfort). I may here also parenthetically observe that while *Veronica saxatilis* is fairly frequent on Ben Lawers, and *Veronica alpina* in the Clova Glens, I never, in spite of diligent search, found a specimen of *V. alpina* on Lawers, or of *V. saxatilis* in Clova.

I pass over too all the many species of rare *Hieracia*, which require a better botanist than I am rightly to distinguish and name; nor shall I delay on such rare and beautiful treasures as *Erigeron alpinum*, vrey sparsely distributed on Ben Lawers, nor even on *Draba rupestris*, which appears to be fairly well established in a very limited area near the summit; and which is only known to occur in Britain on another of the Breadalbane range, on Cairngorm, and on Ben Hope in Sutherland. But I ask your attention to the Saxifrages. There is, of course, fair abundance of *Saxifraga stellaris*, *hypnoides*, and *oppositifolia* — these are all frequent mountain denizens—but on Ben Lawers you will find fair abundance of *S. nivalis* (with very sparing British distribution), and near the summit *S. rivularis* (said to grow sparingly on the Braemar mountains), and *S. cernua* (exclusively confined to this habitat). Their limited area of distribution on this mountain is most remarkable. *S. cernua* is confined to one rocky ravine close to the summit, where you may also gather *Myosotis suaveolens* (*alpestris*) in fair abundance. Here it is fairly at home, and shows no symptoms of decadence, if it can but escape the greedy hands of ruthless depredators. *S. rivularis* is still more coy. It is only to be found very sparingly upon some low rocks looking down into the corrie, very easily overlooked, and lately found with much difficulty by one who, like myself, knows the mountain fairly intimately.

Another treasure of the rocks on the opposite side of the corrie is *Woodsia alpina*. I had the pleasure of discovering a fine plant of this rare fern in company with Rev. Dr. Pagan, Minister of Bothwell, a good botanist and excellent companion in such rambles, many years ago. I had another search over this side of the mountain a few years since with him and another botanical friend. We were eminently successful. First, after a vain joint search for our big plant of Woodsia in the old locality, Dr. Pagan discovered some young plants of it, evidently seedlings from the old parent, close down at the base of the rocks. Presently the third member of our party hit upon *Gentiana nivalis* growing sparingly in the grass along the same rocky ledges. This was, I believe, literally a discovery. It is reported from a mountain in the same range, a little to the west; and also from Canlochan Glen, in the Clova district. But to these spots in Britain it rigidly confines itself. After this, as I was wandering aloof from my companions, I came upon a large patch of a fern—happily out of the spoiler's reach—that I did not for the moment recognise. It proved to be *Cystopteris montana*, known to have existed on Ben Lawers and its neighbouring eminences, but supposed to be extinct. Thanks to the stalwart young Pagans, furnished with stronger heads and surer feet than I have, I possess a few dried fronds from this locality in my herbarium.

J. Mitchinson (Bishop).

(*To be continued.*)

"THE EXTERMINATION OF BRITISH BIRDS."

I AM sorry to have to question the conclusions of so true a naturalist as the Rev. H. D. Gordon, but so far as they relate to this county (Oxfordshire) they are really misleading. Nothing is easier than to make mistakes as to the variation in the numbers of different species at different times; nothing, too, is easier than to ascribe such variation to the wrong cause. I should not venture to write to you on this matter if I had not been a daily observer for more than fifteen years, both at Oxford and at the village from which I write (Kingham), and if my conclusions were not fully shared by my friend, Mr. O. V. Aplin, author of *The Birds of Oxfordshire*, who resides near Banbury. So far, therefore, as this county is concerned in the question, our evidence is pretty strong, and I am happy to be able to tell Mr. Gordon that with us the birds are not so scarce, nor is man so vile, as would appear to be the case elsewhere. I can only hope that his information may be equally incorrect for other localities, for I love my fellow human beings as well as the birds, and do not wish to think so badly of them as I am sometimes apt to do when reading NATURE NOTES. I will take the birds which Mr. Gordon says are rapidly becoming extinct, and state the facts as far as this county is concerned.

The *Kingfisher* has of late years been growing steadily commoner, in spite of the severe winter of 1878-9, which reduced its numbers. I knew of several nests last summer, and in the autumn I seldom failed to see the birds during any walk by our streams. I once saw three fishing in a single ditch. Of course, the late severe weather has worked havoc among them, both by starving them and by bringing them within easy reach of guns; but I am not yet hopeless about them. I may add that I have seen this bird pretty often during short visits to other parts of England.

The *Redstart's* increase in numbers has been one of the most striking facts in our ornithology during the last ten years. (See Mr. Aplin's book, p. 56). In May and June we have had many scores of pairs building in and around Oxford, and here at Kingham the song is to be heard everywhere. This steady increase has been one of my greatest pleasures for several years; and all the more so because I do not often see the bird on the continent. We may be sure that the redstart thinks better of English people than Mr. Gordon does.

The *Goldfinch* has also been recruiting its numbers of late years (see Mr. Aplin again, pp. 19 and 92); even in the late severe weather, I have several times seen individuals here, and noted also a large flock or "charm" in South Wales. The cultivation of certain large fields of thistles should have done something to keep it away from these parts; but I have observed no difference in its numbers.

Lastly, the *Swallows* and *Martins*, as far as I can see, are not less numerous than they used to be; and if they were, would man, at any rate in England, be to blame for it?

As regards some of our larger birds, owls, hawks, crows, &c., there is indeed much reason to be anxious about them; but in my neighbourhood they are not being exterminated by our land owners, one at least of whom knows their value well. Woodpeckers of the rarer kinds are to be seen occasionally, and the green species is common.

I still believe that England is the favourite home of small birds, and will continue to be so. In no other country in which I have travelled are they so abundant as with us, and in spite of occasional outbreaks of tigerishness, I think I see a gradual improvement in the relations between Englishmen and animals; in fact I have had a striking instance of it only this very morning. The Selborne Society should not despair of success in the good work it has taken in hand; and I must confess that the tone of Mr. Gordon's paper was such as to have made *me* despair had I not had abundant evidence at hand of a very different kind from his.

W. Warde Fowler.

HOME MUSEUMS.

I HAVE been asked to speak from practical experience of the great pleasure of possessing a Home Museum. I will therefore try to show how mine has grown from one wall case of specimens of nuts and seeds, hung up in the billiard room, to the collection which is now dignified by the title of the Museum.

As I have taken an interest from my earliest years in all kinds of foreign seeds, such as those of palm-trees, tropical plants, fruits, &c., friends were often kind enough to give me any they had obtained in their travels abroad. Some I met with in various shops, and thus in time I had sufficient to fill one side of a wall case, measuring four feet by two feet, with a glass front. In the opposite side of the case I thought it would be interesting to arrange specimens of many kinds of drugs used in making ordinary medicines. I therefore obtained from chemists such articles as castor oil seeds, a piece of Turkey rhubarb, specimens of different barks from which quinine and other tonics are made, colocynth gourd, aloes, manna, and a great number of gums and other substances which are required in the healing art, not forgetting a few blister beetles and cochineal insects.

The case was lined with white paper, and divided into columns by thin slips of beading nailed down with small brads.

These columns were again divided horizontally by beading, thus leaving little spaces three inches by two, in each of which a specimen was placed, with its name and special use affixed. It was a great interest to me to read about all these medical drugs, to learn where they were obtained, and how prepared and used, and many a happy hour has been spent in explaining about them to the hundreds of poor people who come from dreary homes in London to spend long summer days in my place. My own visitors, too, often plead for a chat in the Museum when kept indoors by wet weather.

The next case contains a little of everything, and is intended to show how teachers in schools may be greatly assisted by having specimens of whatever they are speaking upon to show the children, and be thus helped to retain their attention. I have made several of these "Object Lesson Cases" for National Schools, and always find them most gratefully received. As I have already fully described how these cases are made in a little book easily obtainable,* I will not here go into further details.

I may create a smile when I speak of my "Scullery," as being the next object of interest we come to in the Museum, but what else can I call a collection of more than a hundred skulls? They are mostly those of birds, ranging from the eagle to the wren, and from the swan to the stormy petrel. I think there is a word to be said for the intelligent study of bone structure. The skull of a bird neatly prepared, white as ivory, perfect and delicate in its fragility, is a really beautiful thing, and a single glance at it will tell us a good deal about the life history of the bird.

The long bill of the snipe with a sensitive spongy process at the tip, shows us it is a bog-feeder plunging its beak deep into the soft soil to find the worms on which it lives. The aquatic birds have not only broad flat bills suited to their needs, as fish, insect and vegetable feeders, but as in the case of the shoveller duck, there are sometimes fringy processes on either side of the beak somewhat like the whalebone of one species of the huge cetaceans, possibly for sifting and retaining its food in a similar way. The heads of eagles, owls, and other rapacious birds, show at once that their sharp hooked beaks are intended for tearing the flesh of their victims. A little knowledge of this kind is useful when one has obtained some new bird as a pet, for it is easy to guess from the shape of the beak what food will be most suitable for it.

I once picked up a dead swallow, and with great care it was at last prepared whole and fastened to a card; a truly wonderful little skeleton it proved to be, so fragile and delicate that a careless touch would crush it in a moment, and yet when alive, the

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* *Home Work for Willing Hearts*, third edition, S.P.C.K.

possessor of that tiny frame could wing its way mile after mile across the sea seeking by unerring instinct some warmer land in which to pass the winter.

The facial line in birds is most interesting. I am not learned on the subject, but following Camper's ideas, I find that it *is* usually those birds with an upright skull that possess the most intelligence. A line drawn from the tip of the bill of a blue-tit to the apex of the skull will show a far higher angle than the same test applied to the head of the willow wren or tree creeper, and charming as the two latter birds are they have not a quarter of the "nous" of the clever little tit. The possession of a collection of skulls opens the way to many an interesting line of study in connection with the living birds and their ways and habits as seen in our gardens and fields.

I have also a few mammal skulls, and they have characteristic features well worthy of notice. That of the mole is very difficult to prepare, from the fragility of the cranial bones; the jaws reveal a truly formidable array of teeth, and so does the head of the stoat, which looks like that of a miniature tiger. On the same card are placed the upper and lower jaws of a shrew and house mouse; one can thus see how they differ, the former being insectivorous and flesh-eating, and the latter belonging to the rodentia — able with its powerful incisors to gnaw through planks, and find its way into store-closets, as the housekeeper often finds to her cost. It is worth while to prepare a rat's head, if only to observe how the large front teeth curve a long way into the head, which must give the animal immense gnawing power. The cat's skull is remarkable for the great size of the ear-drums, which would at once suggest its well-developed powers of hearing.

Whilst speaking of birds' beaks may I run the risk of receiving a peck myself, from someone who may hint that I must have had many innocent creatures destroyed in order to obtain such an array of skulls. I must again emphatically repeat what I said when writing on "Feather-books," that I have never had a bird or animal killed for any scientific purpose. These heads were those of the dead birds I have found, in various ways, during the past twenty years, whose plumage has been used for the feather books. Game-birds furnish a source of supply for anyone who desires to experiment in making skeletons. The heads are easily prepared by boiling and cleaning, and then, being placed in the sun, they become white and fit for the museum shelves.

ELIZA BRIGHTWEN.

WEMBLY PARK: A PROTEST.

ROUND a new railway-station in a suburban district is wrought a change more rapid far than that which takes place where the settler, it may be in the back-woods or prairie of America, has built his hut. Quickly as the forest is felled, the swamp drained, the soil for the first time ploughed up round the colonist's new abode, far more speedily are the trees levelled, roads made, and houses run up, where the new station is built amid fields and hedges.

Anyone travelling on what is known as the St. John's Wood line of the Metropolitan Railway will have noticed that between Neasden and Harrow-on-the-Hill the train passes through a lonely and almost uninhabited stretch of pasture and undulating park-land, broken here and there by clumps of trees and now and then a copse. But much of this quiet and lonely tract, especially that part which comprises Wembly Park, known only to the pedestrian and the few inhabitants of the neighbourhood, is about to share the fate of all such places within ten miles of the City, for about a mile and a half beyond Neasden, in the centre of Wembly Park, a new station is in course of erection.

A few months ago, some small amount of public interest was aroused in this hitherto almost unknown rural spot to the north-west of London. Here it was, during necessary excavations connected with the building of the station, that, at no great distance from the surface of the ground, a large number of fossil bones of deer and other animals were brought to light. Some notice of this discovery appeared in the daily papers at the time, but the event is not so well known as to render the present mention out of place.

The erection of this railway station is intended for the promotion and development of a large scheme, which may, or may not, prove successful. Wembly Park is now in possession of the Metropolitan Railway Company, whose line passes right through it, and, according to a newspaper report of last summer and information obtained more latterly, it is the intention of the Company to make this park the future Exhibition Ground of London. A pleasure-garden will be laid out adjoining, and on a neighbouring eminence there is to be reared an enormous tower, a structure perhaps surpassing in height the Eiffel Tower of Paris.' The remaining part of the estate will be a veritable happy hunting-ground of the speculator, where shops and villas innumerable will spring up.

So, good-bye to the green meadows through which wanders the now much-dwindled and reed-grown stream of the Brent; good-bye to the alder-copses;—the elm-avenues, too, through whose tracery-work branches and delicate green foliage the

sunbeams cast their light, chequered with many a shadow, on the ground—too many already of these grand old trees, which may be fitly termed the glory of the London clay region, has the ever-advancing tide of bricks and mortar swept away for ever. The road-side hedges—home of the wild rose, honeysuckle, bramble and nightshade—must vanish, and the banks beneath them be stripped of their mantle of moss and ivy, brightening the winter scene, and their summer growth of herb-robert, campion, stitchwort and dead-nettle. Such are the fields and lanes about Kingsbury, Neasden, Wembly and Sudbury, and there are now but very few more such delightfully rural spots left at so short a distance from the City. Wembly Park, happily, does not embrace the whole of this area, but when once the park forms a nucleus of buildings, neighbouring landlords, tempted by high bids for their properties, will not be slow to dispose of their estates—let one set the pace and the others will follow.

One result of this rapidly-approaching and much-to-be-regretted change will be the total disappearance of several Middlesex plants from present-existing localities. Trimen and Dyer's *Flora of Middlesex* (1869) records 133 of the less common species for the neighbourhood of Kingsbury, Sudbury, and Wembly (parts of districts No. 4 and No. 5 of that volume); while Melvill's *Flora of Harrow* (1876) enumerates for the same localities 111 species. This part of Middlesex has undergone but little alteration since either of these books were issued; so these numbers will doubtless hold good for the present time. A much more recent record ("Beauties of the Brent," *Proceedings of the Ealing Nat. Hist. Soc.*, 1887-88, p. 3) gives a long list of many of our more beautiful water- and meadow-loving plants found in a ramble along the valley of the Brent; not by every stream, in places even thirty miles from London, are found the yellow and the white water-lily, bulrush, sweet-sedge, arrow-head, water-flag, and the beautiful flowering-rush.

Dismissing the question of the proposed Exhibition Ground, the success of which, financially, at such a distance from the centre of the metropolis, must suggest itself as doubtful to those far better qualified to judge in such matters than the present writer, a few words must be said as to the proposal to erect a new Eiffel Tower in Wembly Park. Much has been most justly written in this magazine, and elsewhere, against sky-signs: not a single member of the Selborne Society, I feel assured, will give his or her support towards the establishment of this most hideous sky-sign of all. And let it not be thought that, in speaking thus, the writer is ignoring the material advantages such a scheme would confer in supplying labour to hundreds of unemployed workmen. That is the only ground upon which its promotion could be rightly defended; but there are other channels of employment open, as useful and profitable to the public at large as the Eiffel Tower scheme would be use-

less, into which that labour might be directed, but upon these it would be out of place to enlarge in such a magazine as this.*

And, lastly, though it would be vain to hope that this portion of rural Middlesex, which fixes a gulf of fields, lanes, and woods between London and Harrow will never be bridged over by continuous rows of houses, we can only trust that, ere such happens, either through the agency of munificent individuals or through the energy of such bodies as the London or Middlesex County Council,† or the City Corporation, some very considerable portion of this district may be secured for perpetual public enjoyment.

ARCHIBALD CLARKE.

THE ORLETON SWIFTS.

(A LETTER TO THE RIGHT HONBLE. THE EARL OF SELBORNE.)

(*Continued from p.* 30.)

THE Swift is a dark greenish glossy brown in colour—not black. The sole ornament or recognition mark is the white chin. This bit of contrasting colour, small though it is, may be useful to them. I have several times hung round a Swift's neck a bit of calico in the shape of a bib, and this has always attracted the attention of the other Swifts, though not large enough to be conspicuous. So they are quick enough in noticing any difference in the appearance of their companions.

I have not been able to detect any such fading or bleaching of the colour of Swifts during the time of their stay here as Gilbert White notices, though I have had them in my hands early and late in the season. The other day I was looking at a full-fledged young one due to fly on the morrow. It was a beautiful bird. The same colour as its mother—no darker—but its chin a purer white, which extended to the feathers round the upper mandible of the beak. The wing feathers were edged with light which gave them a beautiful appearance, the legs and feet were pink and not black as in the old ones, and the wings were somewhat shorter.

The average weight of a Swift is $1\frac{1}{2}$ oz. as near as may be. From tip to tip of wing it measures $15\frac{1}{2}$ inches, and from tip of beak to end of tail $7\frac{1}{2}$ inches with its neck in the natural position, that is in a loop with the bend underneath; for the Swift carries

* Since writing the above, it has become public knowledge (see *Daily News*, February 19) that a company for the promotion of the whole undertaking is to be set on foot, probably next May. We would earnestly appeal to Selbornians to have nothing to do with its organisation.

† The good work of the Open Spaces Committee of the L. C. C. in recently securing the pine woods at Bostall Heath, near Woolwich, is doubtless known to most readers of NATURE NOTES.

its head close between its shoulders. The length of the body without the feathers is $4\frac{1}{2}$ inches.

Now just consider these figures. The bird only weighs $1\frac{1}{2}$ oz., and the spread of its wings is $15\frac{1}{2}$ inches ;* if stretched they easily come to $16\frac{1}{4}$ inches, but my measurements are taken without stretching, and mostly from living birds. This is probably the largest expanse of wing, in proportion to the weight, to be found in any bird. Each wing is very nearly as long as the entire bird.

But mere figures are so inadequate to convey a right impression to the mind in such a case as this, that I send a tracing of the outline of a Swift with and without its feathers. This you may take to be correct, for I laid the bird on a sheet of paper and carefully drew the outline round with a pencil—you will notice that the tail is nearly as long as the body.

The eyes of the Swift, though deep-set, look straight ahead. They must not project, or the pressure of the wind would be too great upon them and they would impede the flight. So the head is cut away in front so as to give them a clear field. They are large and of a beautiful dark brown. The deep groove cut in front is lined with black, which has no gloss about it, so that the light shall not be reflected into the eye; and immediately in front of the eye is a small tuft of upright feathers, the use of which seems to be to turn the wind off the eyeball, but they are not long enough to obstruct the sight.

The mouth is very wide, the corners of it come down underneath the eyes. When a feather is taken, it is not carried in the tip of the beak but right at the back of the mouth, as the Swift flies at it with mouth wide open, and does not pause like a swallow to take it daintily in the end of its beak. The effect is peculiar, the ends of the white feather issuing from near the bird's shoulders. The fact that the materials are thus carried may partly account for the cementing of the nest.

There are 10 primaries in the Swift's wing. The longest (the second) measures 6 inches, and the shortest $2\frac{1}{8}$ inches. The tail has also 10 feathers, the longest, the outside ones, are $3\frac{3}{4}$ inches long and the middle ones $2\frac{1}{4}$ inches. The shape of the tail is worthy of notice. When at rest it is forked, but when spread to its most effective extent it is not forked but straight at the end, and the feathers still support one another by overlapping ; they are very stiff, especially the outside ones.

There is a peculiarity about the Swift's foot besides the fact that all the toes point forward, and that is, that the under side of the leg is soled up to the joint, and is in fact used as part of the sole of the bird's foot, being flattened for the purpose. The claws are very sharp and can be bent double with the toes. The grip is very strong and the bird won't let go. I am very

* Just the distance from corner to corner diagonally across NATURE NOTES lying open.

careful now how I handle a Swift. Much the best way is to press the back of the bent forefinger between the bird's wings and hold them against it with the thumb and second finger as close to the body as possible. Held in this way the bird cannot struggle and is not uncomfortable. But beware not to put a finger within reach of those small claws.

The Swift being designed for speed and endurance and life in the air, carries nothing superfluous. Its beak is a mere point to its head to cut the air, useful also to the female in feeding the young. Its feet are very small and the legs very short. It has nothing in the way of structural ornament, such as a crest. It is long and fish-like in shape, and its tail is the very perfection of a working tail—not meant for show like a cuckoo's or even a swallow's—just long enough to secure all the advantages of a long powerful tail and short enough to be handy in a high wind.

The Swift is the most aërial of all our birds; it spends quite as much time on the wing as Gilbert White says it does, and more. In its ordinary flight the wings seem to beat simply up and down from the body without any bend at the pinion joint; that is they are always held out at right angles to the body, and not doubled back like a Swallow's with the quill feathers parallel to those of the tail. It is this stiffness of wing, combined with their great length, which gives the Swift its striking form in the air like a half-bent bow, and distinguishes it so markedly from the other members of its tribe. When the bird is flying straight, the tail is folded and just shows the two points. When it turns it simply tilts itself with the wing down on the side to which it is turning. The least raising of the head or tail would take it round then, but this is not perceptible in the fast flight of the Swift.

It is when the bird is hawking for flies that the use of the tail becomes apparent. The bird has to twist and turn now on one side now on another, up and down. The tail can be depressed so as to be at right angles to the body, it can be opened until the light appears between each feather, and the two outside ones are almost in a line, and one half can be spread and depressed without the other. When screaming in chorus, the Swift does not think about food. It is not often that one can hear the "nip" as the Swift takes a fly which is so perceptible in the case of the Swallow and Flycatcher, except indeed, on the banks of the stream when the impact of a Caddow and Swift is audible enough; still, I have heard the sound on a calm evening near the church.

Only the females feed the young. I have often been able to distinguish them in flight by the distension made by the flies packed away under their tongues. I have caught several (for measuring and weighing) with a landing-net, as they stooped for their nests, but could not rob them of their young ones' food.

The speed with which they dart straight into their narrow

nest-holes is startling. The bird is flying above the level of its nest. It goes out to some distance from the church to get up steam, and when exactly opposite its nest swoops down, coming below and shooting up into it. Just as the stoop is made the wings are partially closed, there is a "whsh" through the air, and the Swift is inside the hole, without the slightest attempt to pull up. How the impetus is arrested is hard to say, but a Swift can bear without inconvenience a hard knock on the breast, when it can use its feet to break the force of the blow.

When the female leaves her eggs in the evening and comes out for food and exercise,* she will lead the chorus as merrily as anyone. I have slightly cut the tails of several, and so was able to recognise them.

The Swift is able to endure for a long time without food. There have been Swifts inside this church certainly for five days, and living at the end of that time, though getting weak. It has been impossible to get them out until weakness has brought them down to the lower windows. When, after a pair or two of Swifts have arrived in May, cold weather sets in and they disappear, I believe that they are lying still in a semi-torpid condition and taking advantage of this power of fasting.

AUBREY EDWARDS.

(To be continued.)

BOOKS FOR YOUNG SELBORNIANS.

'Twixt School and College, by Gordon Stables, M.D. Blackie & Sons, 1891. [Price 5s].

This book, which is dedicated to Mrs. E. Phillips, of Tunbridge Wells, a well-known friend of all birds and beasts, can be thoroughly recommended to all juvenile Selbornians. It not only contains a very interesting Scotch story of a manly, self-reliant, and kind-hearted lad, but is almost a complete compendium of instructions for the keeping of pets. Dr. Gordon Stables tells us that almost all the animals mentioned in the book—starling, terrier, cavy, cat, canary, collie, cow, and cockatoo—were pets of his own, and that all the principal *humans* had their counterparts in real life. Members of the National Guinea-Pig Society will be delighted with the volume, which not only gives full directions for the construction of caviaries, but ascribes almost all the virtues and vices of mankind to their inmates. They may weep over the misdoings of the incorrigible and parricidal "Bob," but they will find consolation in the description of "Daddy," that most noble of "piggies" whose righteous actions should put the doings of mere human fathers to shame. The botanical portion of Dr. Stables' book is not on a level with the zoological; we should certainly not recommend young gardeners to introduce the wild convolvulus into their territories. We must give a word of praise to the illustrations by W. Parkinson, which are very far above the average. The face of the detected bird stealer (p. 169) is really admirable in its way.

* I wondered how Gilbert White was able to discover this, but looking over one of his shorter letters again I find that only four pairs built in the church at Selborne, and that explains it. See Letter 39, p. 230, *Natural History of Selborne*, original edition.

Journal of Researches into the Natural History and Geology of the Countries visited during the Voyage of H.M.S. "Beagle" round the World, by Charles Darwin, M.A., F.R.S. T. Nelson & Sons. [Price 4s.]

There can be no better book to put into the hand of a boy with a taste for natural history, than Darwin's *Voyage of the "Beagle,"* and it would be hard to find a better edition than that published by Nelson & Sons. It is a handsome book, well printed, and well illustrated with pictures which are not merely introduced because the publisher happens to have the blocks in hand, but which really assist the reader to understand his author. It is superfluous to praise the book itself. We sincerely hope the Duke of Argyle is wrong when he says, "Celebrated as was this book once, few probably read it now," but we are in full agreement with his grace when he adds, "If we are ever inclined to rest our opinion upon authority, and to accept without doubt what a remarkable man has taught, I do not know any work better calculated to inspire confidence than Darwin's *Journal.*"

Wanderings in South Africa, by Charles Waterton. T. Nelson & Sons, 1891. [Price 4s.]

This well-known volume is published uniformly with that just mentioned, and is in many ways deserving of equal praise. It is a great advantage to have prefixed the very interesting and humorous review by Sidney Smith, one of the finest examples of its witty writer's skill. Waterton's instructions for preserving birds for cabinets of natural history are appended: they conclude with a passage which show plainly how true a Selbornian in spirit was this eminent naturalist. "Should these instructions tempt you to shoot the pretty songster warbling near your door, or destroy the mother as she is sitting on the nest to warm her little ones, or kill the father as he is bringing a mouthful of food for their support, oh! then, deep indeed will be the regret that I ever wrote them."

The Humanity Series of School Books, edited by the Rev. F. O. Morris, B.A. Dedicated to the Right Hon. Lord Selborne. S. W. Partridge & Co. [6 vols. Price 6d., 8d., 10d., 1s., 1s. 3d., 1s. 6d.]

These school books are so well known and have received such high commendation from national schoolmasters, Her Majesty's Inspectors of Schools, and the general public, that it does not seem necessary to do more than remind our readers that they are still on sale, and that they are just as suitable for private reading as for use in schools. We feel sure that a very large amount of good has been done by Mr. Morris's publications. It may be humiliating, but it is an indisputable fact that, either from ignorance or from malice, a large number of children are naturally cruel; and those parents and teachers who are content to cram their charges with science and "accomplishments," without inculcating the principles of humanity, very shamefully neglect their duty.

The Humane Educator and Reciter, compiled by Florence Horatia Suckling. Simpkin, Marshall, Hamilton, Kent & Co. [Price 3s. 6d.]

Mrs. Suckling is known to many of our readers as an indefatigable worker in the cause of humanity and kindness. We much fear that her generosity has caused her in the present instance to undertake an enterprise which can hardly prove a commercial success. Her "Humane Educator" is a large and handsome volume of between 500 and 600 pages, and the price is unusually low. We hope that those Bands of Mercy for whom she has done so much will do all in their power to secure so wide a circulation for her book that its sale, even if not remunerative, may at any rate not be attended with personal loss to the compiler.

The first 350 pages of the work are taken up with an anthology from English poets who deal with the lower animals and the duties of mankind towards them. The way in which the selection has been made reflects high praise on the taste and judgment of the selector, who must have read widely in order to carry out her purpose, and must have noted carefully all that appeared in the periodicals bearing on her subject. For this portion of the book we have nothing but praise; it is worth much more than the price charged for the whole volume.

The "Fragments from Authors" which fill the concluding pages, comprise

such writers as Ruskin, Newman, Helps, Dean Stanley and Miss Frances Power Cobbe among our contemporaries, George Herbert and Izaak Walton among past worthies. This portion of the book might very well be increased at the expense of the Poetical "Action Pieces" which fill pp. 381-456. These poetical (?) extracts are much inferior, both from a literary and ethical standpoint, to the rest of the book. We cannot understand what advantage can possibly arise to any person, young or old, from reading or reciting such a "piece" as that to be found in pp. 442-450. The prose "Addresses to Meetings" are much superior, and include a very useful one on "Kindness and Cruelty," by Mrs. Suckling herself.

SELBORNIANA.

[An unusually large number of letters for this column have reached us since our last number. It is only possible to print a comparatively small selection, but we hope to insert some others later on.]

The Wild Birds Protection Act.—I would invoke the aid of NATURE NOTES in favour of our British Birds, which ought to be to some extent sufficiently protected under the present Act of Parliament, but are not.

Week after week, month after month, and year after year, I have had letters telling me of this or that more or less rare bird having been shot in this or that place, from Beaumaris to Brislington and from Cornwall to Caithness, without a single word of reproach against the offenders or of regret from the offenders themselves.

The shooters in the close-time seem utterly to forget, never to think for a moment that they are breaking the law in every such instance, as if that were a matter of as little consequence as to some of them the payment of the penalty they have incurred would be.

Not long since I had a letter telling me of the shooting of a hawfinch, and that by no means the first. It is one of the few birds which, somehow or other, have become more common than they were, not that they are by any means plentiful now, but this is not the way to make them more so. And so it is, and so it has been, with various others, only too many, that I could tell you of.

I had a letter only the other day from one of our Yorkshire members of Parliament, in which he wrote with proper indignation of this bird murder in the case of a rare bird. These thoughtless shooters forget that the close time has been fixed as it is on account of its being the building and breeding season of the poor birds, and they think nothing of the cruelty involved to the young—left forsaken in the nest—as well as the taking of the life of the parent birds, which they cannot restore or bring back to them again, any more than they can graft the "violet plucked" on the stems from which they have been broken off. Many and many a time I have watched the parent rooks going back late in the evening to feed their young in the rookery at Warter Priory, near here, and from the height they have flown they must have come, I have no doubt, for many miles on this errand all the day long. They have no right either, these senseless few, to destroy the pleasure which our people generally have in seeing the "fowls of the air" taking their happy pastime "above the earth" in the "open firmament of heaven."

F. O. MORRIS

Nunburnholme Rectory, Hayton, Yorks.

[We have received a very large number of cuttings from various newspapers on the collapse of the ridiculous project of the Birmingham "Oologists" for a buccaneering invasion of the Shetland Islands. This scheme has called much attention to the necessity for improving the Wild Birds Protection Acts. At the last meeting of the Council of the Selborne Society, a resolution, moved by Mr. A. H. Macpherson, was passed, approving with some modifications the amendments introduced by Mr. Pease and urging Selbornians to support his Bill.]

Swallows in February.—My fellow-members may be interested at the following item of news. On Monday, February 23rd, I was climbing in the belfry of St. Erney Church, near St. German's in this county. To my great sur-

prise I found several new swallows' nests built along the roof-beams. They were freshly and beautifully feathered, and one of them contained the first egg, which I need hardly say I left undisturbed. On referring to my *Natural History of Selborne*, I found that in White's Calendar, March 26th is given as the earliest date for the swallow's appearance, and in Markwick's April 7th. The St. Erney birds must have been in Cornwall considerably before the 23rd February in order to have had sufficient time to build and feather their nests and commence the duties of laying. HERBERT W. MACKLIN.

St. Ives, Cornwall.

Destruction of Squirrels in the New Forest.—The Southampton and New Forest Branch of the Selborne Society having had their attention called to this matter have made enquiries on the subject, and regret to find that many of these extremely graceful animals are annually destroyed through, too often, wanton cruelty by the lads and young men of the neighbourhood. Incredible as it may seem to many of our readers, some of the labouring class of the New Forest use them as an article of food, but generally they are victims to that senseless love of killing which is wrongly named sport. Mr. Ward Jackson, of Lyndhurst, writing on this subject says: "Though large numbers of them have been destroyed they are yet by no means extinct. Opinions are divided as to the amount of damage done to young trees by them. It is possible they are credited with more than really is their due. The foresters do kill a great number of them and use them for food." Doctor Lawson Tait, who lives opposite to an enclosure, writes: "We have at least thirty nests this year and they do no harm at all. I have not seen a single tooth mark on a tree or any indication of injury of anything by them, and I am quite sure I have now a bigger squirrel population (on my private grounds) than exists elsewhere in the Forest." The Rev. A. R. Miles says: "They are still fairly numerous in and round the Forest, although they suffer from unnecessary destruction by gangs of young men who, especially on Sundays and holidays, roam about the Forest with sticks loaded at the end with a ball of lead, with which they murder these charming little animals." We hear that the officials of the Forest are likely to use their authority on behalf of the squirrels' interest.

Seal Fishing in Pribilov Islands.—I think your correspondent is in error respecting the seal fur trade as carried on in these Islands. No cruelty is practised, except by killing, and that is far less than that to which our poor domestic animals are subject. No adult male seal is killed, no female of any age, no calf under a year old.

The young males congregate in large numbers together, sleeping on the Islands, and the slaughterers get quietly between a herd and the sea, and drive them gently out of sight of the other seals, some distance inland, where they are instantly killed by a blow on the head with a club. Great care is taken not to frighten the seals. They do not breed till they are six years old, and as at that age the males become quarrelsome, and collect together a harem of from fifteen to twenty cows each, the killing of the surplus before they begin to fight is a benefit to the community. The young are born on the Islands, and are unable to swim until they are two months old; the mothers have to go long distances from the Islands in search of fish for food—it is then, if ships are allowed to catch them, the poor calves are starved.

The skins taken on the Islands are those of the young males between the ages of two and five. Their flesh forms the principal food of the Islanders. I believe you will find this account entirely correct. It is a great pity that fishing for fur seals should be allowed from ships; it has already destroyed nearly all except those preserved and protected in the Behring Sea.

Fordington, Dorchester. M. A. HAYNE.

[The views of this correspondent are borne out by an article in this month's *Murray's Magazine;* but there is, unfortunately, much evidence on the other side.]

Sanitary Swifts.—Mr. Aubrey Edwards, in his interesting notes on the Orleton Swifts, mentions the curious fact that the parent birds swallow the fæces of the young. This is for the purpose of keeping the nest clean, but I have noticed more than once something falling from the bird when leaving the nest

after feeding the young, which on examination proved to be fæces removed to keep the nest sweet. If they really *swallow* the fæces, they have the power of ejecting them. Starlings also keep their nests sweet by removing the fæces in the same way. J. A. KERR.

The Rectory, Clyst St. Mary, Exeter.

Swifts and Sparrows.—Mr. Gordon's record of the swifts taking the sparrow's nest and killing the occupants is very interesting, and I am very glad to learn that they can on occasion take such a decided course. I only wish that here they would take the law into their own hands, or rather claws, in the same way. In this church several nests, in which they used to lay years ago, were for several seasons tenanted by the sparrows, who were left unmolested by the swifts, though the latter seem to have wanted the room, as they returned directly I had induced the sparrows to stay away. Mr. Gordon's swifts were not church birds, and perhaps that is why they were unscrupulous.

The Vicarage, Orleton. AUBREY EDWARDS.

Threatened Extermination of the Great Skua Gull.—Miss Isobel Waterston and others write to us on the subject, urging that action should be taken to prevent the extinction of this rare bird. Mr. Harold Raeburn writes, in that excellent publication, *The Scottish Naturalist*, which we strongly recommend to all our northern readers—"This year—1890—the persecution which the great skua has been subjected to has been worse than any previous year; and an extremely unpleasant feature—a new one—is the fact that men calling themselves naturalists—I am glad to say there are no Scotsmen among them—have visited the Shetlands, and, not contented with taking the eggs, have shot the old birds as well, in utter contempt of the provisions of the Wild Birds' Protection Act. I do not alone refer to the proceedings of Mr. Barrington and his party (*e.g.*, *Zoologist*, September, October, November, 1890), for I have the names of several others who also destroyed great skuas on their breeding-grounds this year. If this sort of thing is going to be repeated, then, I think, it will be the duty of Scottish naturalists to take the matter up and put a stop to it by prosecuting the offenders; a conviction would be easily obtained at the Lerwick Court."

Mr. H. Knight Horsfield writes as follows to *The Field*:—"At the present time there are only three stations in the United Kingdom where the great skua gull (*Lestris catarrhactes*) breeds, namely, Foula, Unst and Northmavin—all in Shetland. Although always a rare bird, the pairs breeding in Foula have increased materially during the last two or three decades, owing to the fostering care of the late Dr. Scott, of Melby, to whom the island belonged. But the modern collector with his gun has now penetrated even to this remote spot—a spot, indeed, so inaccessible that a sailor on the mainland, barely twenty miles distant, told the writer that he once dispatched a message to China and to Foula on the same date, and received a reply from China first. Unless some power intervenes, the great skua—at any rate, as a British species—will soon, like the dodo and the great auk, belong to the fauna of the past. Fortunately, the remedy is in the hands of naturalists themselves. Mr. Harold Raeburn, writing to a contemporary, states that he has the names of several visitors who, during the breeding season of 1890, not content with taking the eggs, shot the old birds, in utter disregard of The Wild Birds' Protection Act, and adds that, if the necessary steps were taken, a conviction in the Lerwick Court could easily be obtained. It is to be hoped that Mr. Raeburn and other Scottish ornithologists will form a vigilance committee for the season of 1891. Despite its predatory nature, the *bonxie*, as the Shetlanders call the great skua, has many valuable qualities. The natives of Foula protect it to a great extent, because it relentlessly attacks and drives away the corbies (ravens), which prey upon the lambs. But, unluckily, the eggs have a value in the eyes of collectors, and find a ready market in Lerwick and elsewhere; and when the peasant, wandering over the higher reaches of those lonely hills, finds a hollow fashioned in the heather or moss, who can wonder if its olive-mottled contents occasionally disappear? And if, in addition to this, the British collector is annually to visit the cliffs of Foula in the same selfish spirit which he displays at Flamborough and Speeton in the month of August, the days of *Lestris catarrhactes* in Shetland will be numbered."

Letters on the subject, by Miss Waterston and Mr. Aubrey Edwards, were read at the last meeting of the Council of the Selborne Society, and we are delighted to learn that the wanton slaughterers of the skua will probably before long receive condign punishment for their misdeeds. The Grassholm conviction was the greatest boon to southern sea birds that has come to them in recent years, and a similar "Foula" prosecution would bring equal safety to their northern kindred. It increases our respect for the superior sagacity of the Scottish folk to be told that there would be no law expenses to the parties prosecuting, as the "Procurator Fiscal" or some such official would take the matter up. If this be the case, assuredly "they do these things better in" Scotland. Will no one bring in a bill for the establishment of a "Procurator Fiscal" in East Anglia or other places where the Wild Birds Protection Act is, as we are constantly assured by our correspondents, a mockery, a delusion and a snare?

Seagull Shooting at Bournemouth.—When I was at Bournemouth last summer the numerous gulls formed one of the most pleasing amenities of the place. They followed the steamboats which made excursions to Swanage and the Isle of Wight, and were fed by the visitors, who provided themselves with food for the purpose. It was indeed a most lovely sight to see these delicate grey birds poising themselves in the air and snatching the coveted morsel from the waves. Many of them breed in the neighbourhood, and could be seen on the cliffs near Poole sitting in security on their eggs, thanks to the Wild Birds' Protection Act; but now I grieve to find this loving kindness to the birds, leading to their greater tameness, has lured many to their destruction.

There is a flourishing Natural History Society at Bournemouth, and it ought to raise its voice against the vulgar barbarity of gull shooting, especially in such a case as that of the Bournemouth gulls, who all the summer have regarded men as their benefactors. Few things could have given more pleasure during my visit than the notice in Mr. Burt's lovely property at Swanage to the effect, "No gun or sporting dog allowed on the estate." His name will, I am sure, be held in honour by all Selbornians; but what a contrast between Bournemouth and Swanage. At the time of my visit the rocks in Mr. Burt's estate were crowded with nests of seabirds, which were constantly flying to and fro from the sea to the rocks with food for their young, and the sea seemed positively to sparkle with the number of guillemots on its surface. Simply from a mere commercial point of view, it is a serious question whether Bournemouth can afford to part with any of its amenities. It is grievous enough to see the growth of the place over the beautiful heaths, but this is inevitable; still *Erica ciliaris* near Bournemouth will soon become extinct, as St. Dabeoc's heath, *Menziesia polifolia*, has done. It grew there but lately, the only locality in England, and now there is a house on the spot. What is really wanted is a healthy public opinion to frown upon all who ruthlessly destroy one of the greatest ornaments of the seaside, whether it is done in pure wantonness or to minister to the meretricious taste of a thoughtless milliner.

Beckenham. J. JENNER WEIR.

[Is Mr. Weir sure about the *Menziesia (Dabeocia) polifolia?* We have never seen specimens except from Ireland.]

NATURAL HISTORY NOTES AND QUERIES.

Names of Ferns, &c.—The plants sent by Miss Alice Baily, Bath, are as follows:—(1) *Cheilanthes pulchella;* (2) *Notochlæna marantæ;* (3) *Forskahlia tenacissima;* (4) *Ceterach officinarum;* (5) *Notochlæna vellea;* (6) *Cheilanthes fragrans;* (7) *Adiantum reniforme;* (8) *Selaginella denticulata;* (9) *Ceterach officinarum;* (10) *Ceterach aureum;* (11) *Gymnogramme leptophylla.* The specimens have been returned as requested; but we cannot undertake to do this in all cases. See *Notice to Correspondents.*

Peacock Butterfly.—Having seen that you are glad of notices of early or out-of-season appearances of birds, insects or flowers, it may perhaps interest

your readers to hear that on the morning of Friday, February 27th, I found in a warm sunny bow window a beautiful specimen of the peacock butterfly. Is not this an unusually early date? KATHARINE WHITAKER.

Hinton, Twyford, Berks.

[Gilbert White, in the *Naturalist's Calendar*, gives March 6th as the earliest date for this butterfly. Markwick gives February 13th. In the useful *Naturalist's Diary*, by Mr. C. Roberts, January 13th is given as the earliest, March 13th as the average time of appearance. In an interesting *Calendar of the Months*, extracted from the Diary of T. Forster, M.B., F.L.S. (1777-1827), the peacock butterfly is recorded as having been seen on March 19th. This Calendar is appearing in the *Field Club* for this year.]

Mating of Tom-tits, &c. — In NATURE NOTES of October last "N. S. W." asks if tom-tits keep to the same mate. There has been no answer, so far, to the question. I should like to extend it, and ask if any, and if so, if many of our wild birds keep to the same mate? J. WINTER.

[Of course all birds of which both the sexes repair to the same place to nest each year must pair for life. What has to be proved is that the cock as well as the hen bird returns. We believe that the following rule will, with certain exceptions, be found to hold good—that birds which nest in exactly the same spot every year pair for life. This has been proved in the case of the chimney-swallow, and we have no doubt whatever that house martins, sand martins, swifts, tom-tits, fly-catchers, red-starts, wagtails, starlings, and many others keep to the same mate. It is well known that the raven does so, and it is probably the case with most of the others of the crow tribe.—A. E.]

The Courtship and Songs of Birds (Answer to "St. Paul's").—There can be but little doubt that many monogamous birds fall in love, and take as much trouble about it, too, as many human beings. A familiar example of persistence in courtship is that of the accentor or hedge sparrow, whose love-making is of a prolonged description. Birds that pair for life must feel a constant affection for their mates, and this is sometimes apparent to us when one of them is killed or wounded. As to their songs, when we remember that most birds only sing during the love-making season and cease as soon as the young are hatched, we shall probably not be wrong in calling them love-songs, though naturalists are not agreed as to whether they are love-songs of a tender kind or of defiance to rivals, or of a combination of the two. The whole subject is a very large one. Much valuable information will be found in *The Descent of Man* (Darwin), and in *Darwinism*, by Dr. Wallace.—A. E.

Number of Eggs laid by the Swift.—Dr. Edward Hamilton, in the *Riverside Naturalist*, says that the swift lays from two to four eggs, and Gilbert White, in *The Natural History of Selborne*, says that they invariably lay two. Which is correct? FLYCATCHER.

[We believe that Gilbert White is correct; we do not know of more than one instance of a swift laying more than two eggs, and in this case the bird laid three. It is possible that a mistake might arise from two birds laying very close to each other.—A. E.]

OFFICIAL NOTICES; WORK OF BRANCHES, &c.

THE object of the Selborne Society is to unite lovers of Nature for the following purposes:—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

The annual meeting of the Clapton (Lower Lea Valley) Branch was held on February 24th, at Miss Barlow's High School for Little Boys, Brooke Road, Upper Clapton, Mr. T. J. Russell in the chair. The secretary having read the report, the following officers were elected for the ensuing year:—Dr. F. H. Daly, J.P., President; Mr. T. J. Russell and Mr. Gerard Smith, M.R.C.S., Vice-Presidents; Mr. R. Marshman Wattson, Hon. Secretary and Treasurer; Miss Mary C. Barlow, Mr. J. S. Bradford and Miss Ellen Granger, Members of Committee.

It was recently decided to form a Junior Section in connection with this Branch, for boys and girls under sixteen years of age subscribing 6d. per annum to the Society. About thirty have already subscribed, and a committee was appointed to take the management, with Miss M. C. Barlow as Hon. Secretary. By a letter received later we learn that this Juvenile Section has been very successfully inaugurated by a lecture on "Insect Life," by Mr. Gerard Smith, M.R.C.S.

The first annual meeting of the Tudor Branch was held on January 31st, under the presidency of the Mayor. The following field meetings have been held:—July 26th, Hall Road and Hightown; August 9th, Kirby, Melling and Maghull; August 23rd, New Brighton and Wallasey; September 6th, Wavertree and Childwall; September 27th, Chester. The following meetings have been held and papers read:—October 10th, discussion on Nature as depicted by the artists in the autumn exhibition, Walker Art Gallery; November 14th, paper on Plant Life by Mr. Hugh Reid, illustrated by optical lantern, under the management of the President; December 19th, papers by Mr. C. J. Blackburn on "Some Nature Allusions in Mrs. Browning's Poetry," and by the secretary on "Selbornian Books." Mrs. Scott then read a paper on "The work of a River," which was listened to with profound attention. The Mayor and Messrs Day, Blackburn, and Ogle took part in the discussion, and a hearty vote of thanks was accorded for the excellent paper. Some alterations in the rules were then approved and the officers elected for the current year. The following is a list: President, Mr. Councillor John Vicars (Mayor); Vice-Presidents, Messrs. C. J. Blackburn and Hugh Reid; Treasurer, Mr. R. H. Day; Secretary, Mr. J. J. Ogle; Committee, Miss Innes, Mrs. Scott, Miss Reid, Miss Titterton, Mr. Ross, and Mr. Councillor John Lyon.

NOTICE TO CORRESPONDENTS.

To prevent mistake or disappointment, we request attention to the following rules:—

As NATURE NOTES is published on the 15th of each month, and the amount of MS. material received is always far greater than the available space, contributions should be forwarded *before* the 1st of the month in which it is desired that they should appear.

Correspondence intended for insertion in the magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with botany or zoology will be answered if possible, and advice will be given as to the best books for students in any department of natural science; but all questions must be accompanied by the names and addresses of the writers, not for publication, unless it is so desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

No. 16. APRIL 15, 1891. Vol. II.

ORGANISED OBSERVATION.

IN the Editorial Programme which appears in the first number of Nature Notes, the following passage occurs: "It is believed that a large number of interesting observations made by those who use their eyes for the purpose of nature study, are lost, because the observers do not think what they have noticed is of sufficient value to be worthy of record in any scientific journal."

A person happens to notice what appears to him to be a curious habit in an animal. If he is of a thoughtful nature he will say to himself, "Why does it do this?" but he usually takes it for granted that the habit is well known to naturalists, the fact escapes his memory, and he never thinks of it again.

Isolated observations may appear in themselves uninteresting, for nothing is interesting without comparison: and apparently insignificant facts are thus constantly forgotten, when if recorded, they might form most valuable links in the chain of observations by another.

No doubt it was hoped that Nature Notes might become a headquarters for recording such simple observations as were not considered worthy of insertion in purely scientific papers. And this is just what ought to be the case. The Selborne Society does not profess to be a scientific society, but it does profess to be composed of persons who take an interest in Nature; it numbers its members by thousands, and possesses branches throughout the country. Moreover, as admirers of Gilbert White, we should of all things be observers. And I think that not only ought Nature Notes to be made a medium for recording observations, but that the Society should institute an *organised system of observation*. The committees of the various branches should not merely do their utmost to encourage individual members to use their eyes, but endeavour to establish a regular staff of observers, so that observations should be carried

on regularly and throughout the whole of the district in which the members of each branch reside.

There are hundreds of points of the greatest interest in the life-histories of animals and plants still to be studied. Observations of all kinds, whether on distribution, food, song, migration or habits should be sent in regularly to the secretaries of branches and forwarded by them to the head-quarters of the Society. These, of course, could not all be published; most of them would, no doubt, be merely statements of well known facts. But they might be annually summarised and an epitome might appear at the end of each year in NATURE NOTES, embodying the results so far as they were of value. If such a system were established branches could work together much more than they now do, and although the members are scattered over so wide a field, the Society would become consolidated. Neighbouring branches could meet and compare their local lists of plants and animals, the various branches along the course of the Thames could endeavour to trace the course of migratory birds up the valley of the river by examining the dates at which they were noticed at various points, and many other interesting subjects could be worked out. Accurate observations are always valuable, and it must be remembered that statistics collected for one purpose are often useful for another.

The size of such a Society as ours is sufficient to enable us to have a net-work of observers throughout the country, and the most valuable facts might be established if such a system were once set on foot. The simplest observations, quite apart from their scientific value, are their own reward, and they may be carried on anywhere. Sometimes people say they live in a bad place for natural history, and that there is nothing to observe. That is nonsense. Places vary in their abundance of life, but there is everywhere enough to keep a man well employed in observation throughout his life. The smallest district is an ever-increasing source of interest to the person who endeavours to study its natural history.

How many of us know anything of the life-history of the commonest fly on our window pane? "All nature," said Gilbert White, "is so full that that district produces the greatest variety which is the most examined."

A. H. MACPHERSON.

[Mr. Macpherson has most correctly interpreted our wishes expressed in the Editorial Programme of NATURE NOTES, as is plain from the sentence which immediately follows that which he has quoted: "We may hope that NATURE NOTES will do much to utilise such observations, and to collate the experience of various observers." We much approve his present enlargement of the original idea to that of organised observation on the part of the Branches of the Selborne Society; and if the secretaries of the various Branches will respond to the suggestion made, we will undertake that results forwarded to us shall be tabulated by competent authorities and duly published.

We have always noticed that for such amateur investigations considerable guidance is necessary. The temptation is to fritter away powers on vague desultory observations which, if directed into one special channel, might produce important results. In the paper which immediately follows, Professor Henslow gives some valuable suggestions as to conducting investigations into the habitats of plants on more definite lines than is usual, and also gives instructions for some simple experiments on plant environment, which will, we hope, be carried out by some of our readers. We would recommend, by the way, those who are interested in Professor Henslow's paper, or in the "Notes" of Bishop Mitchinson, to try to get access, if possible, to the *Cybele Britannica*, *Compendium* or *Topographical Botany*, of Hewett Cottrell Watson. There are few works so stimulating to research as those of this delightfully pugnacious and eccentric writer. Of course every botanist has his well-thumbed and annotated copy of the *London Catalogue*, corrected, as far as is in his power, up to date.

It is to be desired that Mr. Macpherson or some of the other ornithologists who contribute to our columns should give some hints to the observers of birds about the special points to which they may direct their investigations, similar to the guidance given by Professor Henslow to botanists. The "Instructions for the Observation of Phenological Phenomena, published by the Council of the Meteorological Society" are, in spite of their very imposing and grandiloquent title, deplorably meagre. Perhaps our entomological authorities would also mention some special points in their department of Natural History to which lovers of insects might direct their attention.—Ed., N.N.]

A NEGLECTED PART OF FIELD BOTANY.

SYSTEMATIC botanists are, as a rule, solely concerned with morphology. Their plan has been to collect plants wherever they could find them, examine them from root to seed to see in what particulars they agreed or differed from their kith and kin, record their observations, and then to call them varieties, subspecies, or species, as they considered to be the most appropriate term from their individual points of view respectively.

Now, there seems to be something wanting in this procedure, and that is, a precise account of the nature of the locality where, more especially a variety, or a subspecies is to be found. The general locality of a species is mostly given, but looking through Sir J. D. Hooker's *Students' Flora*, now and again the conditions of the localities of varieties are added, such as "maritime," "sandy soil," &c., but they are mostly few and far between.

At a time previous to the publication of *The Origin of*

Species, botanists were little troubled with this question, and all that was thought necessary to constitute a botanist in former days was the knowledge of species. But now, since Mr. Darwin brought evolution to the front, the great question is, "How have the morphological characters by which a species is known come into existence?" Even he himself did not lay himself out to discover these hidden secrets of nature, but rather took up a position which might be expressed by saying, "Give me variations of structure, and I will then explain how nature converts them into specific characters by natural selection."

At the present time, however, the attention of biologists is rather turned in the direction of trying to discover how variations themselves first arise. This is a preliminary question which really ought to be answered before that of natural selection be raised at all.

Mr. Darwin tells us that varieties are incipient species, and as a variety only differs from a species by having a less number of differences from the type, the question resolves itself into, How do the different characters—often very slight—arise which mark any variety amongst plants?

It will be as well to illustrate this question by examples. I will take two cases from the *Students' Flora*, and we shall then be able to see on what principles a species becomes recognisable as such and distinct from a variety.

The first pair of species for comparison shall be distinguished mainly by the details of their flowers, viz., *Geranium molle* and *G. rotundifolium*. A second pair shall be of the genus *Salix*, viz., *S. herbacea* and *S. reticulata*, as the species of willow are mainly distinguished by their vegetative system.

In both cases we shall find that the characters taken *singly* are of no greater value than varietal or subspecific; but being taken *collectively* the group elevates the plant to the rank of species.

The comparable characters given of the Geraniums are as follows:—(1) *G. molle*, softly hairy; (2) *G. rotundifolium*, laxly hairy; (1) petals notched, (2) entire; (1) claw bearded, (2) naked; (1) carpels wrinkled, glabrous, (2) not wrinkled, hairy; (1) seeds smooth, (2) pitted.

As examples of these characters, being taken as varietal or subspecific, are the following:—*Sagina apetala*, subsp. ciliata, glandular-pubescent; subsp. *maritima*, glabrous. Indeed, so variable are the degrees of hairiness in plants, that a species, *Solanum nigrum*, *e.g.*, is described as both glabrous and pubescent. *Silene gallica*, petals 2-fid; var. quinque-vulnera, petals entire. *Polygala vulgaris*, subsp. *depressa*, var. ciliata, pedicels, bracts, sepals and capsule, ciliate; subsp. *oxyptera*, pedicels, &c., glabrous. *Lepidium campestre*, pod papillose, subsp. *Smithii*, pod nearly smooth. *Spergularia salina*, seeds smooth; var. neglecta, seeds papillose.

(1) *Salix herbacea*, leaves oblong or orbicular, (2) *S. reticulata*,

leaves, orbicular-oblong, obovate or cuneate; (1) margin serrate, (2) entire or waved; (1) blade curled, reticulate, (2) rugose; (1) stipules, minute or none, (2) none; (1) anthers yellow brown or purple, (2) purplish; (1) catkins $\frac{1}{6}$—$\frac{1}{4}$ in., (2) $\frac{1}{2}$—1 in.; (1) capsule rarely pubescent, subsessile, (2) hoary, sessile.

The only characters which are here at all pronounced, and not such as would seem to pass readily into each other, are the size of the catkins—the smallest of (2) being double the largest of (1), and the *serrate* leaf of (1) and the *entire* leaf of (2). But one can soon find varieties thus or nearly thus distinguished, *e.g.*, in *S. Myrsinites*, the serrature varies from glandular-serrate to faintly serrate; and *S. repens* has leaves *entire* or *serrulate*.

From the preceding examples we may now define a species, according to Sir J. D. Hooker's descriptions, as being known or recognisable by *a collection of constant varietal characters taken from any organ or part of a plant*. The question, therefore, now arises, How many varietal characters must a plant have to constitute a species? It is here where systematists differ so much, as the numbers may vary from one to many.

In the case of the Geranium, we find that the author was satisfied with *five*. In the Willows there are about *eight or nine*. In former days a single, or at least very few characters were thought enough to make a species, and some continental botanists would seem still inclined to adopt that view.

Now, what one wants to discover is the answer to the question, What is the connection between varietal characters and the environment? If the latter can be proved to be their cause directly or indirectly, then the environment may be said to be the origin of species. If, on the other hand, the environment only favours the survival of the variety, we must look elsewhere for the origin of it.

Let us now take a few examples from the *Students' Flora* to illustrate the importance of observing all the features of the environment. Thus, opening the book at hazard, the eye falls upon *Agrimonia Eupatoria*, subsp. *odorata*, "from the Clyde and Perth, southward, local." The question at once arises, What are the "local" circumstances or environmental conditions which have either caused or favoured the existence of that subspecies?

Sedum Telephium, var. *Fabaria*. This is described as "more slender, upper leaves all cuneate at the base, carpels not furrowed, very local;" while "leaves rounded at the base, carpels furrowed" are given as the characters of the type.

Where is it to be found? What are the surrounding conditions? Is the soil more humid or more arid? Is it limestone, or silicious or argillaceous? Is the locality near the sea or inland? Of what elevation and exposure?

As another example, let us turn to *Ononis spinosa*. The variety "*horrida*" is a "maritime spinous form." Maritime plants are generally, or at least very frequently, succulent, so

that one would associate a spinescent character, as is implied by the word "*horrida*," with a barren sandy soil; as a spinous state is extremely common on sandy wastes and deserts. Does it, therefore, grow on the blown sand hills, away from the sea and out of the immediate influence of salt spray?

Erythræa Centaurium is a species which appears to perplex systematists. Hooker makes four subspecies, while Babington makes five species and Wyman seven. Of Hooker's subspecies *latifolia*, he records "shores near Liverpool" as a locality; *E. chloodes*, a variety of the subsp. *littoralis*, is found on "sandy shores N. to Shetland." Subsp. *pulchella* is found on "sandy ground from Dumfries and Haddington southward," while var. *E. tenuiflora* occurs in "the Isle of Wight," and the subsp. *capitata* grows "on the Downs of the Isle of Wight and Eastbourne."

Now besides noting more particularly the environments of these subspecies, it would be a great boon to science if local botanists would collect the seed and sow it in a different soil and locality, and see how far the subspecies and varieties retained their characters by heredity, or whether they did not change and pass one into another as soon as their environments were altered. Thus *E. capitata*, which is a dwarfish form, like all "Down" plants, might assume the typical form common in pastures if grown in the richer soil of a good meadow or garden. I would add that it would be worth while cultivating several of the other dwarf plants of the chalk downs.

From these few examples it will be seen that two things are wanted—*observations of the environment* and *experiments*. As the summer is at hand, I would ask all who are interested in botany to supply me with such observations as they may make, especially upon the environment of varieties and subspecies, taking Hooker's *Students' Flora* as a guide.*

As examples for experiment I would suggest the cultivation of maritime plants inland and *vice versâ;* or again, the sowing the seeds of any form of *Ranunculus aquatilis* on wet soil, and that of *R. hederaceus* in water, as well as of *R. flammula* on dry ground to test the stability of the species.†

Again, it would be interesting to see if seed of Potamogetons or Pond-weeds would grow on *mud:* and thence could be transferred to dry ground, to discover if an aquatic plant normally *entirely submerged* may not be converted into a *terrestrial* one in two or three generations.

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* To aid collectors I have had printed a catalogue of all the species, subspecies and varieties given in Hooker's *Students' Flora*, which I have called "The Students' Catalogue of British Plants." It should be interleaved. I shall be glad to send a copy to any applicant on receipt of 7d. in stamps.—GEORGE HENSLOW, *Drayton House, Ealing*.

† I should be grateful to anyone who would send me ripe seeds of any aquatic, mud or damp-loving species of Ranunculus for similar experimental purposes. If the seed of an aquatic plant has to be preserved through the winter, it may perhaps require to be kept in water, as it naturally falls to the bottom when mature.

It must, however, be left to each observer to choose his or her own plants, according to the locality in which they happen to live.* I feel sure, however, that if every observer would add his quota, a large body of useful information would soon be acquired, which would throw light upon the origin of species and the survival of the fittest.

GEORGE HENSLOW.

THE ORLETON SWIFTS.

(A LETTER TO THE RIGHT HONBLE. THE EARL OF SELBORNE.)

(*Continued from p.* 53.)

ON some warm evenings—it matters not whether bright or cloudy—the swifts seem all to go mad. They scream and they play, they have games of follow-my-leader, they buffet one another from behind—never in front; that would mean broken wings, or sudden death. I have seen an irregular impromptu screaming chorus meet the regular one suddenly in full flight. Some dodged up and some down, not a feather touched, but the screaming was stopped abruptly, as it was touch-and-go, and required all their adroitness to avoid a serious collision. If one bird goes up and clings against the wall, as their habit is, others following will go and pull him away. If one goes into its nest the others will stop for a second and yell outside, and then dash off to join the chorus, which is answered by the screams of the females on their nests, as it sweeps past the eaves. Sometimes on such an evening one swift will clutch another on a narrow stone ledge under the north eaves, and the other, trying to fly off, both will come to the ground. I saw two come down in this way not long ago. They both got up, but not without some little difficulty, as the grass was rather long. My brother has actually had a pair touch his shoulder as they fell from a house on to the pavement of a street in Petersfield. But they generally part and fly off before reaching the ground. A swift can rise from the hard

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* One observation occurs to me that I should be particularly glad to have made. It is generally recorded in botanical works that ferns and Gymnosperms (fir trees and their allies) are the only groups which are enabled to make the green colouring matter or chlorophyll in total darkness, and that all other plants turn yellow or white if protected from the light. Now, I find that the leaves of the water plant Anacharis remain green when covered and in total darkness. I should like to know whether this is peculiar to the plant named, or is a general character of *submerged leaves*. I would ask any reader who has the opportunity, to take a flower-pot, cork up the hole, and invert it under water over pond weeds, water-moss, callitriche, &c., &c., taking care by pressing the pot well down in the mud, and of course excluding all air from the pot, that no light whatever can enter from below. If it be left, say two or three weeks, it will be readily seen if the leaves remain as green as those exposed, or not.

ground or short turf easily enough. I generally liberate the ones that I have been measuring, by placing them on the lawn, and with a flip they are off. But a swift never voluntarily settles on the ground, or anywhere else except at its own nest.

Though I have never seen a collision, I have several times found swifts on the ground, bruised and disabled. In some cases they have recovered sufficiently to be able to fly away when thrown up, but in others the only thing to be done was to put the poor things out of misery.

Their powers of flight are truly wonderful. I have often seen several at high speed stop dead but a few inches from the wall of the Tower, their bodies at an angle of about forty-five, their tails spread out and depressed, and their wings beating violently. And when one is chasing another their pace is marvellous. In a wind they will float about with motionless wings, like a seagull. They will come and whizz past my head as I watch them in the churchyard in the evening. Once I actually touched one with my hand as it flew by. But I can never catch any of the chorus in the landing-net; they are so quick to avoid it, though well within reach.

They have a habit of flying up against the wall, and clinging —sometimes for an instant, sometimes for longer—under the eaves. This they will do again and again, coming to the same spot each time. They do not tumble backwards when they loose their hold, but sideways, until the head points to the ground, and then the wings, which are open as the bird is falling, come into use.

When up in the belfry I have seen the males coming in to rest in the daytime, and I have also seen a pair of swifts sitting side by side on a big beam which forms the wall-plate. They looked very pretty and loving with their heads together. After a time the one trundled off to the nest, a mortice-hole in the upper side of the beam, and then the other trundled in after it.

With the exception of helping a little in the building of the nest, I believe that the male leaves all the care of the family to the female. In the nest the young ones, when they have got their feathers, will spar with their wings, and even peck with their beaks at an intruding hand.

As they fly over still water, the swifts will touch the surface. This is, I believe, for the purpose of drinking, as the other members of the swallow tribe drink on the wing. But I have never been near enough to be quite sure that it is the beak which is dipped in the water. It is certainly not for the purpose of washing, like the swallows and martins, which strike the water with their breasts and dash it over their bodies. The swifts slacken their speed until almost stationary, and then, holding their wings well up, just touch the surface and fly on.

As a swift flies it may be observed sometimes trying to rid itself of a blood-sucking parasite. It will fall through the air for some distance seemingly doubled up, and at times it appears

to twist one wing in the wind, for it makes a sound like that produced by cutting the air sharply with a cane, only much louder. These parasites torment the birds much, and sometimes seem to overcome them altogether. I was once opening some new holes under the south eaves for the swifts to build in, when I found a swift clinging to the end of a rafter. It did not move when the top of the ladder was placed near it, and it allowed itself to be taken by hand. With a pair of scissors I relieved it of eight of these horrible creatures. They are very nimble and can run backwards and forwards and sideways; and this gives them a very uncanny appearance. They have such a hold with their claws that they will drag out a small feather sooner than let go, even when cut in two. They are not much smaller than those which infest the grouse, but their wings are not so fully developed—in fact, they seem quite rudimentary. The swifts have also the small flat brown lice on them, but they are not troubled by fleas like the house and sand-martins.

There are one or two undoubted instances of a swift being caught by a hobby. I suspect that the victims were caught before they knew their danger, either being taken by surprise and struck before they had time to get way on, or through treating the hobby with the same indifference with which most swifts usually regard a kestrel or a sparrow hawk. I can hardly credit that any bird could beat a swift that was in good condition in fair flight.

The female birds will stay out in the longest evenings in July catching flies for their young ones as late as 9.15, when one would have thought that they could not see their prey. I have once seen one out at 9.25.

The swifts sometimes scream in their nests late at night.

I imagine that the swifts pair for life like the swallows and all the other birds of which both the sexes return to the same nest year after year.

(*To be continued.*)

NOTES ON THE DISTRIBUTION OF RARE PLANTS IN BRITAIN.

(*Continued from page* 43.)

I SHALL not dwell long on the second natural Botanic Garden—the classic Glens of Clova. In them I have gathered in abundance *Polypodium alpestre*, so outwardly similar to *Athyrium Filix-fœmina*, and *Polystichum Lonchitis* in as wild profusion as on Ben Lawers. This fern, I may observe, is scarcely a rare, but rather widely distributed, Scottish fern. I have met with it also in abundance on Stronechrubie rocks in West Sutherland, and sparingly on the Storr Rocks and the Quiraing in Skye. In South Britain I have seen it but once, viz., on Clogwyn y Garnedd, one of the

precipices of Snowdon, where I also came upon a single plant of *Woodsia alpina*. I have searched the Clova Mountains in vain for *Woodsia*, for *Oxytropis campestris*, *Mulgedium alpinum*, and *Lychnis alpina*, though I have collected there the rare grass, *Alopecurus alpinus* and the equally rare rush, *Juncus castaneus*.

I spoke, just now, of the *Polystichum Lonchitis* as abundant amid the limestone *débris* (Cambrian) of West Sutherland, near the head of Loch Assynt. Let me add that along with it *Dryas Octopetala* grows and blooms in profusion. I have never myself gathered this beautiful plant, excepting here, and on the sugar-limestone knolls of Cronkley Scar in Upper Teesdale, where it grows in some abundance, but does not bloom. Associated with the *Dryas* and Holly Fern in Sutherland is the rare *Epipactis atrorubens*. Further to the north of this northern county, on Farout or Farrid Head, I have gathered in fair abundance the *Primula scotica*, very similar to the commoner and southern *P. farinosa*, but clearly distinguishable from it in growth and habit. This plant I believe to be confined in Britain to Sutherland, Caithness and the Orkneys.

The reference to *P. farinosa* carries one across the border to Upper Teesdale, where it grows in profusion, and, with the *Trollius europæus*, decks the wet pastures in springtime in lilac and gold. Associated with this plant, often amid the short grass by the side of some tiny rill or stream, may be seen in abundance the vivid blue of the *Gentiana verna*, absolutely restricted to this locality in England, and to be found besides in the British Isles only in the county of Galway in Western Ireland, also on the mountain limestone. The Falcon Clints, a range of bold basaltic rocks near the Tees Head, used to be an English locality for *Woodsia Ilvensis* and *Polystichum Lonchitis;* but these have now entirely disappeared from there, thanks to the selfish greed of dealers or professional collectors. But Teesdale still possesses several plants that are unique, or nearly so. On the summit of Mickle Fell *Myosotis alpestris* (*suaveolens*), which we made acquaintance with on Ben Lawers, reappears. (I say this *not* from personal knowledge.) On or under Cronkley Scar may be found several rare *Hieracia*, *Tofieldia palustris*, *Bartsia alpina* (close to the river on the Durham bank), a very locally distributed sub-Alpine plant. And lower down the stream, just below the High Force, *Potentilla fruticosa* grows, on the Yorkshire side of the stream, in considerable profusion. This plant, though not restricted to this locality, is very sparingly distributed, yet, oddly enough, it is also met with in counties Galway and Clare, in Ireland.

One *Potentilla*, though not an unfrequent sub-Alpine on the continent of Europe, has but one British habitat. This is *Potentilla rupestris*, our one beautiful white-blossoming species. This must be looked for on the escarped side of that picturesque outbreak of trap-rock that arrests the eye of the traveller by the Cambrian, near Welshpool—Craig Breidden. I had the

pleasure of seeing it growing (but not in flower) there this last summer. It was sparingly distributed where we found it, and being only in leaf was not very easy to detect amid the herbage, but I was told that it occurs more or less frequently all along the escarpment. Craig Breidden is a famous locality for rare plants. I gathered on it *Lychnis Viscaria*, much rarer, alas! than it was some fifteen or twenty years ago; *Veronica hybrida*, (which may also be seen in abundance on the Cefn Crags on the Elwy, not far from St. Asaph, and also on Orme's Head and adjoining limestone rocks, but in very few other localities), and *Sedum Forsterianum*, a well-marked form of *S. rupestre*, which I have never seen growing except on Craig Breidden.

While on the subject of the genus *Potentilla*, I shall mention a curious instance of the caprice of plant distribution in my own garden. I devote one choice little nook thereof to what we call the "weedery," *i.e.*, to our choicer indigenous plants and ferns, which are not only of botanic interest (to say nothing of their beauty), but serve as pleasing mementoes of rambles, vasculum-on-back. Of British plants, though I have often looked for it, I never came upon *Potentilla argentea*. Judge of my surprise and pleasure when in this border, about three years ago, a plant of this *Potentilla* unexpectedly made its appearance. It has maintained its place there, and has since then bred a daughter plant. Where did it come from? It is indeed a Leicestershire plant, but not (according to our own Leicestershire flora) a denizen of my district. I had, a few years ago, a similar waif, not, however, so permanent, for it lived the year only with me, in the shape of *Silene italica*.

Let me now take you to the *Cistaceæ*, which furnish good examples of capricious distribution. *Helianthemum vulgare* of course abounds wherever there is chalk or limestone, though not confined to these. *H. canum*, a well-marked species, grows abundantly with the common form on the Great Orme's Head, and is found in a few other English and Welsh localities; but *H. guttatum* is confined to the west side of Jersey, and *H. Breweri* to Anglesea; *Helianthemum polifolium* I have myself gathered in fair abundance in one of its two English localities, Brean Down in Somerset. This is a bold mountain-limestone outlier jutting out into the Bristol Channel, near Weston-super-Mare. It is evidently here thoroughly at home, and means to hold possession, as I observed a large number of seedling plants among the older ones.

J. Mitchinson (Bishop).

(*To be continued.*)

THE DECREASE OF KINGFISHERS.

THE kingfisher has suffered from three wasting causes, fly-fishing, famine, and finery. (1) As to the first, a curious nemesis befalls him. As he has caught fish in his life, his dead feathers, made into artificial flies, tempt the fishes again, as they probably tempted them in the bird's life. A good many years ago the sight of a kingfisher on the Cherwell, near Nell Bridge, Oxfordshire, provoked a veteran fisherman to the ardent wish that he had a gun in his hand instead of a fishing-rod, and it was with a spasm that he saw the poor blue halcyon pass by unscathed and saved by Apollo. As the bird gipsies only and is a very poor migrant, and as his transcendant lustre soon makes his whereabouts known, fly-fishers can take their time and easily supply themselves. (2) Famine from sharp protracted frost is a far more wholesale destroyer of these poor birds. Captain Willoughby Verner, a comparative ornithologist of wide repute, to whose art we owe the beautiful case of terns at South Kensington, told me that between Romney Marsh and Winchelsea a bird stuffer had received more than sixty birds (kingfishers) to be stuffed this winter. Some were frozen to starvation and death, others shot. In a shop in Brighton, at the beginning of December, a tiara of twelve dead kingfishers was laid out for the ladies, and I grieve to tell Mr. Warde Fowler, whose halcyon letter hardly meets the sternness of facts, that Oxfordshire has not escaped, for Mr. Derby, of Market Street, Oxford, taxidermist, received fifty kingfishers this last winter. The birds, it is said, were thin and half starved, and had been picked up in the neighbourhood of Oxford; hardly any were shot. One poor creature was found in the ice in an upright position: its beak was just touching the water and had become frozen and fixed to the ice. (3) The third plague that the poor kingfishers undergo is the worst, most inhuman, and most unscientific, though Mr. Fowler does not notice it at all. Would that modern ladies arranged their head gear on Aaron's principle of "bonnets for beauty!" In March, 1887, a servant girl was to be seen disfiguring the High Street of Winchester, by a great sprawling contorted kingfisher made to wriggle over her otherwise comely face. And hereabouts in Sussex, hinds of the mill, with one exception, have been shooting kingfishers for several years for their charmers; and whereas in 1884, you might go down the Rother below Midhurst, at this time of year and see seven or eight kingfishers in a mile, now there are hardly any at all visible. "They are gone, they are dead."

Let your readers remark it is the present *combination* of all three devastators that is most to be dreaded for a very tender and delicate subject. And the pity is that Mr. Fowler's criticism (however kindly), on my remarks as being inaccurate, may lull the well wishers of the kingfishers into security, at a crisis such as has not occurred before. They may be inclined to say,

"An exaggeration contradicted: the thing will right itself and Cassandra had better shut up."

My statement that the kingfisher was "cruelly persecuted and decreasing, in Hampshire" was taken verbatim from Mr. Kelsall's "Birds of Hampshire, Southampton, 1890." The *Newcastle Chronicle* has, for many years, told the same tale of wide tracts in the North of England. At the time I spoke of Oxfordshire the noble work of Mr. Aplin's was not available, or I might have qualified my remark; but I spoke as an Oxfordshire man of nearly threescore years of friendship with the birds of Oxfordshire, having had thirty-one years' residence amongst them, and occasional but regular access to them since, and having for many years made a point of inquiring from many residents in various parts of Oxfordshire as to the numbers of the kingfishers extant in their vicinity. My observation, however, is chiefly limited to the Cherwell. At Marston, E. C. Simeon, Esq., reports (March, 1891) that the boating (?) has driven them from their old haunts; for many years I have not seen one there, nor in several visits to Upper Heyford and the Upper Cherwell. The last kingfisher that I saw alive and free, barring that Sussex fugitive reported to you in my last, was at a bend in the Cherwell between King Sutton Station and Adderbury, in March, 1888. One has an eye-hunger for this bird, and it is like parting with a bit of one's life to have seen it so seldom of late. In early years it was a pleasant remembrance of Suscot, Marston Meadows, the Weirs, Iffley, Nuneham, Adderbury (Nell Bridge, and brook near Bodicote Grange), Wigginton, Swerford, Broughton. Concerning the last, the Rev. C. F. Wyatt has the cheering report "slightly more frequent," but this does not take into account the fang of the late severe winter. It must be remarked that Oxfordshire, penetrated throughout its whole extent with its many river systems and bowery island recesses, all of them bird refuges, ought to be pre-eminently strong in kingfishers, and no one would rejoice to hear that it is so more than myself.*

But my point is, that wheresoever and whensoever he may be found, the kingfisher has been so hardly hit of late, that he ought to be spared like dear life, for a long time to come, and that for the sake of us all and Old England to boot. Poor *eisvogel!* he appears at the ice time; the people count his dead in the icebergs, and think he is more numerous than he is—his last hoard gives out at such a time inexorable, and is gone.

The latter part of my "Plea for Birds," which did not appear in NATURE NOTES, is not at all intended to counsel despair. I certainly believe in man very much, and specially in political man, and a stricter Birds' Preservation Act, and also in County

* On the river plains of Oxford you may row "by many a mere and many an ea; through narrow reaches of clear brown glassy water; between the dark green alders: between the pale-green reeds; where the coot clanked, and the bittern boomed, and the sedge bird, not content with its own sweet song, mocked the notes of all the birds around."—(KINGSLEY's *Hereward the Wake*, p. 251.)

Council's protection of wild birds, and in artificial re-introduction where harmless native wild birds have been lost. And no doubt there is a wonderful power of recuperativeness in all animal life when at a low ebb, but short of the point of "extermination," a word that I did not use.

Let me own the charm of Mr. Fowler's muse. *A Year with the Birds*, written somewhat in Mr. Knox's style, has been the delight of many readers, is worthy even of Oxford. He has done excellent work in showing that Aristotle, Homer and Virgil knew more about the birds than old scholars thought. The frontispiece of *A Year with the Birds* is a favourite bird haunt, as the following independent testimony may show. One bright day at the end of May, 1885, after a long walk to the Cherwell from the north of Oxford, after passing many hedgerows, once vocal but now over-nested and silent, at last the ferry to Mesopotamia was reached, and a nightingale's song was to be heard. It was near the island at Parson's Pleasure, in a thicket not far from the three willows askant the stream, the winter haunt of the grey wagtail in Mr. Fowler's vignette.

H. D. Gordon.

SELBORNIANA.

The River Bank at Richmond.—We have received several numbers of the *Thames Valley Times* and the *Richmond and Twickenham Times*, containing articles and letters respecting the barbarous proposal of the Richmond Sewerage Board to erect sewer ventilators along the river side. We are delighted to see that three well-known Selbornians have vigorously denounced what would be (from an æsthetic point of view) an atrocious outrage upon the beauty of London's most beautiful suburb. Mr. Edward King, than whom no Selbornian is more ready to expend time and money on behalf the Society, has unusual facilities for conducting a campaign against any nuisances threatened to the town for which he has done so much; inasmuch as he is editor and proprietor of the two excellent papers mentioned above. He has brought the full power of the Fourth Estate to bear upon the would-be defilers of the banks of the silvery Thames. The following sample will show the style in which he "speaks up to" the Conscript Fathers of this newly-made corporate town:—"Are the powers that rule Richmond so hopelessly wanting in taste and perception that they have not the sense to know that the more they discount her attractions the more they jeopardise her commercial prosperity? In the past they have surely sinned enough in this respect to make every resident with a spark of artistic feeling curse their power for working ill, and their really criminal indifference to the ugly and offensive."

Councillor J. B. Hilditch, to whom all Selbornians are much indebted for his most effective crusade against the monstrous brood of Sky Signs, has taken up the subject with his characteristic energy, and has not only shown what would be the dire effects of such a noxious and unsuitable method of ventilation, but has explained to the Sewage Board how the ventilation may be better done without the pollution. Lastly, Mr. W. J. C. Miller, Registrar of the General Medical Council, a veteran Selbornian, writes an admirable letter, taking a line of argument which we have more than once adopted ourselves, viz., that the beauty which makes Richmond the favourite of men of art and letters and the ever-refreshing resort of the wearied Londoner, is not merely an elegant addition to the commercial value of houses in that borough, but is a national possession, any attack upon

which would be a distinct injury to us all. We regret we have only space for one short extract from Mr. Miller's letter :—"The evil, were the thing done, would be not merely a local misfortune, but a public and even a national calamity. That it would be a serious injury to the town and neighbourhood is clear and incontestable. But it would be far more than that. This favourite walk leads along one of the loveliest reaches of the river, and when the lock and weir are finished it will, if unvitiated by the threatened ventilators, be at all times beautiful—always pleasant, attractive and perfectly charming. Moreover it is, without exception, the walk most frequented of all by the best of those visitors whom the beauties of our neighbourhood attract from not only the whole of the United Kingdom, but even the very ends of the earth."

It is rumoured that this strong expression of adverse opinion has had such an effect upon the Thames Conservators that they have determined to prevent the Sewerage Board from erecting any public nuisances on the towing path, over which they have control. The *Daily Graphic* suggests that an indignation meeting should be held; if such a step be necessary we hope that the Selborne Society at Richmond will take an active part in the good work. The Lower Thames Valley Branch, which had during the year 1889 displayed very great activity under the auspices of Mr. Edward King, has been during the past year in a dormant state, and, to use the humorous bull of one of its members, has shown that it can hibernate in summer just as well as in winter. The present is a good opportunity of shaking off its (by no means masterly) inactivity, of which we are sure the present able management will be only too glad to take advantage. The perilous condition of the beautiful Ait at Kew Bridge is another subject requiring immediate attention. On this we hope soon to publish an article from our contributor, Mr. Archibald Clarke, who has done such good work in the battle which has perpetually to be waged in behalf of the beautiful spots which are still left near London.

Evolution.—The difficulty Mr. F. O. Morris perceives (NATURE NOTES, p. 19) is precisely the one which systematists have always felt, to judge by their disagreement as to what constitutes a species and what a variety. They distinguish them solely by morphological characters, without asking how these arise. Thus *Ranunculus tripartitus* is regarded as a species, but when *R. heterophyllus* grows on mud it sometimes cannot be distinguished from the former; and the question at once arises (as Mr. Morris remarks), Why not call them both by one specific name? It is in fact perfectly optional. All I contend for is, that characters which botanists seize upon by which they recognise varieties or species, are due to the response of the individual to its environment. Botanists may *call* them what they please, but whether we regard a plant a variety or a species does not affect the individual in the least.

Mr. Millard's paraphrase of my sentence (NATURE NOTES, p. 34) is not quite accurate; for I do not say that "juices" are "non-existent." Honey, it is true, is non-existent until the bee probes the flower, but it often pierces the tissues for the sake of the ordinary juices of the plant, wherewith to moisten the pollen it has collected. My contention is that sugar is a pathological product of such punctures, just as it is formed by the irritation of the pollen tube and by other means. GEORGE HENSLOW.

Who kills the Kingfishers?—In his article upon "Bird Extermination" in the February number of NATURE NOTES, the reverend writer very sensibly deplores the disappearance of the kingfisher, which he attributes to the vanity of women and the caprice of fashion. Ladies, doubtless, are great culprits, and, defiant of the Plumage League, will bedeck themselves with birds as with fireflies or with beetles. But are not gentlemen still more destructive to the kingfisher? In his recent work, *The Riverside Naturalist*—a book which all Selbornians should read, for it is full of pleasant knowledge, and says many a word of kindness for birds and other creatures—Dr. Edward Hamilton observes:—"The trout-breeders have declared war to the knife against this poor bird, and nothing will satisfy them but its complete extermination." Dr. Hamilton is not less well known as a naturalist than famous as a fly-fisher. Yet he pleads most warmly for the bird, affirming that it really does more good than harm, and citing evidence to show that, although it catches a troutling now and then, its

fish-dinners chiefly are composed of sticklebats and minnows, which swallow scores of troutlings and eat trout-eggs by the hundred. Moreover, it is fond of small crustaceans and aquatic insects, such as dragonflies and beetles, whereof the larvæ are most murderous to trout-fry. Dr. Hamilton describes a method used for capture of the Kingfisher, which they who love "the gentle craft" surely ought to be ashamed to sanction:—"A number of small spring-traps are set on narrow boards crossing the stream, on the hatches, and on old boughs hanging over the river, on which Kingfishers often perch, and when settling on these the trap is sprung, and catches the poor birds across the legs, breaking and tearing them. There they remain, may be for many hours, till the river-keeper visits his traps. It often happens that the trap cuts the legs clean off, and the poor maimed bird flies away to die a lingering and terrible death by starvation." Let every true Selbornian try to stop this cruel practice, and let ladies—gentle ladies—all decline the gift of a dead kingfisher, like that of a blind bullfinch—blinded in the stupid hope to make his song the sweeter.

6, *The Terrace, Kensington.* BLANCHE SILVER.

Birds and Bonnets.—I cut the following enclosure out of our *Yorkshire Post* one day last week:—

SIR,—I beg to be allowed through the medium of your columns to call attention to the Society for the Protection of Birds. This society, which at present numbers over five hundred members, was formed two years ago to prevent the enormous slaughter of birds which takes place for the purpose of millinery. There is no subscription; all that is required of members is that they shall refrain from wearing the feathers of any bird not killed for food except the ostrich. It is a well-known fact that many species of birds are becoming rarer and rarer, and it is feared will become altogether extinct. It is quite time that this dreadful slaughter at the dictates of a cruel and remorseless fashion should cease. Every individual member of the society is a help to the cause, so no one need think that if she only were to practise this small piece of self-denial it would do no good. I shall be only too happy to receive the name and address of anyone desirous of joining the society and to give any further information.

I am faithfully yours,

(Miss) HANNAH POLAND, Local Sec. S.P.B.

29, Warwick Road, Maida Hill, London W., March 7th, 1891.

One is always glad to hear or read of any such right-minded endeavours, and especially so in the case of a society formed for the furtherance of the object of them. I did my best in that direction some years ago in a letter I wrote to the *Times*, at the request of Lord and Lady Mount-Temple, and headed it "The Plumage League." It brought together a large number of supporters from all parts of the country, but mostly—indeed, almost exclusively—from the higher and highest circles, from the late Duchess of Sutherland downwards. It was well, very well, as far as it went, but I have heard nothing of it recently; and it seems to me that what is wanted is, mainly, to have some "head centre" of operations for the working out of what is so very desirable—as the newspapers continually testify—a "local habitation," and also a "name" or "title," than which, "as at present advised," I do not think a better can be readily suggested than, that I have mentioned above, "THE PLUMAGE LEAGUE."

Only the other day a farmer's wife near here, and of the first class, too, confronted me with a swallow, "displayed," as the heraldic books have it, and not only so, but its "blazon" was "gules" (*i.e.*, bright red) from tip to tip! What a satire on frivolity! Can "the force of folly further go?"

I hope not a few of your readers will communicate with the lady, the writer of the above-given letter, and encourage her righteous effort in every way they can. F. O. MORRIS.

Nunburnholme Rectory, York.

[We are much pleased to give publicity, at Mr. Morris's request, to Miss Poland's appeal. This is a good opportunity for saying, in answer to a question which has been asked more than once, that no pledge whatever is exacted from members of the Selborne Society. In some cases, such as that of the principal of a school, who establishes a branch among her pupils, the requiring any such promise would be clearly undesirable. The fact of Selbornians in general being,

as such, unpledged, has shown that there is room for an inner association which admits only vowed abstainers from bird-wearing.

We have always understood that Mr. Morris's "Plumage League" was absorbed as the "Plumage Section of the Selborne Society." See a letter by Mr. G. A. Musgrave in the *Selborne Magazine* for June, 1888. But the question of pledged abstinence from using the bodies of slain birds as a personal adornment is entirely one for ladies; for men such a promise would be clearly absurd. The wearing of the corpses of fowls in their hats is one sin, at any rate, which, with the present fashions in head-gear, the male sex cannot possibly commit; and it would be a rash man who would undertake to give such a pledge for his sisters, his cousins and his aunts, to say nothing of his wife!

As to the name of such a society, that suggested by Mr. Morris is immeasurably the better. To assume such a very ambitious title as "The Society for the Protection of Birds" for a band of ladies who do nothing but abstain from personal iniquity in the matter of bonnets, may give occasion to the unrighteous to scoff. The "protection" afforded reminds one irresistibly of that schoolboy who said that pins, in addition to other valuable qualities, "saved thousands of lives—by people not swallowing them."]

Swallows in February.—Is it not possible that the swallows which Mr. Macklin observed as having lined their nests and laid one egg by the 23rd of February, at St. Erney in Cornwall, had hibernated with us and never crossed the sea at all? We know that Gilbert White supposed that they did so occasionally, and others have observed the same. I myself saw a swallow flying about the road near Poole, in Dorset, on the first Sunday after Christmas in 1858. If a few pairs had from any cause been induced to stay behind last autumn and remain with us dormant through the winter, the lovely bright and warm weather in February last might easily tempt them to think that their proper breeding season had arrived. But I cannot think that any would be tempted to cross the sea so long before their time, and especially not to do so this year, as their instinct would forewarn them of the fearful weather that was so soon to come upon us. I have several times seen swallows in this county before the end of March, and once in 1852, while shooting with a friend in the fens in Cambridgeshire on the 28th of February, we saw a flock of sandmartins flying about. Whether these had hibernated or not I do not pretend to say, but the sandmartin is generally the earliest of the swallow tribe to make his appearance.

Modbury Vicarage, S. Devon. G. C. GREEN.

Frogs as Weather Prophets.—In reference to Miss Fowler's article on "Frogs and Toads" in the Dec. No. of NATURE NOTES, may I ask you to insert the following short extract taken from an article entitled "The Wisest of Weather Prophets," appearing in the *Covent Garden Magazine* for August, 1880:—Those buffos among the animal musicians, the Batrachians, croak fearfully and change their yellow vest for a coat of russet when rain is impending. A writer who signed his paper "The Old Bushman," stated that in Sweden a tree frog in the pairing season made a noise like the ringing of a bell, and as the sound proceeded from under the water he was often deceived: the notes coming apparently from a long distance off, when the frogs were, in reality, only a few yards away.

ZOO.

Primrose-grubbing.—We have received several letters from correspondents apprehensive for the fate, on the approaching festive day, of what is their favourite flower, if it was not Lord Beaconsfield's. But the question was so fully discussed this time last year in NATURE NOTES that we are not able to do more than to urge all our readers, of whatever shade of political opinion, to do all in their power to prevent April 19th from being a day of indignation and disgust to every true lover of Nature.

Corrections.—The Rev. F. O. Morris kindly calls attention to a slip in last month's NATURE NOTES, p. 54, in which Waterton's "Wanderings in South America" is misprinted "South Africa." Mr. Morris asks us to mention another passage (p. 167 of the edition reviewed) in addition to that quoted, in

which Waterton shows his love for birds. It is a spirited plea for the woodpecker put in the bird's own mouth, but too long for reproduction here. Our correspondent adds: "And may I correct two very trifling *errata* in my own letter: 'Brislington' should have been 'Bridlington.' I almost always write it 'Burlington,' as pronounced, but somehow did not in this instance. The former is near Bristol, and therefore by the west coast, as the latter is on the exactly opposite east, which was the point of which I wrote. 'Violet' should have been 'violets.'"

NATURAL HISTORY NOTES AND QUERIES.

Specimens Named.—The plant from Warbleton Rectory seems to be *Gaultheria Shallon*, of North West America; but we should be glad to see specimens in flower. The dried plants sent by Miss Wraxall are *Senebiera Coronopus*, *Polygala vulgaris*, and *Radiola linoides*. The plant which so suddenly made its appearance is *Claytonia perfoliata*, a naturalised North American. "Osmund's" ferns are *Ophioglossum vulgatum* and *Asplenium marinum*.

Butterflies in Winter.—In answer to a question in the last number of NATURE NOTES, about the time of appearance of the peacock butterfly (*Vanessa Io*) it cannot be said that February 27th is an "unusually early" date. And for his reason: many butterflies in the winter months are in the habit of hibernating. Consequently when an unusually warm and sunny day comes, some of the more lively of the insects awake from their state of torpidity, and show themselves. It is not an infrequent occurrence to see in "local" papers that a specimen of such and such a butterfly appeared in church on Christmas Day, and the "appearance may be taken as an auspicious omen!" I have myself seen this year on two very mild days in January the small tortoiseshell (*V. urticæ*) on the wing. July is the month (according to my observations for four successive seasons) for the peacock butterfly to emerge in its natural state. F. A. HORT.

Emmanuel College, Cambridge.

The Rev. F. O. Morris, author of the *History of British Butterflies*, writes;—"The peacock butterfly, of which your correspondent, Miss Katherine Whitaker, records an early appearance, is one of several others of the same class, such as the red admiral, small tortoiseshell, large tortoiseshell, comma, or C-album, Camberwell beauty, &c., as also the brimstone, which hibernate and live through the winter in a torpid state in some sheltered spot, such as an out-building or a room in a house, into which they have retired when the first winter days have warned them. From these they often come out the first hot day in the beginning of the year and fly about in the sunshine. Any that Gilbert White, or any other person or persons, have taken note of, have been of the previous year's specimens, and not newly come out. The same applies to the brimstone, long doubted about as to this point; but there is now no doubt that it has been so with it also, though often perfectly fresh in appearance, while the others are always more or less faded, it probably having been hatched later on in the autumn."

The proper time for the appearance of the peacock butterfly is the middle of July, but, like all the butterflies of the Vanessa tribe, many of these insects survive the winter, having found some secluded corner in which to remain dormant with their wings closed, and then they occasionally appear on a warm sunny day not only in February, but at any time during the winter. From Miss Whitaker having observed the butterfly in a bay window I feel sure that it had hibernated in some corner of the room. There are few years in which some specimens of the small tortoiseshell butterfly (*V. urticæ*) do not find a corner for themselves during the winter in my house, and my children and myself have often observed them day after day in their lethargic state; one has been with us this winter and has occasionally disported himself on the window pane. There were many butterflies of this sort in the gardens here during the few last warm days in February. I have myself, at various times, when February and the beginning of March have

been warm and bright, seen many specimens of the large and small tortoiseshell (*V. polychloros* and *V. urticæ*), the peacock (*V. Io*), red admiral (*V. atalanta*), painted lady (*Cynthia Cardui*) and also the comma butterfly (*V. C—album*), years ago when I lived where this last insect and the large tortoiseshell were fairly abundant. G. C. GREEN.

Modbury Vicarage, S. Devon.

A Muscovy Duck.—Miss Helen Wake, Rock street, Sheffield, writes to say that on the Crowder House Farm of her brother, Mr. Bernard Wake, a Muscovy duck, having taken up her abode in a ventilation niche in a barn, about 15ft. from the ground, there made a downy nest with her own feathers, and managed to bring to the ground fourteen ducklings. They were found in the early morning (ducks appear to like to keep some of their processes secret) following their mother in the yard in as orderly a procession as our charity children when they go to church. Miss Wake suggests that the mother took each duckling in her mouth and flew to the ground with it, and then returned for the others, till the whole crew were safely landed. She wishes to know the reason of the name of these birds, and to ascertain if other readers of NATURE NOTES have experience of similar instances of such nidification.

Singing Birds in London Parks.—"C. I.," writing from 16, Kensington Park Gardens, says that it has been noticed that the birds in Hyde Park, Kensington Park Gardens, and Ladbroke Square Gardens are rarely heard to sing. She adds, "Can this be an instinct of self-preservation?"

Mr. A. H. Macpherson, to whom we are under many obligations in ornithological matters, kindly sends us the following note in reply. Mr. Macpherson has for years made a special study of the birds in the London parks.

"I cannot say that I think London birds unusually silent. The art of singing is, as a rule, only practised by birds in spring and in the nesting season, and then resident town birds (such as the thrush, hedge-sparrow, blackbird, robin, chaffinch, &c.), which nest in our parks, may be constantly heard. London is the best place I know for studying the song of the thrush. I have heard a dozen thrushes at the same time, and a few of them sing during the autumn and winter.

"A long list of London birds will only contain a small proportion of species which are to be heard singing there, but this is because the majority of them are birds which visit town either rarely, or for a very short period, or belong to species which have no true song. Thus, although a large number of warblers may be seen in spring in Kensington Gardens, it is not very often that they can be heard singing, for, as a rule, these birds have just arrived in England from the South, and are tired out. They have merely stopped for a few hours' rest in order to recover strength before continuing their migration (probably) up the Thames Valley. Migrating birds do not sing much until they have reached their destination.

"Song is used chiefly during courtship, and those species which breed in London may be heard singing in London (and quite as heartily, I think, as in the country), and although early in the morning a few of the warblers which pass through town in spring may occasionally be heard trying their voices, as a general rule the species which do not *breed* in London, do not *sing* there."

OFFICIAL NOTICES; WORK OF BRANCHES, &c.

THE object of the Selborne Society is to unite lovers of Nature for the following purposes:—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

The ANNUAL MEETING of the Selborne Society will be held on Wednesday, May 6th, at 8.30 p.m., at the Church House, Dean's Yard, Westminster. The annual report and balance sheet will be presented, and a new Council will be elected for the ensuing year. The only important alteration in the rules suggested is one which, if carried, will have the effect of diminishing the contribution paid by the Branches to the Central Fund.

Hon. Secretaries of Branches are requested to send in as soon as possible statistics with regard to their number of members and annual income, so that a general estimate may be formed of the dimensions and resources of the Selborne Society.

A meeting of the Forth Branch, the only one at present existing in Scotland, was held on February 27th at the house of Miss Waterston, hon. secretary and treasurer, 45, Inverleith Row, Edinburgh. A paper was read by Mrs. Jessie Saxby on "Gilbert White, of Selborne," and another by Miss Minnie McKean on "The Habits of the Water Spider." Most of the members living in Edinburgh were present, and several new ones were enrolled.

We take from *Bladud, the Bath Society Paper*, the following account of a meeting of which we have received no official report: "A successful soirée was held at the Royal Institution, Bath, on March 20th, under the auspices of the Selborne Society. Mr. H. D. Skrine, president, occupied the chair and delivered a short opening address; Mr. W. G. Wheatcroft followed with some interesting 'Notes on English lake land,' his remarks being illustrated by a number of beautiful slides, shown under microscopes by the Rev. J. K. Corser, Mr. Norman, Mr. Appleby, and Mr. Williams, in addition to which the walls were adorned with a number of sketches, principally in water-colours, by Mrs. Wheatcroft. The exhibition formed quite a gallery of English lake scenery, and elicited much admiration. A number of striking photographs of the lake district were also lent for the occasion by the Misses Turner Payne. After refreshments Colonel Blathwayt gave an address upon insects, which was illustrated by a number of enlarged specimens thrown upon the screen."

NOTICE TO CORRESPONDENTS.

To prevent mistake or disappointment, we request attention to the following rules:—

As NATURE NOTES is published on the 15th of each month, and the amount of MS. material received is always far greater than the available space, contributions should be forwarded *before* the 1st of the month in which it is desired that they should appear.

Correspondence intended for insertion in the magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with botany or zoology will be answered if possible, and advice will be given as to the best books for students in any department of natural science; but all questions must be accompanied by the names and addresses of the writers, not for publication, unless it is so desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

No. 17. MAY 15, 1891. Vol. II.

A BEECH WOOD IN SPRING.

"Recubans sub tegmine fagi." Virgil, *Bucolica*, *Ecl.* i.

"Beech, the most lovely of all forest trees, whether we consider its smooth bark, its glossy foliage, or its graceful pendulous boughs."—Gilbert White's *Natural History of Selborne*, *Letter I.*

WHO can describe the exquisite loveliness of a forest glade on one of those brilliant days in spring or early summer when the sun is pouring floods of light amongst the young beech leaves, and they are sending down their greenish golden glow of colour upon the carpet of flowers beneath? There is a kind of unearthly glamour in the scene which makes one almost expect to see the fairies themselves come tripping out of the old hollow moss-curtained tree stems. Truly, it would need an elfin's pen to do justice to such a scene; but one may think about it, and perhaps convey some of its sweetness to toiling minds, weary with prosaic work, dwelling possibly far away from golden beech leaves, or nodding violets, peeping out of their thymy banks.

From the fallen tree stem where I sit, the road is carpeted with last year's leaves, all sere and crisp; out of the brown buds overhead thousands of silvery fringed young leaves, unfolding and quivering in the gentle breezes, are sending their soft grey shadows down in flickering traceries upon the mossy ground. On one side there is a light bank, rich in colour, lent to it by lichen growths of many kinds, glossy ivy leaves are throwing their own picturesque garlands over the grey masses of rocks, amongst which old tree roots are twining in and out like great brown snakes seeking their prey. Here and there the blue veronica looks out with its "angel eyes,"* pink campion is beginning to open its buds, the snowy stellaria holds up its

* A rustic name for the plant.

tender little cups to catch the sunlight, and violets add their purple gleams to the picture. The graceful melic grass is waving its tiny purplish brown plume out of masses of rich green leaves, which as Keats so aptly says are growing "lush in juicy stalks." The bryony is climbing resolutely above the rest, flinging out long tendrils everywhere, making friends with all its neighbours and getting from each a little help in its upward course.

Now from the beech wood I am looking out upon a soft dreamy landscape, slopes of tender grass, masses of rounded foliage of all shades of colour; yet each tree has its own distinctive tone, walnuts looking almost crimson against the vivid green of the forward beeches which are already in leaf; others again, the later ones, still showing their golden brown buds, thrown up by the dark funereal yews, which abound here and give such richness and depth to the landscape.

There is no sound to break the silence save the notes of birds, they have it all their own way, no discords here; no hum and bustle of busy man can reach this favoured spot, a nightingale is pouring forth gushes of song, a blackcap and robin are singing against each other, and a little wren peeping at me from behind a mossy stem is warbling after her usual hurried fashion, as if she had not another minute to live. Happy birds, to dwell in such a peaceful spot!

Turning to the left, where a great yew tree makes a mass of shade, I see a lovely shower of pure white buds, as though a snow storm had been petrified as it fell; it is a white beam tree growing by the yew, its slender twigs are not seen, only the snowy buds glisten and sparkle in the bright sunbeams, giving promise of the abundant leafage, which is ready to unfold from those silvery caskets. Just where the sunlight falls on a clear space of stony ground, a gem-like insect has lighted down, and rests there basking in the warmth, a vivid spot of emerald; at length it moves, colour flashes from its wings, away it flits into a mossy hollow, leaving the momentary impression of a trail of brilliancy behind. The brake fern is sending up everywhere its crozier-like stems, brown-haired and curled, keeping for awhile its future wealth of leafy-shade in a firm grasp, till the warmth of summer sunbeams shall woo it to unfold into its full beauty, and form a mimic forest, wherein grey furred rabbits may frolic to their heart's content, and bronze-winged pheasants steal in and out, with wary step and lowered head, ever on the listen, lest some of their many enemies may be lurking near.

As I gather a fern frond something springs from the ground and disappears as if the wind had suddenly caught up a red brown feather, but, peering furtively from behind a tree, I see a pair of black eyes and pointed little ears. They remain perfectly motionless for many minutes, then a sudden spring reveals a lithe young squirrel. Soon it is perched upon a branch,

where it sits up and growls at me, striking its little paws angrily, yet nibbling at intervals at some morsel of woodland diet, its graceful little feather of a tail curved over its back like a note of interrogation. Now it sees one of its own kind, an interloper apparently, for away go the pair after each other, round and round the tree in a spiral chase, with such rapidity that one could almost imagine one saw a chain of squirrels garlanding the old stem.

Hour after hour may thus be spent in quiet musing upon the fair sights and sounds that greet us in the peaceful woods. Weary toilworn minds will not fail to gather fresh strength and courage from such communing. Nature's voice speaks straight to the heart, refreshing and invigorating it as dew restores the sun-parched flowers at nightfall; the unrest and turmoil of the world is forgotten for a time, and every avenue to the soul is filled with new and soothing influences. Sweet voiced birds tell their tale of happiness as they plume their tiny wings, and murmur their love notes to unseen nest-brooding mates. The rustle of the leaves, the swaying of the branches, the mysterious music of the woods, made up of a thousand harmonies blended together. No pen can describe it, but the ear attuned to Nature can drink it in and taste such joyous enchantment as lifts it for the time far above earth's toils and cares, and will leave for many an after day a sweet refrain of echoing music to cheer the busy worker in the midst of surroundings which would otherwise bring to him no reminder of the green woods, where

"The long drooping boughs between
Shadows dark and sunlight sheen,
Alternate come and go."

E. BRIGHTWEN.

THE THRUSH.

A Sonnet on hearing a thrush sing during a storm at Wispers, near Midhurst, 20th May, 1890.

A STORMY morning in the month of May,
When the wind howls and drives the pelting rain,
Brings solitude to hill, and wood and plain,
Saddening the flowers which yestreen were so gay.

Yet 'mid the elements' so fierce display,
A thrush pours forth a rich, melodious strain,
Singing of hope, sweet warbler, not in vain,
Blue skies, soft gales, and the sun's quickening ray.

So may I 'mid the varied storms of life,
The loss of one best loved, and many a friend,
And other strokes of fortune and of fate,
Still in my heart find such sweet music rife,
That I a grateful hymn may upward send
For blessings that remain to compensate.

Highgate, N. C. TOMLINSON, F.R.S.

THE WAKING OF THE BIRDS

First through the fragrant silence on mine ear
The blackbird's song came strongly, then the bush
Of dim white-flowering laurel where the thrush
Warmed her young nestlings, throbbed with music clear;

Then roused the merry robin with his cheer,
The chiff-chaff answered, and in solemn hush,
Solemn but momentary, with her crush
Of mellow mourning hark! the ring-dove near.

So broke the birds upon my night-time's sorrow
For May was come, and tulips were awake,
And lake and vale lay brightening to the sun,
With happy cries the rooks cawed out good morrow,
While the quaint landrail with his magic crake
For very joyance from his voice did run.

May, 1890. H. D. Rawnsley.

NOTES ON THE DISTRIBUTION OF RARE PLANTS IN BRITAIN.

(*Concluded from page* 71.)

I SPOKE of Cornwall as being a natural botanic garden. It is the headquarters in Britain of two ferns, which, however, are not confined to it—*Asplenium lanceolatum* and *Lastrea æmula* (or *recurva*). Of flowering plants, *Sibthorpia europæa* is found there not unfrequently. I have gathered it between Penzance and the Land's End. It is, of course, not confined to Cornwall, being also found in the Channel Islands, along the Channel counties and, across the Bristol Channel, in S. Wales. The Cornish peninsula is also the headquarters of two of our rare heaths, which, though not actually confined to the county, are nearly so. *Erica vagans* covers the moorland of the Lizard headland, and near Penrhyn the beautiful *Erica ciliaris* is to be found in fair abundance, associated with the commoner forms. It was my good fortune to come upon it in Carclew woods on my return from the consecration of Truro Cathedral two or three years ago. It was early in November, but the plant was in full bloom and easily recognisable by its racemes of rich crimson bells. The Lizard produces an infinite store of rarities—some absolutely peculiar to the spot, so far as British botany is concerned. With many of these I am unfamiliar, as the time of year when I visited it many years ago was too early for the recognition of rare plants. At the Looe Pool, near Helston, a curious mere, parted only by a great natural shingle

breakwater from the sea, are to be found the *Corrigiola littoralis* and *Chenopodium botryodes*, and along the coast or on the moor *Allium sibiricum*, *Herniaria glabra*, va., *subciliata*, *Exacum filiforme* and the three very rare clovers, *Trifolium Bocconi*, *T. Molinerii*, and *T. strictum*. These are mere samples of Cornish rarities; and the question naturally arises, How came they there?

How comes the little Alpine stranger, common enough in Switzerland, to be found at Pennard Castle in the Gower peninsula, and on the Worm's Head, and nowhere else in Britain? I saw it growing at the former station not many years ago. There is now very little of it on the walls of the grim old castle ruins; but on the rocks in the neighbourhood there are numerous plants of all ages.

How comes the *Gladiolus illyricus* to have established itself in several spots in the New Forest, and nowhere else (for the Isle of Wight specimen was a solitary waif)? I had the pleasure not long ago of seeing from 50 to 100 spikes of it all bursting into bloom in one grassy and ferny spot not far from Brockenhurst.

How comes the *Dianthus cæsius* to have taken possession of that romantic Cheddar gorge, and of that spot only, of which it bids fair to be dispossessed by the sacrilegious hands and sordid greed of the harpies that infest the entrance to the ravine with trays of it on their heads, clamouring to sell to the visitor "the plant peculiar to the place." When I was last there some six or seven years ago I was dismayed to find that there was not a mature plant anywhere within reach. Happily, several mature plants are rooted high up in inaccessible ledges of rock, and these throw down their seed; so there is no immediate fear of its extirpation in our one locality for this beautiful little pink.

Why did the *Menziesia* (*Phyllodoce*) *cærulea*—common, I believe, in Norway—settle itself only on that bleak hillside, the Sow of Athol, in Drummochter Pass, above almost the summit level of the daring Highland Railway? and, having established itself there, why did it send no colonies to other hillsides in that bleak and barren neighbourhood? It used to grow and flourish here in abundance till some ruthless and selfish dealer became aware of the existence of the plant, and of its rarity, and swept it almost all away—not quite all, for I rejoice to know that a remnant still survives. I searched the hillside, as I supposed, almost foot by foot, for two afternoons one summer, and failed to find it; but the station-master at Dalnaspidal, who had assured me it still existed, and had given me what ought to have been clear directions, consoled me for my disappointment by subsequently sending me two small dried sprigs by way of evidence of its existence.

Or to pass to a very different scene and clime, how and whence comes the little *Trichonema Bulbocodium*, which grows in some abundance in the Channel Islands, to have selected as its

one English habitat, the long reach of sandy ground called "the Warren" near Dawlish. There I searched for it long and vainly (for it was a fortnight before it opens its little delicate blooms), till my attention was directed to one little plant of it, and I at once learned to distinguish its little straggling rosette of thread-like leaves from the surrounding short grass; and then I saw that it was to be found in scores and hundreds over a considerable area. Is it credible that it was brought here in ballast and shot somewhere at the mouth of the Exe, and so naturalized? I for one find it difficult, nay, impossible, to be satisfied with such a theory.

Or how shall we account for the presence of *Astrantia major* in two large patches at the top of a wooded hill above Stokesay in Shropshire as its one British habitat? I was taken, through the kindness of Mr. Latouche, the vicar, an excellent naturalist, to visit the spot this summer, and found it in full bloom—a very different-looking flower from the *Astrantia major* of cultivation and of the Swiss Alps, though probably undistinguishable by any permanent or reliable characters. It was growing in great luxuriance. Here, too, I find it impossible to accept my guide's theory that it may have been introduced as a potherb by the Romans, who had a villa somewhere in the near neighbourhood, on the line of one of their ancient roads. It remains to be shown that the *Astrantia* is, or was, a potherb. The mere fact of its being an umbellate plant is no sufficient presumption of this; and the explanation bears a suspicious resemblance to the attempts to connect the *Helix Pomatia* with Roman gastronomy. One more puzzle. How comes the *Maianthemum bifolium* or *Smilacina bifolia* to have established itself in the copious abundance in which it is to be found associated with *Trientalis europæa* (a rare plant in England) at the head of Forge Valley, near Hackness. The slope at the top of which it grows faces full down that branch of the Derwent which there runs straight for the North Sea. Can this have been the funnel through which the plant was somehow transported from the continent of Europe? Most unlikely; its seed is a berry, not a substance that could be blown, though it might have drifted. At any rate, there it is in abundance, and a sweet little flower it is, though it should be called *Juneanthemum* not *Maianthemum*, to the misleading of itinerant botanists. This plant is reported in the botanical books to be an inhabitant of Lancashire, though I have never verified the habitats given, and a friend of mine (one of my Lawers companions), assures me he has seen it in abundance in a wood at Weston-super-Mare. It is, however, a well-known sub-Alpine denizen of Central Europe.

And here I must end my catalogue, for I purposely confined myself at the outset to plants that I had visited in their own homes; or I might ask why is *Lobelia urens* to be found only near Axminster; the *Rœmeria hybrida* between Swaffham and Burwell (I have had the exact locality described by an old friend who

collected it there when a youth)? I might point you to *Asarum europæum* in two or three neighbouring stations in South Salop; to the *Leucoium vernum*, apparently a denizen near Charmouth, and *Leucoium æstivum*, which I have myself gathered in that unpromising botanical hunting-ground, Plumstead Marshes; to *Astragalus alpinus*, which I searched for in vain on little Craigindal in Braemar; but of which I have abundant specimens sent me by a commiserating game-keeper to assure me that there it *is*, well established; to *Lastrea rigida*, which I have gathered in abundance on that one zone of mountain limestone that it affects, and *Lastrea cristata*, which confines itself to a few English bogs, and is now nearly extirpated by the dealers' shameless greed.

I have not so much as touched the question of aliens and casuals—how they came, and why they have succeeded in becoming virtually denizen, such as *Pæonia corallina* on Steep Holme Island; *Crocus vernus*, which empurples the pastures every spring between Nottingham Castle and the Trent, and which is succeeded in autumn by the rarer *C. nudiflorus*. *Lilium Martagon*, which I have seen in abundance in a copse near Mickleham in Surrey, is a puzzle; it has been known there for between 200 and 300 years. I met with a similar puzzle, not recorded in the botanical books, many years ago in South Wales, viz., a large patch of *Lilium pyrenaicum* growing by the roadside about midway between Haverfordwest and St. Davids—far from any village or cottage, but doubtless an escape from cultivation introduced somehow. Many other such examples are doubtless within the experience of my readers.

And now we come to that question which I avowed myself in the outset unprepared to answer, or even to propound a theory in aid or lieu of response. Every possible suggestion as to their capricious distribution is beset with difficulties.

The explanations suggested broadly are:—

(1) *Continuity of land in earlier geological time.*—According to this hypothesis they are survivals, which have defied the vicissitudes of changed climate and circumstances. But this fails entirely to account for the "Botanic gardens," and for the bareness (botanically speaking) of miles of equally suitable nurseries. When applied to individual cases it fails to satisfy.

(2) *Winds.*—The least satisfactory of all the proposed factors in the problem. It might account for the dissemination of the minute spores of ferns, but hardly of the rank and file of flowering plants. The wind theory proves at once too much and too little.

(3) *Sea Currents.*—This will account for some of our phenomena, *e.g.*, the presence of *Adiantum Capillus-Veneris* along the south-west and western shores of Britain and Ireland; the distribution of *Asplenium lanceolatum*, and *Lastrea æmula* right up into Ross-shire (where I have seen it), for the presence of *Erica mediterranea* (modified into the form *hibernica*) in the far west of

Ireland, and possibly of *E. ciliaris* in Cornwall, and for that of *Trichomanes radicans* in the south-west of Ireland. I never saw it there, but I was very familiar with it in all the moister West Indian Islands, and from thence I can well believe the Gulf Stream may have brought it to the shores of Western Europe. (By the way, how does *Pteris aquilina* find its way into the Isle of St. Lucia; there I have gathered it in tropicalised form? It surely cannot have got there by a reverse action of the Gulf Stream from us.)

(4) *Introduction by human agency.*—Possibly a sufficient explanation of some of our rarities, but of very few. Anyone who has studied the history of casually introduced plants must have observed how Nature seems to set her face against any of these interferences with her arrangements, to say nothing of the entire absence of motive in almost every instance on the part of the supposed introducer. I may add that experiments I have myself tried of naturalising wild plants, even those of their own neighbourhood, not in the garden, but in neighbouring copses and hedgerows, have almost invariably, sooner or later, proved failures. The introductions are overpowered in the struggle for existence by the denizens of the locality.

So I give it up, and leave it to wiser heads to account for the distribution of rare plants. I merely venture to suggest that much information is still to be desired; that it would be of great interest, and probable utility, to ascertain exactly how near, and at how many different spots, our rare plants are approached by their congeners on the continent of Europe or elsewhere. I further suggest that the "Cybele Britannica" should be well kept up to date, *i.e.*, every new discovery of a rare plant in a fresh locality should be carefully registered, and above all things that all true lovers of plant-nature should bind themselves by a rigid vow never to purchase a British plant of a dealer; but by every means in their power should endeavour to stamp out the unholy traffic.

J. MITCHINSON (Bishop).

[The suggestion made by Bishop Mitchinson as to posting the *Cybele Britannica* up to date has been already carried out by Mr. Arthur Bennett, of Croydon, one of our best British critical botanists, and the highest authority on some eminently difficult genera. Mr. Bennett has undertaken this task at the request of Mr. J. G. Baker and the late Rev. W. W. Newbould, the editors of the posthumous edition of H. C. Watson's *Topographical Botany*. Two or three years must elapse before we can expect another edition of the indispensable *London Catalogue*, now edited by Mr. F. J. Hanbury, in which a summary of the results of Mr. Bennett's labours will be given. Meanwhile he has very kindly promised that the information he has collected will be at the service of those readers of NATURE NOTES who are desirous of being informed as to special points of distribution.

We feel quite sure that both Bishop Mitchinson and Mr. Bennett would deprecate as grievous in the extreme the possibility of any information given by them being used for the purpose of further diminishing the stock of plants already rarely distributed. The Bishop in a private letter, from which he has allowed us to print an extract, says, in answer to a suggestion made by a very faint-hearted or very cynical Selbornian, who seemed to fear that the enumeration of rare plants

in NATURE NOTES might induce its readers to set off at once for the purpose of exterminating them :—

"In the first place it is not *botanists* but *dealers* that are to be dreaded as exterminators ; secondly, I am prepared to turn any of my readers loose in any of my described localities, and shall be surprised if without further guidance they come upon my plants ; thirdly, I should be sorry that we should run into the opposite and equally odious extreme of jealous botanical selfishness. The botanists of older days did not treat *us* thus."

We cannot too highly commend Mr. Bennett's practice, as stated by him in another part of the present number (p. 96) of "distributing garden-grown specimens of our rare native plants, in order to partially satisfy the craving to fill up gaps in herbaria." Some may consider this a pandering to the depraved tastes of "the mere collector," but it has many good results, and we hope before long to advocate the extension of the practice and to give hints by which many of our readers may participate in the good work. While on this subject we may mention a letter received from Mr. J. Jenner Weir, in which, in courteously replying to our query (NATURE NOTES, p. 58) as to the authenticity of the alleged discovery of *Menziesia* (*Daboecia*) *polifolia* at Bournemouth, he says that the original discoverer kept the exact locality a secret for fear of extermination. While sympathising with such Selbornian repulsion to the idea of our rarest plants falling into the clutches of some greedy collector, we cannot help thinking that it would be far better for any discoverer of a plant whose existence is liable to doubt, to send duly accredited specimens to trustworthy authorities, such as the officials at Kew or at the Botanical Department of the British Museum, so that the matter might be placed beyond dispute.—ED., N. N.]

THE CLOSE-TIME FOR SEA BIRDS.

AFTER several years' endeavour at our East Riding Quarter Sessions at Beverley to have the close-time for our sea birds enlarged from the 1st of August to the 1st of September, I at last succeeded, June 26th, 1881, so far as to have it enlarged to the 12th of August.*

This was good in itself, and also as a stepping-stone to the further end I had aimed at all along. But when the Wild Birds Protection Act was passed, excellent as the measure was, and is, in itself, it unfortunately had the effect of doing away with the boon obtained by this, and some other counties, of an extended date, all being thenceforward put again on one *dead* level, as the Act of Parliament overrode and overruled what they had done and the sanction given by the Home Secretary to the recommendations to him from their several Courts of Quarter Sessions.

Happily, however, as I hope it will prove to have been, I met at the house of a neighbouring M.P., Mr. Alfred E. Pease, one of the members for York, and got him to take the matter up ; and now I want, through your many influential supporters (for such I am sure they are), to bring all the pressure they can

* This was not what I had given notice for, but to the former date, but finding that I should endanger the whole if I did not accept the latter, I acted on the advice and took it as *τον δευτερον πλουν*.

to bear to keep the measure to the mark Mr. Pease then set before himself, *viz.*, to extend the close-time to the 1st of September, and so to overrule and overcome any malign influences which will, I have no doubt, be exerted in the opposite direction.

Let us be told for what possible good object could, or can, any such be exerted ? "That's what I want to know" as John Bright used to say.

In NATURE NOTES for March, 1891, you yourself wrote, and wrote well, "What is really wanted is a healthy public opinion to frown upon all who ruthlessly destroy one of the greatest ornaments of the sea side, whether it is done in pure wantonness, or to minister to the meretricious taste of a thoughtless milliner."*

The *Times*, too, wrote on March 21st of the present year, of the "horrible and heart-rending scenes" that could be witnessed, "at any time on a summer day" before the passing of the "Sea Birds Protection Act," and you also spoke, in the number of the same date, of the "slaughter of sea birds at Flamborough and Speeton on the 9th of August."

Now the "horrible and heartrending scenes" spoken of, are just the same, in themselves, and just the same in the latter half of the month as in the former. The month of August means the whole of it, and not either one half or the other.

I will, however, say no more as to this, but will only lay the present state of the case before your readers, and urge upon them, one and all, to do everything in their power in the direction above spoken of, which is, in brief, to get all the voting power they can influence in the House of Commons to stand out for the 1st of September being fixed as the date for the close-time to extend to for these unfortunate birds—though there can be no earthly reason why they should not be protected for the whole of the year.

Mr. Pease wrote as follows to me, on the 1st of last February:—

"I propose to draw the Sea Birds' Close-Time, 1891, Bill, very briefly, making it practically one clause, interpreting the Wild Birds Protection Act, 1880, as regards sea birds, and simply altering the word August to the word September, so that the principal Act shall be read, as far as sea birds are concerned, throughout as if the word "September" was substituted for "August." I shall have to define sea birds, and propose to do it on these lines:—The words, 'sea birds,' shall for all the purposes of this Act be deemed to mean all sea birds, including"—(here recite the names of different kinds); but shall not include such birds as—(here recite certain other kinds)."

F. O. MORRIS.

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* Mr. Morris inadvertently attributes to us a sentence with which we entirely concur, but which is from the pen of the well known naturalist Mr. J. Jenner Weir, F.L.S.

THE ORLETON SWIFTS.

(A LETTER TO THE RIGHT HONBLE. THE EARL OF SELBORNE.)

(*Concluded from p.* 69.)

"AND now," to use the words of Gilbert White, "if I should advance something new and peculiar with respect to them and different from all other birds, I might perhaps be credited"—especially as, since I first drew attention to it in a letter to "Nature" (October 27th, 1887) other observers have noticed and reported it in the papers.

"The fact that I would advance is that" the male swifts ascend to a great height after sunset, and stay away for a long time.

Gilbert White says "just before they retire, whole groups of them assemble high in the air, and squeak and shoot about with wonderful rapidity."

Here, about forty, as nearly as I can guess, every fine night gather above the church and slowly ascend, wheeling "in and out and round about," and screaming loudly the whole time. When they have reached a great height they stop wheeling *inter se*, and point their heads all the same way, continuing to soar in wide circles until they are lost to sight. The females stay at home and attend to the house. I have good sight, and on a clear July evening at 9.15 I have seen these high-flyers like a little cloud, when they were so high that I could not distinguish the individuals. If you have not kept your eyes on them it is most strange to hear the screaming overhead, and not to be able to see what is the cause of it in the deepening dusk.

About the middle of May they go up at 8.35, getting gradually later until the longest evenings, when they go up at 9.15; then they get earlier again until just before they leave, when they go up at 8.10.

We had long known here of this curious habit of screaming high in the air at dusk, and my brother Cyril (now curate of Petersfield) used to say years ago that they roosted up there. I did not agree with this, believing that they came down again after we had gone in. The difficulty of finding time and opportunity for watching the birds late in the evening caused the matter to be left undecided until 1887, when being both at home together, and the nights warm and fine, we determined to investigate it. I need only give one instance of the way we did it.

One night, having seen the swifts up at 9.10, I sat on a tombstone under the south eaves until 10.30. Two low-flying females were hawking for flies, but they went in before 9.20. Two also were out, but soon retired, on the north side of the church, where my father and brother kept watch alternately. Not one of the high-flyers came back. Many bats came out from under the eaves, I could see the moths and beetles against

the sky, but those swifts stayed up aloft. On other nights we watched, but not quite continuously, until eleven o'clock, and satisfied ourselves that the swifts did not return.

Now all that I can prove is, that they go up out of sight above their home after sunset, and do not return to their nests until after 10.30 or eleven o'clock. But I think it is probable that they stay up until dawn; the few hours of a summer night would be but a trifling exercise to them.

To one watching in the churchyard until eleven o'clock at night the conviction is almost irresistible that if they had meant to return they would have done so before that hour. As to the idea that they go elsewhere to roost, I do not think it is admissible. In the day time they never settle anywhere except at their own home, and if they wanted to rest at night they have their own snug nests where they always do roost when the night is stormy and they do not go up. Should a storm come on when they are up, I should imagine that they could easily avoid it by rising out of its reach.

Sometimes, but not often, they will go up in two parties. Sometimes on a stormy night they will essay to go up, but change their minds and come down again, but mere clouds or even light rain will not deter them.

I have watched them soar scores and scores of times. They generally leave off screaming just before they vanish from sight on a fine night, but when it is cloudy their voices can be heard for some time after they have disappeared. This strange habit can have nothing to do with the question of food. I believe that the birds go up simply to enjoy themselves in the pride of their strength of wing.

. . . . . .

We are always so glad to see our friends the swifts come back here in the spring. Their merry music in the morning and evening is exhilarating and delightful; their games, their laughter, and their love of fun make them very engaging objects of study to a "nice observer," as Gilbert White would say; their stay here, a little over three months, is all too short, and when they are gone there is with us a silence and a sense of loss. We miss the favourite bow-like forms, the bold and dashing flight, and the shrill notes of joy. The first summer bird has left us, and autumn and winter are near. We can but look forward to returning spring. We hope to welcome them back next year.

I am, my Lord,

Yours very truly,

Orleton Vicarage, AUBREY EDWARDS.

19*th August*, 1890.

SELBORNIANA.

Bibliography of Gilbert White.—The Editor wishes to apologise for his inability to personally thank the many kind friends who have responded to his request for aid in this work, which has unfortunately made but little progress, owing to his prolonged illness. Meanwhile the design is not abandoned, and he hopes to utilise as soon as possible the valuable material placed at his disposal. His thanks are specially due to the Earl of Stamford, who has sent (through his relative, Mrs. Martelli, a member of the White family) a very full genealogy of Gilbert White; to Mr. Henry Barry Hyde, F.S.S., who has communicated some researches on the genealogy of Anne Hyde, grandmother of Gilbert White; to the Rev. Henry Charles White, B.A., who has taken much trouble in transcribing some of the MSS. of Gilbert White in the British Museum; to Mrs. Brightwen, The Grove, Great Stanmore, for the loan of valuable books; to Mr. Thomas Pole, Fernside, East Molesey, for the loan of an interesting annotated copy of the second edition of the *Natural History of Selborne*, formerly in the possession of Professor Thomas Bell, and to Mr. J. E. Harting, F.L.S., Librarian of the Linnean Society, Editor of one of the most valuable editions of Gilbert White. Further information is hoped for from Mr. W. White, F.S.A., the ecclesiastical architect, a member of the Council of the Selborne Society; and from the Rev. Edmund Field, of Lancing College, Sussex, who has the reputation of being the chief living authority on the traditions of the White family and of its most illustrious member.

If any other readers of NATURE NOTES have in their possession MSS., books or information connected with Gilbert White or with Selborne, communications from them will be gladly welcomed, and MSS. and books entrusted to the Editor's care will be safely returned.

The lecture prepared for delivery at the Richmond Athenæum on "Gilbert White, his Life, Surroundings, and Influence" has been obliged to be postponed on account of the same reason—the illness of the lecturer.

The Editor wishes to thank those who have very kindly promised to facilitate his researches in the Selborne Country, especially Miss Alice Lushington, of Kingsley, General Parr, the present occupier of "The Wakes," Gilbert White's house, and Miss W. M. E. Fowler, the Hon. Sec. of the "Gilbert White" (Selborne and Liphook) Branch of the Selborne Society. He does not despair of being able to avail himself of their kind offers at some future date.

Guidance in Organised Observation.—In response to our suggestion in the last number of NATURE NOTES (p. 63) Mr. Arthur Holte Macpherson sends us the following:—

Points to be noted in connection with Birds.

(1) *Nesting.*
- (*a*) Date (i.) When first seen building.
  - (ii.) When eggs laid.
  - (iii.) When young hatched.
  - (iv.) When young leave nest.
- (*b*) Number of eggs.
- (*c*) Variations, or peculiarities in eggs.
- (*d*) Variations, or peculiarities in nest.

(2) *Food.*—Notes should be made, where practicable, on the food eaten by birds (the larder of the Red-backed Shrike, for instance, should be carefully examined.)

(3) *Migration.*
- (*a*) Dates of first appearances of migratory birds.
- (*b*) Dates of last appearances.
  - [N.B.—Taking dates of last appearances is not often done, because it is apt to be tedious, and one has often to take many notes in order to ascertain a "positively last appearance."]
- (*c*) State of weather, and direction of wind at time of migration.
- (*d*) Direction of migration.
- (*e*) Manner of migration (*i.e.*, whether performed singly or in flocks).

(4) *Song.*

Observations on song generally, e.g. :—

(*a*) Attempts to sing by young birds.

(*b*) Local variations in song of birds of the same species.

(*c*) Seasonal variations in song of an individual bird.

Also notes on the *courtship* of birds, whether carried on by song, or dancing, or otherwise.

(5) *Local Distribution* of the various species should be noted. Rarities and varieties recorded.

(6) *General Habits.*

A Suggestion from the "Saturday Review."—In the *Saturday Review* of April 11th, the author of an article on the recent recognition of bird preservation by the Zoological Society, suggests that a Birds' Protection Union should be formed. The *Saturday Review* has always been a faithful friend to the Selborne Society, and we trust that this suggestion, coming from such a source may be unanimously adopted by the members of the Society which ought to be exactly the kind of association in the mind of the writer. It is scarcely necessary to impress on our members that the scheme of the Selborne Society is intended to cover all reasonable protection, and that any failure in carrying out judicious aggressive work is owing to a neglect of the requirements of a certain district.

Members who have the ability have been constantly urged to lay before their Branch Meetings papers on the flora and fauna of the neighbourhood and to promote discussion on subject of preservation, obtainable through the willing co-operation of land owners and occupiers. Our business in the Selborne Society is not to attempt to protect this or that object of wild nature out of caprice, but for sound reasons gathered from practical persons and made public at our meetings and in our publications.

Of course it takes time to reach a public easily moved by sentimentality for a passing moment and to get them to take a real interest in obtaining a reasonable preservation! Nevertheless this is the task, which we have set ourselves to perform, feeling that without the hearty and enduring sympathy of the unscientific public, all the Birds' Protection Societies and even the very Acts for the protection of birds would be useless.

Every month brings us fresh adherents anxious to spread our conservative teaching in the schools of towns and villages, and in our workshops and factories to turn the destroyer into the willing protector and gradually to make the Society into an apt handmaiden to the great scientific and æsthetic associations of this country. We have already some influential and numerical strength, but we want an unlimited amount of it. We want patience and we want money. Our organ NATURE NOTES, should be "endowed" and we ought to be able to print for free distribution our scientific leaflets written in language intelligible to the rural population.

Furzebank, Torquay. GEO. A. MUSGRAVE.

Selborne Leaflets.—We have received a very large number of letters on this matter, many of our correspondents offering to distribute such leaflets if supplied to them. The Rev. Robert Simpson, Southgate Road, Bowes Park, who has on many occasions taken much trouble about the operations of the Society, makes some valuable suggestions on this point and urges that each member of the Society should undertake to distribute one hundred such leaflets. This would, indeed, be a splendid propaganda of our views. Mr. R. Marshman Wattson, hon. sec. of the Lea Valley Branch, who throws an amount of energy into its management which might well serve as an example to much larger associations, sends us some excellent handbills on the Protection of Birds and Flowers in Epping Forest, distributed by him and exposed in shops, schools, &c. Mr. Wattson also urges the construction of a Selborne Almanack, a suggestion which we hope will not be allowed to drop. Mrs. Hervey Pechell, who sends us from her Italian residence a larger selection of relevant cuttings from English papers than almost any of our home correspondents, desires a leaflet on the Wild Birds Protection Act, and advises that petitions should be sent to members of the House of Lords, urging them to support Lord Lilford's Bill. Mr. W. Ward, Cleveland

Cottage, Southampton, sends us a strong appeal on the same subject, and recommends that leaflets on bird-wearing should be distributed to ladies at the church doors! We have received from Miss Hannah Simpson, Holme House, Southport, some excellent letters on this matter, which we would gladly print if space allowed. Several other correspondents have dealt with the same subject. We are glad to announce that leaflets such as are asked for are now being prepared by Mr. G. A. Musgrave, F.Z.S., one of the Society's trustees, and others, and will soon be issued at cost price. Meanwhile we may mention a very admirable leaflet on the "Destruction of Ornamental-plumaged Birds," by Mrs. Phillips, president of the Tunbridge Wells S.P.C.A. (procurable from the authoress at Lancaster Lodge, Porchester Gate, W.), and a series of "Chelmsford Leaflets," published by A. B. Harrison & Co., 9, Goswell Road, E.C. Some of these are specially intended for distribution by members of the Selborne Society.

The Great Skua Gull.—We have much pleasure in inserting the following paragraph on this subject. We heartily congratulate Mrs. Edmondston, Mr. Scott and the Zoological Society. It would be impossible for the rewards at the disposition of the Society to be better distributed than to such self-constituted guardians of our British birds:—"At the monthly general meeting of the Zoological Society, held on March 19th at the Society's House in Hanover Square, Lord Arthur Russell in the chair, it was announced that, in recognition of the effective protection accorded for sixty years to the Great Skua (*Stercorarius catarrhactes*) at two of its three British breeding stations, namely, in the Island of Uist by the late Dr. Laurence Edmondston and other members of the same family, and in the Island of Foula by the late Dr. Scott, of Melby, and his son, Mr. Robert Scott, the silver medal of the Society has been awarded to Mrs. Edmondston, of Buness House, as representative of that family, and to Mr. Robert Scott, of Melby, and that the medals would be delivered to the medallists or their representatives after the close of the anniversary meeting on April the 29th next."

[The foregoing was sent to press last month, but unfortunately omitted by accident].

"Distribution of Rare Plants" and "Field Botany."—With the editor's permission, I should like to make a few remarks on the Rev. G. Henslow's suggestive paper, and on that of Bishop Mitchinson.

In one case I can to some extent answer Mr. Henslow's query, *i.e.*, as to *Ononis repens L.*, var. *horrida*. Some years ago I observed this plant for several years at Yarmouth North Denes. It grows there in great abundance, not usually wetted by the salt spray, but certainly so in storms; it grows associated with such species as *Aira* (*Corynephorus*) *canescens*, *Psamma* (*Ammophila*) *baltica*, *Galium verum*, var. *littorale*, *&c.* There the spines were not produced until the plant was three years old from the seed! I distributed a large number of plants through the Botanical Exchange Club. From these same specimens I sowed seed in my garden in soil composed of half ordinary garden soil and half Redhill sand. Three years after these plants commenced to form spines, and the only difference observable between them and the wild specimens was that the garden plants were slightly greener, and less robust; but this, of course, may have been from being seedlings. I preserved a series in flower and fruit for distribution, and I hope to do so again at the end of another three years. Professor Henslow perhaps has not observed Mr. Fryer's interesting series of papers on the Fen Potamogetons that have appeared in the *Journal of Botany*, where the writer has shown the remarkable differences of the species as to these "Land-forms," differences so complete in such closely allied plants as *P. lucens*, *L.* and *P. Zizii*, Roth., as to be extremely suggestive of further experiments. I have gathered with Mr. Fryer's specimens of a Potamogeton from under hay made in a dried-up ditch, but no fruit was produced.

Turning to Bishop Mitchinson's paper, he will be glad to hear that *Lychnis alpina* is in good abundance still on the Little Culrannock; *Mulgedium* can be looked at, but requires a very steady head and eye to get: but it is still there. *Oxytropis campestris* is also not gone, and has now been found in Perthshire in fair quantity. *Potentilla rupestris* has been found by the Rev. A. Ley in Radnor-

shire. It is a most beautiful plant in the garden. I have had a mass of it eighteen inches high (the root originally from Craig Breidden) in full flower, and distributed over one hundred specimens to try and save the native specimens as much as possible. This distributing of garden-grown specimens of our rare native plants certainly does seem to help to satisfy the craving to fill up gaps in herbaria. I have done so with a good many of our rarest species, such as *Sonchus palustris*, *Carex Buxbaumii*, *C. depauperata*, *C. salina*, *Veronica spicata*, *Ranunculus chaerophyllus*, *Lathyrus niger*, *L. hirsutus*, *Peucedanum officinale*, *Hierochloe borealis*, *Calamagrostis strigosa*, *&c.*, *&c.*, all from native localities.

ARTHUR BENNETT.

Evolution.—I have to thank the Rev. George Henslow for his obliging notice of my question in the previous number of NATURE NOTES.

It seems, as he shows, that I have all along been in good company in the difficulty I felt. It still, however, meets me. He tells us that two plants, with two different specific names, when growing in different soils, if the one be transplanted to that in which the other has grown, become—at all events sometimes—(which to my mind is equivalent to always, if the same circumstances could be exactly produced around both), indistinguishable or separate from each other, in, or by, any apparent specific difference that can be detected.

I quite agree with Mr. Henslow when he says that our men of science may give to this or that plant as many different names as they please, as if specifically distinct, and therefore demanding specific names, but I say that the individual plant itself ignores, and has nothing to do with such fictitious names. This seems to me to be altogether corroborative of what I said, and to affirm it with a Q. E. D.

I can only add that such cases as this convince me more and more, if indeed it could be possible for me to be more convinced than I always have been from the first, that the "use of the *Imagination* in science!" is the only basis of all the wonderful theories the evolutionists build upon for their Tower-of-Babel superstructure.

I should like also to know what has been, or is, or will be gained by the use of the French word "environment," in all these instances of suppositious suggestions? Not indeed that there is really such a French word at all. Why should not our old-fashioned English word "surroundings," have answered the purpose as well, if not better, as being more in vogue, and better to be "understanded of the people?" But then the other has an "imposing" look, or sound, so as to give lustre to science in the eyes of those who like to be impressed, if not imposed upon, by any such *ampullas et sesquipedalia verba*.

F. O. MORRIS.

Nunburnholme Rectory.

The River Bank at Richmond.—Under the head of "Work of Branches" may be found some details as to the line of action taken by the Lower Thames Valley Branch, in the matter of what is called sewer ventilation, *i.e.*, the impregnation of the pure atmosphere of the River Bank at Richmond with the foul air, and it may be, poisonous germs, discharged from the local sewage. So, at least the most vehement of the opponents of the scheme described it. But even if the sewage ventilators are not so directly malodorous and malarious, we believe no one has denied their unsightliness as blots upon the landscape. The result of the action taken by the Selborne Society was that a very strong and popular local opposition to the scheme was organised; and eventually the Drainage Board consented to erect, instead of eight, only three ventilators to vomit forth foul air on the river banks. So far the protectors have triumphed; and we do not think it is by any means a poor victory to have put *hors de combat* the majority (five-eighths) of the enemy's forces, composed, as a Selbornian of vivid imagination has described them, of fiery dragons belching forth noxious vapours!

The contest on this occasion will no doubt be of great use in any future attempt to force upon the people of Richmond what is distasteful to them as tending to destroy the beauty of their town. The local authorities, some of whom displayed a very arrogant and dictatorial disposition will think twice, or even thrice, before they venture to face a powerful opposition, such as was organised by the Local Branch of the Selborne Society.

There is another aspect of the case, which is of far more than local interest, and which we earnestly commend to the notice of all our readers. The arbitrators before whom the matter was tried seem to have merely taken into consideration the questions of obstruction and injury to the use of the path, refusing to listen to any representations of the wrong done to the inhabitants and others by damaging the beauty of the neighbourhood. Surely, if there were no other *raison d'être* for the existence of such an Association as the Selborne Society, the prevalence of such an utterly Philistine spirit as this among public men would be sufficient. It is evident that the mantle of Mr. Gradgrind has fallen upon some worthy successors. It must be our work to see that our local politicians are taught that the man who ignores the sense of beauty and sneers at æsthetic sentiment, writes himself down, if not an ass, at least an uncultured boor, to whose hands it would be the height of folly to commit the fortunes of a town whose most valuable possession is the natural beauty which has gained it world-wide celebrity, and which is the main source of its present wealth. For the spirited stand made against this short-sighted and unwise policy, the thanks not only of their fellow-townsmen but of all lovers of beauty, are due to Sir Edward Hertslet, Mr. Edward King, Councillor Hilditch, Councillor Wakefield, and though last, very far from least, to the local Hon. Secretary of the Selborne Society, who made the most strenuous exertions in this critical juncture.

ANNUAL MEETING OF THE SELBORNE SOCIETY.

THE annual meeting of the Selborne Society was held on May 6th at the Church House, Dean's Yard, Mr. T. F. Wakefield in the chair. Much regret was expressed that Mr. and Mrs. Musgrave, the originators of the Society, who had come to town from Torquay to attend the meeting, were unable to be present owing to the illness of Mr. Musgrave, and that Mr. Otter, the Hon. Treasurer, was obliged to be absent from a similar cause.

The annual report of the Council was read. It is a very interesting document, but has reached us so late that we cannot print it in its entirety. With regard to the numerical strength of the Society, it says the number of members again shows a most satisfactory increase. New Branches have been formed at Epping Forest (Forest Ramblers), Bootle and its neighbourhood (Tudor), Rome, and Halifax. The following Branches have been revived:—Kent, now called North Kent, Tunbridge Wells or Weald of Kent, and Bayswater. The Bournemouth Branch has been attached temporarily to the Southampton and New Forest Branch.

As the applications to the Branches for accurate information as to the number of members and income of the various Branches had not been fully responded to, the Secretary had drawn up the following approximate table, based on the number of magazines supplied to each Branch:—Lower Thames Valley Branch (Richmond and Brent Valley Divisions), 273 members; Birmingham, 143; Northern Heights (Hampstead and Highgate), 136; Haslemere, 104; Rape of Lewes, 100; Southampton and New Forest, 97; Kensington, 91; Wimbledon and Putney, 91; Rother Valley Branch (Midhurst, Petersfield and Chichester Divisions), 79; Bath, 78; Bayswater, 52; Weybridge, 52; Clapton, 42; Tudor (Bootle), 39; Brighton, 39; Forth, 39; North Kent, 39; Liverpool, 39; Halifax, 32; Atalanta, 30; Guildford, 26; Neston, 26; Nottingham, 26; Gilbert White (Selborne and Liphook), 26; Weald of Kent, 23; Dorking, 20; Bolton, 19; Lake District, 13. Of course this list does not include the very large number of Magazines supplied to the general subscribers to the Society, purchased by the public and gratuitously distributed to Free Libraries and other public institutions.

The report goes on to congratulate the Society on the success of its Magazine, and the efficiency with which it has been conducted, in spite of the protracted illness of the Editor, and makes the following remarks on the relation of the Branches to the Society:—

"The Council would again urge members to do their utmost to establish new branches, since it is mainly through the Branches that the Society can carry out its objects. The attention of Branch Committees is called to the request that a monthly report of the proceedings of their respective Branches be forwarded to the Secretary of the Council or to the Editor of the Magazine. The publication of these reports serves not only to advise the members of the work being performed by their Branches and the general public of the aims and progress of the Society, but also as an incentive to new Branches to emulate the zeal of the more energetic organisations.

"How a Branch may in some cases be better able to carry out the aims of the Society than the central body may be seen by a reference (1) to the reported extermination of the great skua gull and the projected wholesale collection of sea birds' eggs in the Shetland Isles, matters which have lately engaged the attention of the Forth Branch in Scotland, or (2) to the reported devastation of the famous Cheddar Cliffs and the absence of squirrels in the New Forest—questions which were referred by the Council to the Bath and New Forest Branches respectively to be dealt with by them.

"The Council would take this opportunity to refer to the wanton and cruel destruction of sea birds and eggs on Grassholm Island on Whit Monday last by a party landing from H.M.S. "Sir Richard Fletcher." By the aid of the S.P.C.A. the offenders were brought to justice. The thanks of the Society were given to Mr. Colam, of the S.P.C.A., and to Mr. Thomas, the correspondent of the *Daily Graphic*, an eyewitness who was instrumental in calling public attention to the outrage."

The Financial Report of the Hon. Treasurer was as follows:—

1890.—GENERAL FUND OF THE SELBORNE SOCIETY.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Balance from 1889 ...	26	19	5	By Rent of Office ...	30	0	0
,, Subscriptions, less those returned to Branches	91	0	6	,, Secretary	25	0	0
,, Sale of Receipt Books, Prospectuses, &c. ..	4	14	3	,, Office Expenses ...	17	17	11
,, Contributions by Branches	39	8	11½	,, Design for Receipt Book	3	11	0*
,, Sale of "Nature Notes" —to Branches ...	108	3	8	,, Messrs. Waterlow (Receipt Forms) ...	4	5	0
,, Messrs. Sotheran ...	11	3	8	,, Messrs. Bale (General Account)	9	15	6
,, Advertisements in "Nature Notes" ...	50	0	0	,, Messrs. Bale (Printing "Nature Notes") ...	208	14	3†
				,, Advertising "Nature Notes"	9	16	11
				,, Editorial Expenses of "Nature Notes" ...	10	9	2
				,, Balance	12	0	8½
	£331	10	5½		£331	10	5½

J. L. OTTER, *Hon. Treasurer of the Selborne Society.*
Examined and found correct,
M. WOLRYCHE-WHITMORE.

The receipts of the Branches of the Selborne Society for 1890 are, approximately, £300, and their expenditure, approximately, £245, exclusive of contri-

* This item is composed of a payment of £2 10s. still owed to Mr. Fahey for the old design for receipt form, and £1 1s. to Mr. John Swain. The £4 5s. was paid to Messrs. Waterlow for books of receipt forms in the design presented to the Society by Professor F. E. Hulme.

† This sum includes £6 for carriage of magazines to Branches, £12 for despatching magazines to subscribers, £20 8s. for postage of magazines to subscribers, £7 10s. for printing 10,000 circulars, £2 2s. 6d. for 4,000 slips applying for subscriptions to Selborne Society, so that the sum actually paid for printing NATURE NOTES was £160 13s. 9d.

butions to the General Fund. It is proposed to give in the next annual report of the Society an abstract of the annual accounts of each Branch.

J. L. OTTER,
Hon. Treasurer.

The meeting then proceeded to the election of officers. Lord Tennyson was re-elected President; Sir John Lubbock, F.R.S., and Mr. G. A. Musgrave, F.Z.S., were again appointed Trustees; Mr. W. Warde Fowler, M.A., Dean of Lincoln College, Oxford, and the Rev. Theodore Wood, F.E.S., were added to the list of Vice-Presidents; Mr. W. F. Kirby, F.L.S., Mr. W. D. Wickes, F.L.S., Mr. Archibald Clarke, and Mr. T. Grey were elected members of the Council in the room of those who had resigned or had become ineligible for re-election on account of insufficient attendance.

A discussion on the proposed alteration in the general rules then took place. Mr. Wakefield brought forward his motion that the contributions of the Branches to the General Fund of the Society should be curtailed, but, on its being strongly represented that funds were urgently needed for the printing of leaflets and other literature, and that any such diminution of Branch contributions as proposed would absolutely paralyse the central executive of the Society, he withdrew his motion. The rule now runs as follows:—"That the annual contributions of the Branches to the General Fund shall be not less than 10 per cent. of their gross receipts, *and* that all surplus funds remaining after the payment of the annual expenses of each Branch shall be paid to the Treasurer of the Society for the general purposes of the Society and its Branches." [See *Nature Notes*, 1891, p. 39.]

General Rules 6 and 7 were altered so as to read as follows:—"The annual subscription of subscribing members shall not be less than two shillings and sixpence. All subscribing members shall be eligible to the offices of the Society, qualified to vote at the general meetings, and entitled to receive all serial publications of the Society."

It was resolved that from 1st of January, 1892, there shall be throughout the Society an entrance fee of 1s; and that members be permitted to substitute one life payment of five guineas for the annual subscription, the money so received to be invested for the benefit of the Society.

OFFICIAL NOTICES; WORK OF BRANCHES, &c.

THE object of the Selborne Society is to unite lovers of Nature for the following purposes:—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

THE Lower Thames Valley Branch of the Selborne Society has acted with the most commendable promptitude and energy in the matter of the pollution by sewer ventilators of the river bank at Richmond, as mentioned in our last issue. The Hon. Secretary, Miss Annie Wallis, summoned immediately an "urgency" meeting of the Committee for April 20th, at which arrangements were made for a public meeting to protest against the threatened nuisance. This was held on April 23rd, under the presidency of Sir Edward Hertslet. Letters were read from Sir Mountstuart Grant Duff, Sir Frederick Leighton, Sir Whittaker Ellis and other Selbornians, strongly opposing the scheme; and resolutions against it were passed by a large and representative meeting. A committee was appointed "to watch the future movements of the Richmond Main Drainage Board," and

to prepare evidence against the ventilators, to be laid before the arbitrators to whom the final settlement of the question was deputed. The arbitration was held on May the 5th, when Sir Edward Hertslet, Mr. Edward King, Councillor Hilditch and Councillor Wakefield intervened on behalf of the position of the Selborne Society; but, to quote the *Thames Valley Times*, "the Board adhered to their decision to claim the award upon the mere question of obstruction and injury to the use of the path, excluding the æsthetic question, although they allowed evidence on that important branch of the subject to be brought in by a side wind." The result was that the Drainage Board announced their intention of erecting, instead of eight, only five ventilators, two of these five to be used as inlets, leaving only three to extract the foul air from the sewer.

We have received a full report, well printed in an 8vo pamphlet, of the Conversazione of the Bath Branch, which was briefly mentioned last month. Our readers will regret to hear that the slight delay in its production was due to the illness of that ever-active Selbornian, Mr. W. G. Wheatcroft, Hon. Secretary of the Bath Branch. The leading feature of the very interesting report was Mr. Wheatcroft's paper on "The English Lakeland," of a similar nature to his article in the last December number of NATURE NOTES. By his kind permission, we hope soon to be able to reprint some of his address.

NOTICE TO CORRESPONDENTS.

Owing to the very great pressure on our pages this month, and the necessity of inserting the report of the Annual Meeting of the Selborne Society, we have been obliged to omit the column of "Natural History Notes and Queries" and several Reviews, and to postpone a number of articles already in type, including contributions by Miss Elizabeth Martyn, Mr. J. R. Jackson, Curator of the Kew Museums, Mr. Theodore Compton, Mr. T. D. A. Cockerell, and Mr. Archibald Clarke.

To prevent mistake or disappointment, we request attention to the following rules:—

As NATURE NOTES is published on the 15th of each month, and the amount of MS. material received is always far greater than the available space, contributions should be forwarded *before* the 1st of the month in which it is desired that they should appear.

Correspondence intended for insertion in the magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with botany or zoology will be answered if possible, and advice will be given as to the best books for students in any department of natural science; but all questions must be accompanied by the names and addresses of the writers, not for publication, unless it is so desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

No. 18. JUNE 15, 1891. Vol. II.

SURVIVALS.

IN previous communications to Nature Notes (vol. i., p. 169, vol. ii., pp. 7 and 63) I endeavoured to show how plants can vary in the structure of their several organs when their environment is altered; and that this is due to a responsive power in the living protoplasm, which is, so to say, awakened or called into action when the surrounding conditions or medium is sufficiently changed.

This capability of self-adaptation to new circumstances gives us reasonable grounds for believing such to be, in brief, the means which nature has adopted for bringing into existence new species by the process called evolution. It must be borne in mind, however, that this doctrine does not assert that all plants and animals *must* be always undergoing changes; for there are many which, having through successive generations acquired certain specific characters, have retained such, often for incalculable ages. This fact applies to some animals as well as plants. Indeed, there are probably few large groups of beings in which some species or at least a genus (if the species it contain be different) which has not at least one "survival" among their community.

The most obvious explanation is in accordance with the above supposition of the origin of species, namely, that either these survivals have never been subjected to very or sufficiently different environments, or else they are peculiarly insensitive to changes. Just as breeders of cattle and cultivators of plants find great differences in the powers of animals and plants to change under the very altered conditions of domestication. Some are highly "plastic," others are "refractory." Such differences may be called specific idiosyncracies, for one cannot tell why it is so; but only recognise it as a fact. Similarly some genera in the wild state run into an immense number of species, sub-

species and varieties, as do roses, blackberries, willows, &c.; others vary little, or remain monotypic.

The doctrine of evolution is based, not on negative but on positive evidence, and in no way is it controverted by the presence of survivals.

As the fossil remains of animals are so much more numerous than those of plants, because of the very perishable nature of the latter, they afford plenty of illustrations of survivals, as the following examples will show.

When Sir Charles Lyell studied the various strata which represent the Tertiary Epoch, he noticed that in the lowest "formation," which he called the "Eocene" or "Dawn of the New" as the word means, about 4 per cent. of shells which are still living. In the next two formations which he called "Miocene" and "Pliocene" he found increasing percentages of recent or living species of shells. They therefore showed respectively a "less new" and a "more new" condition; so he called them by those names. Lastly, came the uppermost or "Pleistocene," the "most new," in which the percentage of extinct species of shells was now much in the minority.

Here, then, we have existing species of shells running back into probably hundreds of thousands of years. But we may go further backwards in time. The uppermost strata of the Secondary Epoch are the beds of chalk, which is made up of the remains of microscopic shells of species of Foraminifera, one at least of which is still living; so that the late Dr. W. B. Carpenter used humorously to say "we are still living in the Cretaceous Epoch!" But that is not enough. Passing over survivals from the oolitic beds, such as the shell Trigonia, cycads and crocodiles, let us go back to the Primary Epoch. I will first give two illustrations from the so-called Devonian formation. Before fishes represented the highest efforts of evolution, gigantic shells ruled the marine world, and were especially represented by the great family Nautilidæ. One genus, nautilus, has lived on till to-day. On the other hand the Ammonitidæ which was descended from and supplanted the former family, cannot boast of a single survival. When the reign of the Nautilidæ was over, fishes took the lead, and very unlike the fishes of to-day they were. Many had no backbones, only an embryonic gelatinous spinal cord, illustrating a universal rule that animals of an early geological period, *when adults* have features resembling *the young*, or even the embryonic condition of members of the same family of later geological times. At least three kinds of these curious old fishes are living still.

Lastly, let us proceed one step backwards to nearly the most primitive times. If we climb up the side of Snowdon's great rival, Cader Idris, overlooking Barmouth, we shall find slates strewn about covered with impressions of a species of lingula, and as far as those impressions can tell us, there seems little to distinguish them from the living lingula of to-day.

Similarly are there plenty of survivals amongst plants. The ferns of the epoch when coal was a flourishing vegetation, are wonderfully like the ferns of to-day. The horsetails of the genus Equisetum have no modern allies, but constitute a family as well as a single genus. We know, however, that many members of the Equisetaceæ abounded in the coal period. The screwpine of tropical swamps stands alone now, but we find plenty of remains in the London clay at Sheppey. So, too, the Casuarina or Beefwood of Australia and the Nutmeg represent other monotypic families, and are survivals.

To come down again to the Pleistocene or the Great Ice Age. There is an existing so-called Arctic flora, because it is scattered over the Arctic regions, the members of which are wanting in the temperate plains of England and the Continent, but several of them reappear on the mountains of Scotland, Wales, Pyrenees and Alps. How did they get there?

It is the belief of geologists that after England had been submerged, with the exception of the mountain tops, which furnished glaciers and icebergs, the island rose out of the sea, perhaps 1,000 feet or more higher than at present, thereby converting the German Ocean into a plain, across which the Arctic flora spread, as the climate of these areas was at that time arctic in character. Thus we find, for example, remains of two species of creeping willows, *Salix herbacea* and *Salix polaris*,* truly Arctic species of willow, at Bovey Tracey, in Devonshire. But as the climate became more and more temperate, other plants adapted to this new condition invaded the lowlands, and so those of the Arctic flora which could survive the somewhat less Arctic features of our European mountains had to content themselves with the higher altitudes of the mountain regions, and there they remain to this day. Others, like *Salix polaris*, died out, as it is now only found in Arctic regions.

If, therefore, it be true that the environment is the moving cause of change, as long as that is such as the plant is adapted to there is no *à priori* reason why it should change at all, but exactly the reverse. Indeed, *Salix polaris* and its congener *S. herbacea* are rather instructive plants. For while the former is now confined to high latitudes—specimens in the Kew Herbarium were received from Iceland, Greenland, Spitzbergen, Nova Zembla, Behring's Straits, Siberia and Lapland—and as far as they show there is little or no variation of importance;

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* With regard to *S. polaris*, it is doubtful if it has ever been cultivated; for though it is said to have been grown in the willow garden at Woburn Abbey, and the late Mr. Borrer gave me a specimen from his own garden at Henfield in Sussex; neither were true *S. polaris*. This latter appears to be the same as the former, and perhaps was derived from the specimen at Woburn, which is figured on pl. 63 in the "Salicetum Woburnense." This, however, certainly does not represent *S. polaris;* but in the opinion of Dr. F. Buchanan White, our greatest living authority, is probably a hybrid between *S. herbacea* and *S. arbuscula*, which he calls *S. simulatrix*.

Salix herbacea (which was associated with *S. polaris* in Devonshire) is now much more widely dispersed, being found not only in Arctic regions, as Greenland, but also in Norway, Bex Alps, Tyrol, Engadine, Scotland, Wales, North English and Irish mountains.

As might be anticipated, if different environments be the cause of diversity of structure, *Salix herbacea* proves to be a much more variable plant than *Salix polaris*. Thus in Sutherland it is described as growing two feet high, as well as at Antrim and Derry; while at Edinburgh it has acquired a prostrate woody form, with a stem two or three feet long and as thick as the little finger. Lastly, as showing another influence of environment, Loudon says that while *S. herbacea* flowers before the leaves appear in the wild state, it not only does so but again in April as well when under cultivation.

Hence, while these two species of dwarf willows, *S. polaris* and *S. herbacea*, may well be called survivals since the glacial epoch, the latter has proved itself capable of varying so much as even to lead systematists to question its identity in some cases.

To repeat, then, the substance of my contention, evolution is based on the fact that both extinct and living beings are so often linked by graduated series that the notion of descent with modification becomes forced upon our acceptance. Then, when we see how plants and animals are constantly varying under our eyes, when the environment is changed, the alternative supposition that each individual gradation in a long series is a "special creation" becomes really unthinkable. On the other hand, many animals and plants have remained constant for long periods, either from want of change in the nature of their environment, or from some fixity of disposition which renders them less pliable, and so they have remained as survivals in the midst of evolution which has gone on all around them.

GEORGE HENSLOW.

[The importance of the point raised by Professor Henslow and the weight attached by anti-evolutionists to the instance of *Salix polaris* may be seen by reference to various writings and addresses of Mr. W. Carruthers, F.R.S., Ex-President of the Linnean Society, the best known of the English botanists who are opposed to the doctrines of evolution. Mr. Carruthers dealt with the subject in his "Presidential Address to the Geological Association in 1877," and recurred to it in his "Presidential Address to the Linnean Society in 1890." The views of Mr. Carruthers are highly approved by Sir J. W. Dawson, an American opponent of evolution, in his *Geological History of Plants*, published in the same scientific series as Professor Henslow's *Origin of Floral Structures*. We shall be glad to know whether the anti-evolutionists consider their position shaken when viewed from the aspect in which Professor Henslow regards it.—ED., N.N.].

ON THE INCREASE AND DECREASE OF CERTAIN BIRDS.

SOMETHING has been written lately in NATURE NOTES about kingfishers—in Oxfordshire especially. I think that the numerical strength or weakness of this species is mainly a question of seasons. A certain number of kingfishers are doubtless killed by loafing gunners, and the owners of fish hatcheries, and those who preserve trout streams are answerable for the death of a good many. But I am inclined to think that loafing gunners are less numerous than they used to be. The gun licenses are better looked up, and more people take care of the shooting rights over their land, upon which the presence of the loafing gunner is consequently objected to. Nevertheless, the kingfisher is still a persecuted bird, and I know of two people who actually take a pleasure in seeing how many specimens of their own shooting they can get together! This part of the country—North Oxfordshire—with its numerous streams, having often high earthy banks in which breeding places may be found, is so suitable for kingfishers that they could certainly hold their own, and even make headway against the persecution they are here subjected to, were it not for the periodical recurrence of severe winters. A really hard winter, with a long frost sharp enough to *freeze the streams* is fatal to the kingfishers. The three cold winters, culminating in the snow-storm and frost of January, 1881, reduced their numbers terribly, but in the years that followed they recovered strength, and steadily increased until they were again cut off by the great frost of 1890-91. Last summer (1890) kingfishers were really quite numerous in this neighbourhood. One could not walk far along any of our streams just before autumn without seeing one or more, and on a stretch of the Swere, where I am often fishing, two pairs bred in peace in one meadow. But all this is changed now, and I do not think I have seen a single bird since the frost. It will take some years for them to reach their former numbers again, but with fairly mild winters there is no doubt that they *will* recover from the effects of the late fatal frost.

I am inclined to think that the Wild Birds Preservation Acts have done some good. The goldfinch, which a dozen years ago was really a rare bird here in the breeding season, is so no longer. It has perhaps suffered a little from the past winter, for I do not think I have noticed as many as usual this spring, but last summer their pretty twittering song was to be heard commonly about the apple trees in gardens and orchards in and about this and the neighbouring villages. The green woodpecker is another bird which has certainly been increasing; but it is heavily handicapped by hard winters. The increase of these two species should I think be, partly at all events,

attributed to the beneficial effect of the Acts. Of the increase or decrease of summer migrants it is less easy to speak, because their numbers are apt to vary in different years. For instance the blackcap, which was unusually numerous last spring, is rather scarce this year, and was late in coming. This falling off in numbers can hardly be owing to the attempt to winter in England made by this species on rather an extensive scale in 1890-91—unfortunate choice!*

We may safely speak of the remarkable increase of two species. The redstart about twenty years ago was, to the best of my recollection, quite a scarce bird; it certainly remained anything but common for a good many years after that time. Now it is quite common, and may fairly be called numerous. I will not attempt to say how many pairs there are in and just round the village at the present time, but they must amount to a good number. The whinchat is another species which I used to look upon as uncommon—a bird especially worth stopping to look at, that is to say. Now we see pairs all about, and it seems to visit us in steadily increasing numbers. But this is one of the birds which is particularly apt to vary in numbers in different years, so that observations on this point must be carried on over several seasons. No cause affecting these two species while they are here can be assigned for this increase.

Some birds have decreased, on the other hand; and it is equally impossible to account for the falling off. Why, for instance, should the nightingale have practically deserted North Oxfordshire? Five-and-twenty years ago I have good authority for saying that they came in some numbers to the parish of Bodicote, and people were in the habit of walking up a certain lane bordering a plantation to hear them. During the time I lived at Bodicote I never heard one. With regard to this parish (Bloxham), I am told by several people who are well acquainted with the nightingale, that up to within ten or fifteen years ago it could be heard in all the little spinneys round the village, and even in gardens in the village itself. It visits us no longer, and in the five springs I have passed here I have never heard it. It formerly sang on the western outskirts of Banbury, but is heard no longer now. The same may be said of many places in the neighbourhood, and I do not know of any locality in the *immediate* district where the nightingale can now be heard. No change in the condition, aspect or cultivation of the country, which could account for our desertion by this bird, has taken place. A little further north, where the county runs up into a point between Warwickshire and North-

* Since this was written, sometime early in May, there must have been a further arrival of blackcaps in this district; by May 14th they were fairly common. Last year I saw the first on April 7th, and had seen several by the 15th of that month. This year the 22nd was my earliest date, and I had no report from Oxford until May 1st, but the recorder added that he saw numbers the next day.

amptonshire, we find the nightingale again in small numbers. When living at Great Bourton, some five or six miles north of this, 1883-1886, I found that one or two pairs visited that parish, and the only nightingale I have heard this year (May 5th) was singing in a large overgrown blackthorn "double" some four miles from Bourton, just over the Warwickshire borders.

These notes have already extended over too many pages, and I will only mention one other remarkable decrease in a species. I have the evidence of a well-known ornithologist to show that at the time he was at the University (thirty-five or forty years ago), the wryneck was common about Oxford; now it is rare. Within my own recollection in this district, the wryneck's spring note was not an uncommon sound; now I look upon the bird as quite a rarity. Again, I can give no reason for this diminution in either district. At Oxford the nightingale continues common.

O. V. Aplin,
Member of the British Ornithologists' Union;
Author of "Birds of Oxfordshire."

THE PRESERVATION OF WOODLAND SCENERY AT HIGHGATE.

BARELY six miles to the north of St. Paul's there remains a fragment of what was once the great Forest of Middlesex. Many a rare flower and fern, long since vanished, grew in its glades and on its banks, and the deer trooped over the greensward. Jealously was the game preserved by the huntsman king, Henry VIII., by issue of a royal proclamation to the neighbouring dwellers; jealously and earnestly should we strive to keep in perpetuity what little of wild nature yet remains there, be it bird, beast or flower.

As each part of the remainder of this ancient forest becomes exposed, or is likely to be exposed, to the attacks of those who would sweep it away for ever, at once there arises the necessity of uttering a warning note of the danger.

One portion, known as Bishop's Wood, lying between East Finchley and the "Spaniards," Hampstead Heath, is now being offered for sale on building leases. To this attention has already been drawn (see NATURE NOTES, June, 1890, p. 90) by the present writer, who would now invite the readers of this magazine to glance over, in imagination as it were, the features of another part of this fragment of forest, and would enlist their earnest efforts for its preservation.

After passing Southwood Hall, at Highgate, the road to Muswell Hill dips down into a little hollow. Left of the road, in all seventy acres, and now so happily secure from the inroads

of axe, saw and spade, lies the belt of woodland dedicated to public use and enjoyment; on the right we view a steep ravine, known as Churchyard Bottom, clad with oak and hazel, and bespangled in spring with the fragile wood anemone. The wooded slopes bend round in an amphitheatre from Crouch End to Muswell Hill; at their base lies the thickly-peopled vale of Hornsey, and far away, across the river Lea, rise the green hills of Epping Forest.

The fate of this fair wooded scenery—a spot beloved of Leigh Hunt and William Howitt in days gone by—now trembles in the balance, and a few years more must decide its safety or destruction. The builder is now busy all round its very borders, and the greater part of the neighbouring land is in the hands of a public company, whose avowed intention it is to cover the green fields of Muswell Hill with blocks and rows of red-brick mansions and villas, and utterly efface hedgerow, turf and flower.*

More than this, it is well known to most of our readers that within the last six months a most determined attempt has been made by the London Financial Association to legalise the conversion of Alexandra Park, which adjoins Muswell Hill, into a building site, by presenting a Bill to Parliament for that purpose. To Mr. H. R. Williams, Chairman of the Hornsey Local Board, belongs the credit of having first drawn attention to this in the local press. Mainly through his unwearying efforts, as I firmly believe, a powerful opposition has been created against the Bill, emanating from the London and Middlesex County Councils, the Corporation of London, the Commons Preservation Society, and the Public Gardens Association. As a consequence of this opposition the Bill has now been withdrawn, and, to quote Mr. Williams' words in a recent letter to the *Hampstead and Highgate Express*, "attention has again been called to the necessity of acquiring this magnificent open space for the benefit of the public in perpetuity;" and he "has every confidence that negotiations will be shortly commenced with that view."

Notice has been directed to the above, more especially, to show that the danger of losing Alexandra Park cannot but strengthen the case for preserving intact the eastern portion of Highgate Wood, which, though still private property, is, according to local opinion, nearly as much in danger of becoming covered with bricks and mortar as Alexandra Park and Muswell Hill, since it is closer to London, and its area correspondingly worth a greater sum of money.

That one section of Highgate Wood has been rescued is no argument against securing the other and more beautiful part, which has been less encroached upon hitherto.† Now is the

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* A large number of interesting plants, rare for the county, are recorded in the *Flora of Middlesex*, for the neighbourhood of Muswell Hill and Highgate Wood.

† See Walford's *Old and New London*, vol. v., p. 428.

time to consider what steps should be taken to place it far beyond the grasp of the private speculator, or to rescue it for ever from the toils of the powerful building company that doubtless is awaiting a favourable opportunity of entrapping it.

On the northern outskirts of London, meadow and woodland are more plentiful than in the suburbs south of the Thames, but common land and heaths are of far less extent. Finchley Common, with its 1,243 acres, has long since been enclosed, and Enfield Chase, in being disafforested, has suffered a similar fate. To compensate for the loss of these extensive areas as open spaces, the least that can be done is to preserve in its natural condition every acre of copse and woodland on the Northern Heights.

"A certain sadness is pardonable to one who watches the destruction of a grand natural phenomenon, even though its destruction bring blessings to the human race," were the words of Charles Kingsley when about to tell the story of the conversion of the Great Fen from a wilderness into a fertile garden.* The oak-covered slopes between Highgate and Hornsey may, to many eyes, be less sublime than the tangled waste of thicket and reed-bed bordering the lonely meres, mile after mile; but, to borrow another thought from the writer above quoted, "grandeur consists in form, not size," and what grander sight, at any rate about London, could we wish for, than this hilly, almost precipitous, stretch of woodland, that recalls to those who know them the steep green glades among the hills in the Kentish and Sussex wealden. It needs but a few weeks' labour here to complete a destruction that would call for a feeling of sadness not only pardonable, but commendable, resulting, as such destruction would, not in blessings, but in a calamity to London at large, by the addition of a mass of houses to the already overgrown suburbs, only to furnish their quota of chimney-smoke to the pall of fog and gloom that overhangs the metropolis at all seasons—even in summer.

Space will not permit of pointing out at length the ways and means of keeping this part of Highgate Wood in its present beautiful state of nature. Purchase is apparently the only open course; and, great as the obstacles in the way of such a course may be, they are worth surmounting to avert a loss sad enough to botanists, sadder still to lovers of scenery and nature for its own sake, and saddest by far to those who need fresh air and the sight of green trees most of all—the dwellers and toilers in the narrow streets of the great city.

ARCHIBALD CLARKE.

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* *Prose Idylls* (The Fen), p. 89.

SOME LONDON BIRDS.

THE following is a list of the birds noticed by myself or by my brothers and sisters in London during the past few years. It is the result of observations made chiefly in Hyde Park and Kensington Gardens, and I have purposely excluded the species noticed in any parks on the outskirts of the town. Of course had these latter species been included, together with those recorded in the various newspapers and magazines, this list could have been increased enormously; but even as it stands it shows that a considerable variety of birds may be seen in the heart of London, and possibly may stimulate some readers of "NATURE NOTES" to make regular observations.

Most of the birds to be seen in our London parks are migrants. Migration proper is an annual movement towards a colder region in spring, and a warmer one in winter. Some birds (such as the cuckoo) visit us only in spring; others (such as the fieldfare) only in winter. Whether a bird is a summer or a winter visitor to England depends on the position of our island in the range of the species in question; thus we are in the northern portion of the geographical range of the swallow, and so the swallow is a summer visitor.

But besides migration, properly so-called, there is another kind of movement which is not regular annual and hereditary, but entirely dependent on local conditions, and which affects only the birds in a particular locality, and not the whole or a great portion of a given species. This may be called local or special migration, and it is well illustrated by the flocking of many birds into towns for the sake of warmth and food during hard frosts. London is very warm, and in cold winters we see a good many of these local migrants in our parks. Meadow pipits, for instance, make their appearance on such occasions and large quantities of larks.

Very few of the summer migratory birds which visit London stop with us; they mostly take but a few hours' rest and then continue their journey further inland. There is a regular stream of migration up the Thames valley every spring, for birds when travelling make great use of natural landmarks, and valleys are to them very much what roads are to us. It is a great pity that more people do not notice and report the first appearances of these spring visitors, for it is a very interesting subject, and were a regular chain of observers established the course of migratory birds up a valley like that of the Thames could be accurately traced.

In the following catalogue I have confined my remarks to wild birds, no mention being made of ornamental or domesticated species, for these alone would make a long list. It will also be noticed that owing to absence from town during August and September no observations are recorded during those months.

(1.) Missel Thrush (*Turdus viscivorus*).—A few pairs are resident and breed in Kensington Gardens. A good many visit us in winter.

(2.) Song Thrush (*Turdus musicus*).—Common and resident. May be heard singing almost the whole year round.

(3.) Redwing (*Turdus iliacus*).—Winter visitor. One was to be seen till April 21st in 1886, in Kensington Gardens. I saw one in Leicester Square on the 3rd March of last year.

(4.) Fieldfare (*Turdus pilaris*).—Winter visitor. Not as common as the redwing, and rarely pays us more than a very short visit.

(5.) Blackbird (*Turdus merula*).—Common and resident. A very pretty pied variety is to be seen near the Round Pond.

(6.) Wheatear (*Saxicola œnanthe*).—Passes through town regularly on its spring migration; may always be seen some time during April in Hyde Park. Dates when first observed:—1885, April 21st; 1886, April 22nd; 1887, April 12th; 1888, April 21st; 1889, April 5th; 1890, April 18th. I observed a beautiful male bird on July 17th of last year, and again on the following day, close to the bridge over the Serpentine. This bird was probably a bachelor.

(7.) Whinchat (*Pratincola rubetra*).—Summer migrant: does not appear to pass through London very regularly.

(8.) Redstart (*Ruticilla phœnicurus*).—A regular summer migrant, passing through Kensington Gardens every spring. First observed in 1884, on April 26th; 1886, April 5th; 1887, April 15th; 1888, April 16th; 1889, April 23rd; 1890, April 15th.

(9.) Robin (*Erithacus rubecula*).—Resident and common.

(10.) Whitethroat (*Sylvia cinerea*).—Passes through London in small numbers in spring. Probably nested in the Botanical Gardens, Regent's Park, in 1889.

(11.) Lesser Whitethroat (*Sylvia curruca*).—Occasionally to be seen during the spring migration. I saw a fair number of them during the first week of this May; one was singing in the Flower Walk in Kensington Gardens on Sunday, June 9th.

(12.) Blackcap (*Sylvia atricapilla*).—Occasionally seen in spring, but less frequently of late years.

(13.) Garden Warbler (*Sylvia hortensis*).—A few pass through town in spring; is seen more frequently than the blackcap.

(14.) Goldcrest (*Regulus cristatus*).—Rare. Observed twice in Kensington Gardens.

(15.) Chiff-Chaff (*Phylloscopus rufus*).—Occasionally noticed in spring, but not nearly as often as the next species.

(16.) Willow Wren (*Phylloscopus trochilus*).—Usually appears

towards the end of April. Probably a few stay and nest in the shrubberies. I heard one singing in Hyde Park on 10th June, 1889; and on 23rd July and 2nd August, 1890.

(17.) Sedge Warbler (*Acrocephalus phragmitis*).—I only added this bird to our London list last summer, hearing several on May 7th, and a good many more on May 17th. All these birds were close to either the Serpentine or Long Water.

(18.) Hedge Sparrow (*Accentor modularis*).—Resident and fairly common: may be heard singing in almost any month.

(19.) Great Tit (*Parus major*).—Resident. A few pairs nest in Hyde Park and Kensington Gardens.

(20.) Cole Tit (*Parus britannicus*).—Resident, but not common. Have seen a small flock in the trees fronting Queensborough Terrace. Personally have not found it nesting (but see *Field*, 18th May, 1889).

(21.) Blue Tit (*Parus cæruleus*).—Resident, and breeds in rather smaller quantities than the great tit.

(22.) Wren (*Troglodytes parvulus*).—Resident, but far less common now than a few years ago.

(23.) Pied Wagtail (*Motacilla lugubris*).—An occasional visitor.

(24.) Grey Wagtail (*Motacilla melanope*).—An occasional winter visitor.

(25.) Meadow Pipit (*Anthus pratensis*).—Winter visitor. Sometimes appears in considerable flocks in hard weather.

(26.) Tree Pipit (*Anthus trivialis*).—A summer migrant. It may be seen in Kensington Gardens in some years on the spring migration.

(27.) Spotted Flycatcher (*Muscicapa grisola*).—A summer visitor, arriving about the middle of May and several pairs nesting annually in Kensington Gardens. I observed three broods of young birds on one day in July, 1890. First observed in 1884 on May 11th; in 1885, May 9th; 1886, May 15th; 1887, May 4th; 1888, May 22nd; 1889, May 17th; and 1890, May 18th.

(28.) Pied Flycatcher (*Muscicapa atricapilla*).—On 29th April, 1890, my brother, Mr. E. Macpherson, and two sisters saw a pied flycatcher in Kensington Gardens; it was observed both in the morning and evening. It was a male bird and very tame. This is the only recorded occurrence in London to my knowledge.

A. Holte Macpherson.

(To be continued.)

BOOKS FOR NATURE LOVERS.

The Making of Flowers, by the Rev. Prof. George Henslow, M.A., F.L.S., F.G.S., &c., author of *Botany for Beginners*, *Floral Dissections*, *The Origin of Floral Structures through Insect and other Agencies*, *&c.*, *&c.* (Romance of Science Series). Society for Promoting Christian Knowledge, London, 1891. [Price 2s. 6d].

So much interest has been shown in the series of articles which Prof. Henslow has lately contributed to NATURE NOTES, that we doubt not that many of their readers will be eager to procure the book in which he has given a full, popular exposition of a most interesting theory, an account of which has hitherto been accessible only in the scientific terminology suitable for the transactions of the Linnean and other learned societies and a volume published in the "International Scientific Series." *The Making of Flowers* is in no way abstruse or repellent. It is couched in the simplest language and contains an explanation of almost all the terms which would be new to a non-botanical reader, though it would, perhaps, be well for the tyro to read it in conjunction with Prof. Oliver's *Lessons in Elementary Botany*, or the author's *Botany for Beginners*. How thoroughly it is written in the spirit of a nature lover, and how entirely it is free from that spirit of offensive dogmatism which marks some so-called scientific works, may be seen from the following opening sentences:—"Few people are without interest in knowing how things are made. Indeed, to be conducted over a manufactory, and to examine the various processes in the construction of any of our common or useful articles, is to take a most fascinating excursion. Similarly, to find out how Nature manufactures her flowers is the pursuit of a branch of knowledge more profoundly interesting still. Unfortunately in most cases the process requires such an extended period, that we cannot easily see how it is done. We may strongly suspect such and such to be her methods, and we may give plenty of reasons for our suspicions; but we cannot quite demonstrate by actual experiment that our ideas are right in every instance."

The writer proceeds to say that he hopes to produce, at any rate, a "moral conviction" of the truth of the views he advocates and to establish them by "circumstantial evidence." "And in so doing," says Professor Henslow, with much truth, "I think my readers will discover whether they be finally convinced or not how wonderfully interesting a subject it is. I hope, too, that it will at least stimulate them to observe for themselves, and will lead them to take a greater interest in Nature's works than perhaps they have hitherto done."

Some of the principal features of Professor Henslow's theory have been already explained in this magazine, and the present writer has discussed at length the views advocated in *The Making of Flowers* in a review of Floral Structures in the *Journal of Botany* (vol. xxvi., No. 310,) so that there is no need to say more now than that the author bears out in the fullest manner his statement as to the most interesting nature of his subject, so as to give his work a thorough claim to a place in the "Romance of Science" Series. Whether one agrees or disagrees with the conclusions of Professor Henslow one must admit that there are no unsupported statements or merely fanciful conjectures in his book; each step of his reasoning is supported by a number of instances drawn from a prolonged study of the habits and "behaviour" of plants, such as only a most patient student and accurate observer of Nature could collect.

In congratulating the publishers of this volume on the good work they are doing in issuing a series of excellent books on Popular Science by the most approved authorities, we must commend the discretion they exhibit in declining to be identified with the views set forth by the various writers:—"The General Literature Committee of the S.P.C.K. wish it to be understood that in publishing this book they do not mean to commit themselves to the particular theory by which the author connects and explains the phenomena of the flower-world." If we remember rightly, a very similar statement was made in NATURE NOTES with regard to the first of the valuable articles by Professor Henslow, published in its columns. But all true lovers of Nature and lovers of Religion will rejoice at the wise and liberal spirit which now governs the publications of the venerable Society, especially since it has been happy in the choice of a not undistinguished

scientific writer as one of its secretaries. Some narrow-minded persons may deplore that the work of this great Society is not confined to tracts and catechisms; but its wisest and best supporters will feel convinced that in leading men to reverently study and admire the wonderful works of God in Nature, the Society is in a very real sense "promoting Christian knowledge."

The River-side Naturalist, by Edward Hamilton, M.D., F.L.S. Sampson, Low, Marston & Co. [Price 14s.]

We have for some time wished to recommend Dr. Hamilton's admirable *vade mecum* for the lover of Nature, but have not been able to find opportunity to do so. Meanwhile many of our readers have secured the book, and several allusions to its value have been made by our correspondents. Now that summer has at last deigned to visit us after months of weary waiting:—

"Waiting for the pleasant rambles,
Where the fragrant hawthorn brambles,
With the woodbine alternating,
Scent the dewy way":—

we most heartily advise our readers to take with them in their pleasant rambles *The River-side Naturalist*. Is there anything pleasanter than to saunter over the dewy meadows on a summer morning, with a congenial companion if possible, down to a shady secluded brookside, and there to while the hours away, watching that charming and most unjustly persecuted creature the water vole as it busies itself in providing for its young, waiting to catch a glimpse of the rapid flight of the kingfisher as it passes up or down the stream "swift as a meteor's shooting flame," noting the strange habits of the innumerable creeping things that haunt the banks of the stream, and if for a moment animal life presents nothing for observation, admiring the flowers and foliage of the water plants? Who that has spent a day thus does not remember it as one of the choicest memories of his life? How can days of dry study among the skeleton and stuffed specimens of a museum compare with even one hour like this? To those who have known what it is to study nature in this real fashion we cordially recommend Dr. Hamilton's book in order to refresh their pleasant recollections, and to find, we feel sure, some notice of things they have missed in their previous rambles, and may hope to encounter now. "Summer longings" are being gratified and the cooling streams are grateful to the sufferers from the well-nigh forgotten heat of the sun. To those who know not the pleasures of the river-side ramble, we still more strongly recommend the study of *The River-side Naturalist* as a preparatory pleasure to the actual excursion itself. If they will do so, we shall be prepared to suffer heavy penalties if they do not give us grateful thanks for having suggested a new sweetness in life and shown how it is possible to mingle genuine pleasure with the pursuit of knowledge.

"Where the lily's tender gleam
Quivers on the glancing stream,
Come away!
All the air is filled with sound,
Soft and sultry, and profound;
Murmurs through the shadowy grass
Lightly stray.
Faint winds whisper as they pass—
Come away!"

The book may be described as an "Encyclopædia of the Zoology and Botany of the Riverside." As one would expect from so noted a fisherman as Dr. Hamilton, the ichthyological portion is the most complete; but in all apartments of zoology the author either gives valuable information of his own or draws upon the best authorities—Seebohm, Yarrell, Günther, Dresser, Day, &c. The botanical portion is much slighter, and does not show so much evidence of thorough study. The frequent introduction of illustrations from Folk Lore and poetical extracts takes away all suspicion of that dryness which sometimes pervades merely zoological works.

Nothing is perfect under the sun—with the very doubtful exception of a certain much advertised patent soap—and Dr. Hamilton's book only shares the

common lot of all things in its freedom from perfection. The portion of the work devoted to the derivation of the scientific names of plants and animals is very weak, indeed some of the etymologies suggested are perfectly grotesque in their complete inaccuracy. We can quite understand that many naturalists might say, we care not a jot for such trifles; the beauty of the bird is not diminished by a solitary feather, or of the fish by a single gleaming scale, because the Latin or Greek derivation which is assigned to his technical name happens to be entirely wrong. Quite so, only if this be the case, why waste any space in giving etymologies at all? We hope for the sake of Dr. Hamilton's otherwise admirable volume, that in the fresh edition which is sure to be demanded, the etymologies will be either excised altogether, or so remodelled as to secure a reasonable approximation to correctness.

But we would not part with so pleasant a book with the slightest suggestion of censure; but rather call attention to the spirit of love for all creatures which pervades it. We do not know whether Dr. Hamilton is an enrolled member of the Selborne Society, but he certainly is bound by the strongest ties of spiritual affinity to us, if he is not an actual member of our brotherhood. We are especially grateful to this distinguished fisherman for his good words for our little favourite, the water-vole, for his defence of the otter, and for his appeal to his brother fishers to spare the kingfisher.

"We plead for the kingfisher. Let us hope more merciful and more sensible councils will prevail, and that we may all again be delighted to watch the bright hues and rapid flight of this 'gem of the waters.'"

Object Lessons from Nature, a first book of Science, by L. C. Miall, Professor of Biology in the Yorkshire College, Leeds. Cassell and Co., London, 1890. [Price 2s. 6d.]

We have heard regrets expressed by many Selbornians that, although a mysterious something called Natural Science is now taught in both boys' and girls' schools, the children carry away with them nothing but long lists of crack-jaw names, which make their little heads ache, and a confirmed distaste to those "horrid, nasty, dry things," botany, zoology and geology, which may effectually prevent their having any love for the study of Nature when they are free to choose their own pursuits. The very opposite method to such a caricature of Nature teaching is that adopted by Professor Miall in his very excellent little book, *Object Lessons from Nature*. The following quotation from his preface shows that he has completely grasped "the root of the matter." "If he were to call these lessons a course in zoology, botany, chemistry, and so forth, we should not only be using needlessly important words, but we should disguise the main purpose of the book, which is to explain the simplest natural phenomena to children, who are incapable of continuous and methodical thought. To the child there ought to be no separate science at all, and the scientific methods explained to him should be treated, not as the thin end of such formidable wedges as chemistry and physiology, but as ways of throwing light upon certain natural facts, about which he has been led to feel some curiosity."

The professor never poses as a majestic pedagogue, awing his little pupils by his superior knowledge, but speaks to them as a friend who has picked up just the kind of knowledge they require to gratify their curiosity about the living and growing things they see around them. He tells them how he once counted the strokes of the heron's wing, how he watched from the deck of the fast sailing steamer the beautiful seagulls following close astern for hours together, and to all appearance travelling as smoothly and easily as if they were merely floating in the air. He teaches them the essentials of botany and zoology without even mentioning those names, and best of all he seems to imply all along that any boy or girl who will take the trouble to look and to think may see all that he has seen and know all that he knows. Professor Miall says that the lessons were written for children of about twelve years old, but we have known them to be read with pleasure and understood with ease by children of nine. We feel sure that there is very much to be learned in them by young men and women of nineteen, and we are sorrowfully certain that many of those who reach the age of ninety have never had any knowledge of a tithe of the facts that are taught in these lessons. A scientific man like Professor Miall is doing just as good work in the cause of

science by writing such a book as this, as in carrying on the more abstruse investigations with which one generally associates his name. We cannot more clearly express the value we attach to his work than by saying we consider it distinctly superior for English children as an introduction to Nature study to the well-known *First Year of Scientific Knowledge*, by M. Paul Bert.

SELBORNIANA.

The Selborne Society at Kew and Richmond.—The prophecies indulged in more than once in NATURE NOTES, *e.g.*, p. 39 and 75 of the present volume, that the Lower Thames Valley Branch of the Selborne Society would this year recover the power and prestige which it lost during its almost total eclipse in 1890, have been more than verified. Mr. Edward King has been again able to devote his energies to the work of the Branch, and is ably seconded by an indefatigable Hon. Sec., with the result that the columns of NATURE NOTES cannot contain a complete record of all the work that is being done.

Last month we chronicled the anti-pollution campaign. In the "Work of Branches," in the present number, an account may be found of the efforts of this Branch for the preservation of one of the best-known beauties of the River Thames—the Ait at Kew Bridge—against the inevitable destruction which threatens it unless the authorities responsible for its safety bestir themselves. As usual, Mr. King is the foremost champion of Selbornian principles by means of his newspapers, and to them we must refer those of our readers who are interested in these various questions which so nearly affect the continued enjoyment by the people in all its beauty of our precious possession, *the* river (as most Englishmen call it) and its banks. As an instance of the able way in which the contest is carried on, we may mention that in a recent number of the *Richmond Times*, which has reached us, both the leading articles are devoted to distinctly Selbornian subjects. The first, entitled "More Work for Lovers of Nature," begins as follows:—"It really seems as if there is to be no end to the struggles which have to be undertaken for the preservation of the natural charms, and the public right to their enjoyment, in the neighbourhood of Richmond. No sooner is one battle fought and won—or sometimes, alas! lost—than another enemy is found invading our right to enjoy that which Nature has given so bountifully, and almost ere the sword can be sheathed it has to be wielded again."

Unfortunately, these words are just as true of scores of other places near London as they are of Richmond, and the only difference is that there are not to be found in other suburban neighbourhoods such courageous and outspoken defenders of the beauties of Nature as the leading member of the Lower Thames Valley section of the Selborne Society. The article from which we have quoted is directed against the recent encroachments by the Trustees of the Dysart estate on public rights, with regard to the footpaths in the neighbourhood of Ham House. The other leading article in the same issue bears the title "A Vanishing Island," and is a vigorous protest against the inaction of the Commissioners of Woods and Forests in the matter of Kew Ait. The forgetfulness on the part of these gentlemen of their obligations as trustees of national property is really astonishing. Any one who is anxious to acquire perfection in the art of "How not to do it" could not find a more precious pattern than the "answer" of Mr. Jackson to the recent enquiry in the House of Commons.

In another part of the same paper from which we have quoted there is to be found a letter from Mr. F. G. Heath on a matter which is of interest to many of our readers—the earlier opening of Kew Gardens. Mr. Heath says he feels sure that "the present able director will not refuse his assent to what is so earnestly desired." If Mr. Heath is correctly informed, we shall recognise in this boon to the outside public another instance of that constant desire to do everything that is possible in a popular direction, which has been manifested under the present Director and Curator of the Gardens. But we earnestly deprecate any attempt to force the hands of the Director in this matter. The Royal Gardens at Kew stand at present in a higher position than they have ever occupied. In scientific rank, in international and commercial importance, in their value as a place of

instruction and information for botanical students, they are doing a greater work than ever they have done; many irksome restrictions have been removed, and every licence is allowed to the public which is consistent with the great object for which the Gardens are maintained. But it must be remembered that they are in the first place *Botanical* Gardens, and only incidentally a lounging place and recreation ground. The inhabitants of Kew and Richmond must bear in mind that they have in strict justice no greater right to visit this great scientific institution for the study of botany than the dwellers at Berwick or Penzance. We are sure that the officials at Kew will do all in their power to open the gates at the earliest hour that is compatible with the proper management of the Gardens and the needs of the many botanical students who are allowed access when mere pleasure-seekers are excluded. We feel convinced that all botanical Selbornians will agree with us in the desire not to put undue pressure upon the authorities at Kew in this matter. The Director, Curators, and several other gentlemen on the Kew staff, are, we believe, members of the Selborne Society, and in every number of NATURE NOTES, from the earliest to the present, we are under much obligation to the great knowledge and invariable courtesy of the official staff. In many instances, such as the present movement for the preservation of the beautiful trees which form a graceful screen between the Gardens and the hideous Gas-works "on the other side the river," we hardly doubt that they are in full sympathy with our efforts; but we must remember the exigencies of their position as Government Officials, and refuse to join in any railing against those from whom nature lovers have received so many benefits, and, doubtless, will receive the boon of earlier opening, as soon as Mr. Dyer and his colleagues are satisfied that additional concessions will not be injurious to the magnificent gardens entrusted to their care.

One more note as to Selbornian work at Richmond. We have just received the following invitation, of which some hundreds have been distributed :—"Miss Wallis, 'At Home' to members of the Lower Thames Valley Branch of the Selborne Society, Monday, June, 22, 1891, from 8 to 11 p.m.; The High School, Richmond." The Secretaries of all our Branches may not have facilities for such comprehensive hospitality as that displayed by the Secretary of the Lower Thames Valley Branch; but we cannot too strongly urge that, in accordance with the circumstances of various places, this example should be followed, and that opportunities should be afforded for social intercourse between the members of our Association and the interchange of experiences and suggestions between Selbornians who have hitherto known each other only by name. We are convinced that there is hardly any better method by which we may extend our influence and increase our numbers.

The Soaring of Swifts.—When reading that portion of Mr. Aubrey Edwards' most interesting letter on "The Orleton Swifts" (p. 91), which relates to the habit these birds have of soaring to a great height after sunset (a habit which I have often remarked, especially just before the birds leave us in August), the following questions occurred to me: Do the insects upon which the swifts feed go up with the warm air when the air near the surface of the earth cools at sunset? and, are the swifts following them? As far as my limited experience goes the swifts generally feed on very small insects. That the favourite insects of the swifts are a little peculiar seems probable from the fact of the birds leaving us so early in the season. I have known them go by the 10th or 11th August. The old cuckoos go when fat caterpillars get scarce, while those warblers which can eat fruit stay late. Anyone ascending a hill (even a hundred feet) soon after sunset on a summer's evening, will easily notice that the air remains warm longer round the hill than on the level ground. This is only a suggestion, written very hurriedly, in the hope that it will be in time for the next number.

Bloxham, Oxon. O. V. APLIN.

Mr. R. W. Woollcombe, writing from Acre Place, Stoke, Devonport, suggests that: "This soaring may be owing to the swifts seeking an atmosphere less vaporous than that near the ground. I was rather struck by reading an account in *The Standard* of May 20th, of observations in a balloon on the afternoon of Whit Monday by Mr. C. V. Shadbolt, of Bromley, Kent. He says that after passing through a very damp atmosphere and a belt of thick white

clouds, he found a perfect Mediterranean climate at 6,000 feet, a region of clear blue sky and brilliant sunshine, which it occurs to me may be also appreciated by the swifts when they have finished their evening meal below."

Selborne Leaflets.—Mr. Arthur B. Harrison, of whose leaflets we spoke in last months' NATURE NOTES writes to say that his only address now is 17, Lea Terrace, Chelmsford. He is bringing out some further publications of the same nature, of which we shall give particulars as soon as they appear. The bills distributed by Mr. R. Marshman Wattson, mentioned in the same article, have the following notice printed on the reverse side:—"Should any friend of the Selborne Society be willing to assist in procuring the exhibition of this notice in the neighbourhood of Epping Forest, or its approaches, the Hon. Secretary of the Clapton Branch will be pleased to forward copies, neatly mounted, suitable for hanging on wall of public rooms, schools, shops, &c."

This idea might be taken note of for imitation by other hon. secretaries. We learn from Epping newspapers that the distribution of these handbills by Mr. Wattson has already produced good effects, both in making known the work of the Selborne Society and in causing more respect to be paid to birds and flowers in the Forest.

We have received a very interesting series of "Bird Letters" intended for children, from Miss Annie M. L. Jarvis, Elm Cottage, Kirkliston, near Edinburgh. We hope to give a more detailed notice of these another time, and meanwhile may inform our readers that there are fifty letters describing the habits of fifty birds and written in language adapted to the understanding of little children. These leaflets are sold at a very cheap rate, 1/3 per 100.

NATURAL HISTORY NOTES AND QUERIES.

A Poisonous Sumach (the Rev. Malcolm C. Baynes, Crondall Rectory).—You are quite right in imputing the illness in the case you mention to the incautious handling of *Rhus Toxicodendron*; and the official at a certain Botanical Gardens, whom you mention as doubting such a possibility, must have spoken from very narrow experience. Mr. Nicholson, Curator of the Royal Gardens, Kew, tells us that he has known of cases in which the plant has caused a kind of erysipelas in those who handled it, but he fancies that in those instances the juice must have exuded through pruning, &c. The specific name of the plant is plainly derived from its poisonous properties. See Nicholson's *Dictionary of Gardening*, *sub. voc.*, *Rhus Toxicodendron*, vol. iii., p. 300.

The Glastonbury Thorn (the Rev. E. A. Downman, The Elms, Castle Hill).—The belief you mention is borne out by the following extract from Loudon, *Arb. et Frut. Brit.*, vol. ii., p. 833:—"A correspondent (Mr. Callow) sent us, on December 1st, 1833, a specimen gathered on that day from the tree at Glastonbury in full blossom, having on it also ripe fruit; observing that the tree blossoms again in the month of May following, and that it is from these latter that the fruit is produced. Mr. Baxter, Curator of the Botanical Gardens at Oxford, also sent us specimens of the Glastonbury thorn, gathered in that garden on Christmas Day, 1834, with fully expanded flowers and ripe fruit on same branch."

We learn by enquiry at Kew that plants of *Crataegus Oxyacantha*, var. *præcox*, do not behave differently from hedgerow thorns. Karl Koch says he never found *C. O. præcox* flowering at other period than that at which the common thorn flowers.

Lichens Named.—C.F.R., Blackheath, has made the mistake of sending his specimens to the Secretary of the Selborne Society instead of to the Editor of NATURE NOTES. This course, which some of our correspondents adopt, in spite of the distinct directions printed in every number of the Magazine, causes much trouble and delay. Although these lichens arrived very late, they have been kindly named by Mr. Antony Gepp of the British Museum as follows:—(1) *Ramalina calycaris* Ach.; (2) *Physcia ciliaris*, L.; (3) *Ramalina fraxinea* (L.); (4) *Physcia pulverulenta*, Schreb.; (5) *Usnea barbata* (L.); (6) *Ramalina fraxinea* var.; (7) *Lecanora*, *Lecidea*, &c.; (8) A variolarioid state of *Pertusaria*;

(9) *Parmelia coperata* (L.); (10) *Physcia parietina* (L.); (11) *Peltigera canina* (L.); (12) *Physcia pulverulenta*, var.; (13) *Ramalina calycaris*, Ach.; (14) *Ramalina farinacea* (L.); (15) *Ramalina pollinaria*, Ach.; (16) *Cladonia fimbriata*, Hoffm.

Flowering Plants Named.—The plants which "Rusticus" sends from Ferns, County Wexford, are as follows:—(1) *Pedicularis sylvatica*, Linn. (lousewort); (2) *Ajuga reptans*, Linn. (creeping bugle); (3) *Potentilla comarum*, Nestl. (marsh cinquefoil); (4) *Ranunculus acris*, Linn. (meadow [buttercup); (5) *Cerastium triviale*, Link. (narrow-leaved mouse-ear chickweed); (6) *Vicia sepium*, Linn. (hedge vetch); (7) *Lathyrus macrorrhizus*, Wimm (bitter vetch); (8) *Ranunculus Lingua* (great spear-wort); (9) *Carex* sp. (sedge) too young for identification]; (10) *Luzula campestris*, Willd. (field woodrush); (11) *Dactylis glomerata*, Linn. (cock's foot grass); (12) *Poa trivialis*, Linn. (meadow grass); (13) *Anthoxanthum adoratum*, Linn. (sweet scented vernal grass); (14) *Holcus lanatus*, Linn. (meadow soft grass). "Rusticus" will remember that the "popular" names which he desires are not forthcoming in the case of most plants in the *British Flora;* and in several instances the English names given above are not real titles used by country people, but more or less clumsy translations of the scientific names.

Answers to Ornithological Queries (supplied by Mr. A. Holte Macpherson). Mr. F. A. Fulcher, Harrow.—By the time of publication all the common summer visitors will no doubt have arrived. For those which have done so, see the lists published in the *Field* of April 18th and subsequent weeks.

Clericus.—We cannot agree with your theory of the flight of birds. The subject is very intricate. Much valuable information will be found in Marey's *Animal Mechanism* (Kegan Paul), Pettigrew's *Animal Locomotion*, and the chapter on "Contrivance and Necessity" in the Duke of Argyll's *Reign of Law*.

D.H.—There is nothing rare in seeing a Pied Wagtail in January. Birds frequently fly to stacks for shelter in winter, the more the merrier (because the warmer), but it is hardly likely that they congregate through "sympathy" in the ordinary sense, as you suggest.

Mr. J. M. Wilson.—We very much doubt whether the Kingfishers you propose to get would stay with you; and do not advise you to try the experiment. They occur in suitable localities in Ireland, but are not numerous.

Mr. Henry Forster.—There is nothing extraordinary in a hen living ten years. Your bird was certainly a good layer in its old age. The custom most generally recommended is to kill hens at the age of two and a-half years, for after that age they become tough for eating and the number of their eggs diminishes.

OFFICIAL NOTICES; WORK OF BRANCHES, &c.

The object of the Selborne Society is to unite lovers of Nature for the following purposes:—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

The monthly meeting of the Council of the Selborne Society was held on Monday, June 1st, Mr. G. A. Musgrave, F.Z.S., trustee of the Society in the chair. A large number of members of Council were present, including Mr. W. F. Kirby, F.L.S., Mr. W. D. Wickes, F.L.S., Mr. Archibald Clarke and Mr. T. Gray, the new members elected at the annual meeting last month. A new branch of the Society at Sutton was formally instituted, and some other business was transacted.

Clapton (Lower Lea Valley) Branch.—An excursion has been arranged

for Saturday, June 20th. Members will leave the tramway terminus, Whip's Cross, Walthamstow, at 3 p.m., and walk through the forest to Chingford.

JUNIOR SECTION.—This now numbers about eighty members, and an average of between fifty and sixty have attended these monthly lectures already given. In lieu of the July lecture an excursion is intended to Chingford.

LOWER THAMES VALLEY BRANCH.—The gradual destruction of the Ait above Kew Bridge was again brought forward at the meeting of the Committee on May 27th. It was agreed on the motion of Mr. Edward King, that since no notice had been taken by the Commissioners of Woods and Forests of representations made them by the branch, Mr. Labouchere who, as a resident in the neighbourhood, would probably take an especial interest in the matter, should be asked to draw the attention of the House to the state of the Island. As the result of Mr. King's application, Mr. Labouchere, on June 4th, asked the Secretary to the Treasury to urge on the Commissioners their obligation as trustees of the National property to keep this island in proper condition. A sub-committee has been appointed to arrange for a public meeting to be held at Kew to consider the subject. The sub-committee is warmly supported by several residents at Kew, and hopes shortly to hold a large and influential meeting, which will be attended by prominent and representative men from all parts of London.

The Lower Thames Valley Branch does not seem likely to rust for want of work. Two more important matters await their attention at the next committee meeting: the disfigurement of Sheen Common by the constant cutting away of its turf to supply private gardens, and the recent closing to the public of footpaths in the neighbourhood of Ham House—footpaths which have been open for several years.

A MEETING of the Edinburgh members of the Forth Branch was held on May 12th, at the house of the Hon. Sec., Miss Waterston, 45, Inverleith Row. Interesting papers were read by Miss M. M. Black on "The rose and its legends," and by Mr. C. F. Argyll Saxby on "Geology as it was and is." Reference was made to the recent presentation of the Zoological Societies' silver medal to Mrs. Edmonston, of Buness, Shetland: the fact being especially interesting to the meeting, as Mrs. Jessie Saxby and Mr. C. F. Argyll Saxby, who were present, belong to a branch of the same family. The chair was taken by the Rev. P. M. Herford.

NOTICE TO CORRESPONDENTS.

To prevent mistake or disappointment, we request attention to the following rules:—

As NATURE NOTES is published on the 15th of each month, and the amount of MS. material received is always far greater than the available space, contributions should be forwarded *before* the 1st of the month in which it is desired that they should appear.

Correspondence intended for insertion in the magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with botany or zoology will be answered if possible, and advice will be given as to the best books for students in any department of natural science; but all questions must be accompanied by the names and addresses of the writers, not for publication, unless it is so desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

No. 19. JULY 15, 1891. Vol. II.

THE KEW MUSEUMS.

AMONGST the two million persons more or less who annually enter the gates of the Royal Gardens at Kew, a large proportion, it must be owned, are visitors bent on pleasure or recreation, who find what they seek in the beautiful and well-kept grounds. But there are others—and a very large percentage, too, of the total—who know how and are fully able to appreciate the uses of this great national establishment as a centre of scientific and practical botanical work, and as the readers of Nature Notes are amongst this more intelligent section, a few words on the importance of the Museums of Economic Botany and some hints how to use them will, we have no doubt, be useful.

Unfortunately, it has been the custom in days gone by to associate museums with all that is dry and uninteresting, and alas! this stigma has had some justification. As there is a right and a wrong way of doing everything, so there is a right and a wrong way of arranging and managing, or, too often, mismanaging a museum, and the wrong way seems to have been most generally adopted, especially, perhaps, in provincial towns, where they are even now frequently made receptacles for objects of a very varied character, popularly known under the generic name of curiosities, which teach nothing and are only harbours for dust.

Museums, to be of any practical value, should have special objects in view, namely, to illustrate to the fullest what we may learn from books, and so to leave as lasting an impression on the mind as an object lesson or a well-illustrated lecture; and, further, museums should show us, not only how much, but also how little, we yet know of the world and its products.

The value of special museums confined to illustrations of any one branch of science appears to have been grasped by Sir William Hooker when founding the Kew Museums of Economic

Botany in 1847, and the history of these museums is instructive in showing what great results can be produced from small beginnings, Sir W. Hooker's private collection presented by himself being the first objects placed in one of the rooms of what is now known as Museum No. 2. To this was added a few fruits and seeds already belonging to the gardens, and a few objects given by Mr. John Smith, the first curator. So rapidly did contributions in kind flow in that in about seven years the whole building was crammed with specimens, so that it was found necessary to erect a new building, which was opened to the public in 1851, and now forms what is known as the principal Museum, or Museum No. 1. In this building the cases are arranged on the best system for obtaining direct light without reflection, namely, by projecting from between the windows, forming bays glazed on either side.

The Museums of Economic Botany at Kew consist of three distinct buildings, situated in different parts of the Gardens, namely, the one just referred to, or Museum No. 1, which was built specially for the purpose to which it is put, and which contains the products of the dicotyledonous plants; the second, or No. 2 Museum, an old building, which has been admirably converted to its present use, and contains the monocotyledons and cryptogams; and the third, or No. 3 Museum, a building originally erected for, and formerly called the Orangery, which is principally devoted to large timber specimens.

The aim of these Museums was well set forth in Sir William Hooker's early editions of the Museum Guide, in which he foretold "that such a collection would render great service not only to the scientific botanist, but to the merchant, the manufacturer, the physician, the chemist, the druggist, the dyer, the carpenter, and cabinet maker, and artisans of every description, who might here find the raw material (and, to a certain extent, also the manufactured or prepared article), employed in these several professions, correctly named and accompanied by some account of its origin, history, native country, &c." All this has been quite fulfilled, and by a study of the contents of these museums a knowledge of the properties of the several natural orders may readily be obtained; and that this knowledge is of very great value, especially to travellers and residents in foreign countries, is abundantly proved by the fact that with such a knowledge a man may estimate, with some degree of accuracy, the properties of any new plant he may happen to discover in the course of travel, or meet with in the way of commerce.

It is on account of this special or technical knowledge possessed by the Kew staff, gained by long and extended experience, that the Museums and Herbarium have become of such immense service to the trade and commerce, both of this country and of our colonies generally. Kew has, in fact, more especially within the last ten or twelve years, become the constant referee in all things connected with vegetable products.

It would probably seem to an outsider that with the rapid steam communication we now possess with different parts of the world, the products of the earth must by this time be pretty well known. To a certain extent this is true, but new products or new appplications for old ones are constantly being discovered, and it not unfrequently happens that a new oil seed, fibre, bark or what not arrives at an English port, and being unknown to the brokers, does not find a buyer. In such cases samples are mostly sent to the Kew Museums for identification.

Liverpool is the chief port to which these interesting novelties find their way, mostly from the west coast of Africa and Brazil, and products unknown in English commerce are nearly always sent in small quantities to the Kew Museums for their scientific names, and any information as to their properties, value, and the probability of the supply meeting the demand, should such arise. Thus for instance there is always a market—fluctuating, it may be—for oil seeds, and these come into Liverpool in large quantities. Seed crushers, however, will not venture on the expression of oil in any quantity without first knowing something of the properties of the seed which yields the oil, for upon this depends the use to which the oil may be put, and its consequent value.

From a knowledge of the botanical affinity of the seed the nature of the oil itself, whether bland or sweet, acrid or poisonous, can be ascertained, besides which the marc or cake, after the expression of the oil, if of a sweet or harmless character, can be used for feeding cattle, while that from an acrid or poisonous seed would result in dangerous or even fatal consequences. For instance, in the natural order Compositæ, the seeds of which are mostly of an oleaginous character, the oil yielded is principally of a sweet nature, as that of the Safflower *(Carthamus tinctorius)*, while those of the Euphorbiaceæ are of a purgative character like the castor oil (*Ricinus communis*). It is with such points as these connected with plants in all their varied uses that Kew is now called upon to give information, and it is in the Museums of Economic Botany that specimens of almost every known product of vegetable origin are to be found, so arranged that they can be referred to and compared immediately they are wanted.

Royal Gardens, Kew. J. R. Jackson.

(*To be continued.*)

SOME LONDON BIRDS.

(*Continued from page* 112.)

(29.)  WALLOW (*Hirundo rustica*).—A summer visitor. Usually appears about the third week in April.

(30.) Martin (*Chelidon urbica*).—Summer visitor. It used to nest regularly on several houses in the neighbourhood

of Kensington Gardens, but these nesting places have been deserted during the last few years.

(31.) Sand Martin (*Cotile riparia*).—Uncommon spring visitor, and simply passes through town after hawking flies for a few hours.

(32.) Tree Creeper (*Certhia familiaris*).—A rare visitor.

(33.) Greenfinch (*Ligurinus chloris*).—Uncommon in Hyde Park and Kensington Gardens, but to be seen not unfrequently in the Botanic Gardens, Regent's Park.

(34.) Hawfinch (*Coccothraustes vulgaris*).—One was seen in Kensington Gardens on April 25th, 1890.

(35.) Sparrow (*Passer domesticus*).—The commonest resident bird. I saw a melanistic variety, with throat and breast black, on the Victoria Embankment on the 10th October, 1890. Pied varieties are common.

(36.) Chaffinch (*Fringilla cœlebs*).—Resident in very small numbers, and less common in winter than in summer—at any rate in the centre of London.

(37.) Linnet (*Linota cannabina*).—A single bird seen in Kensington Gardens in 1886 was very tame, and may possibly have been only an escaped bird.

(38.) Bullfinch (*Pyrrhula Europœa*).—A single specimen seen in 1884, near the Serpentine.

(39.) Yellowhammer (*Emberiza citrinella*).—The only bird of this species I have ever seen in London was a hen bird in New Square, Lincoln's Inn, on 1st April, 1889.

(40.) Starling (*Sturnus vulgaris.*)—After the sparrow, the starling is the commonest London bird, many pairs nesting in our parks and squares every year. Cold weather drives in considerable flocks.

(41.) Jay (*Garrulus glandarius.*)—On 2nd December, 1889, I saw a jay in Lincoln's Inn Fields; this bird frequented the place for some weeks, and is the only specimen I have observed in London.

(42.) Jackdaw (*Corvus monedula*).—Fairly common at all seasons. Do not know of any nests in Hyde Park or Kensington Gardens.

(43.) Crow (*Corvus corone*).—A pair have nested in Kensington Gardens during the last few summers. I believe four young birds were reared last year, but I do not think they are breeding this year. There are some in Holland Park.

(44.) Rook (*Corvus frugilegus*).—Common. Used to nest in Kensington Gardens, but owing to the trees being cut down does so no more. There is a small rookery at Gray's Inn. A solitary pair built a nest this spring in a tree in Albion Street, in the Bayswater Road; the nest is still to be seen, but the birds deserted it shortly after incubation commenced.

(45.) Raven (*Corvus corax*).—One seen in October, 1889, near Kensington Palace, probably an escaped bird.

(46.) Skylark (*Alauda arvensis*).—A common visitor in cold weather, and occasionally one or two may be seen at other seasons. Flocks consisting of two or three hundred came into town in January last.

(47.) Swift (*Cypselus apus*).—A regular summer visitor, but do not know of any breeding in London.

(48.) Kingfisher (*Alcedo ispida*).—A rare visitor. Seen occasionally by the Serpentine, and generally during the winter months.

(49.) Cuckoo (*Cuculus canorus*).—Occasionally seen in spring and summer, but perhaps more frequently in autumn. On October 11th last, a foggy morning, I saw a Cuckoo (no doubt a young bird) being chased by three rooks in Kensington Gardens. This is the latest date on which I have seen this species in England.

A. Holte Macpherson.

(*To be continued.*)

THE EFFECTS OF ENVIRONMENT ON PLANTS.

I. Altitude.

HAVING discussed dwarfing as a peculiarity of alpine plants,* it will be useful to consider the variations in the colour of the flowers which are frequently associated with it.

Blue Alpine Flowers.—Certain very blue flowers are conspicuous on high mountains, such as the gentians, polemoniums, mertensias, and so forth. In Custer County, Colorado, on the slopes of the Sangre de Cristo range, I found *Omphalodes nana*, var. *aretioides*, *Mertensia sibirica* and *M. lanceolata*, and *Echinospermum floribundum* among the Borraginaceæ; *Campanula rotundifolia*, *C. uniflora*, and *C. planiflora* among the Campanulaceæ; *Swertia perennis*, *Gentiana serrata*, *G. barbellata*, *G. heterosepala*, *G. humilis*, *G. bigelovii* and others among the Gentianaceæ; *Polemonium confertum* and other species of that beautiful genus of Polemoniaceæ; *Pentstemon cæspitosus*, *P. acuminatus* and some other Scrophulariaceæ; as well as various species of less importance, all having blue flowers, and forming quite a prominent feature in the landscape in many places.

Blues and pinks tend to replace reds and yellows in alpine regions.—In Wet Mountain Valley, Colorado, there occurs a peculiar genus of Scrophulariaceous plants called *Castilleia*. From the way in which the bracts are often tipped with brilliant colours, the local name of "paint-brush" has been given to them. In

* See Nature Notes, vol. ii., p. 15.

the valley, one finds *C. pallida*, var. *acuminata*, with pale yellowish bracts, and *C. integra*, with scarlet bracts; but high up in the mountains, above timber line, the scarlet-bracted species is no longer met with, while the other is represented by *C. haydeni*, a dwarfed subspecies with crimson-purple bracts. And not only this, but *C. linariæfolia*, another species growing on the mountain slopes, presents a scarlet-bracted form at a lower, and a crimson-bracted form at a higher altitude.

Mr. F. W. Anderson, to whom I addressed a query on this subject, has noticed the same tendency in Montana. He writes (*in litt.*, December 4th, 1889):—"Yes, blues and pinks do seem to replace yellows and reds in alpine regions, and not necessarily high alpine either; but our difference in latitude may make up for the lack of extremely high altitude. Examples you ask for! phloxes, lupines, asters, erigerons, gentians, astragali, pentstemons, delphiniums. Reds become very scarce and merge into one of the two colours according to their base, but always with a tendency towards greenish; that is, they are apt to represent a dirty purple wholly or in spots, lines, or blotches, apparently arising from a blue base, as *Fritillaria atropurpurea*, or with a yellow base when they become greenish with more or less distinct but 'muddy' tinges: *Lithospermum canescens*, *Streptopus amplexifolius*, *Veratrum Californicum*."

The place of blue and pink in the series of colours.—According to Grant Allen, the colours of flowers arrange themselves in a natural series, from the most primitive upwards. Thus we get yellow, white, red, purple, and blue. If we exclude white, which is due to air in the cells and not to pigment, this is a perfectly natural arrangement, supported by an abundance of facts. Some pink flowers go purplish in drying for the herbarium, while species of Borraginaceæ have the flowers pink in the bud, and afterwards blue.

Flowers of each colour occasionally revert to the one below them in the series.—Atavism, or reversion to the characters of an ancestor, often throws much light upon the genealogical history of a group. In the present case it is most instructive, for we find that nearly all blue flowers present an occasional pink variety, while red ones at times revert to yellow. In Colorado, species of *Delphinium*, *Anemone*, *Clematis*, *Aster*, and *Pentstemon*, which normally have blue or purple flowers, have also pink varieties.*

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* *Delphinium occidentale* f. nov. *subroseum*. Sepals dull bluish pink, plant not so tall. Micawber Mine, Custer Co., Colo.

Anemone patens, var. *nuttalliana* f. *rosea*. Ckll., West. Am. Sci., Sept., 1888, p. 5.

Clematis douglasii f. *rosea*. Ckll., West. Am. Sci., Sept., 1888, p. 5.

Aster pauciflorus f. *rosaceus*. Ckll., Naturalist, Sept., 1888, p. 284.

Pentstemon acuminatus f. nov. *roseus*. All the flowers pink, not changing to blue. Aldrich Ranch, Custer Co., Colorado, found by Mrs. Aldrich.

Dwarfing correlated with progressive change of colour.—We have seen that alpine plants are often dwarfed, and also frequently bear flowers of brilliant colours, tending to blue and pink—that is, to that part of our colour-series which is developmentally highest.

A good example of the correlation of such changes is afforded in Wet Mountain Valley by the loco weed, *Oxytropis lamberti*, which is so injurious to horses. In moist and fertile situations the plant grows rank and tall, producing whitish flowers; but when growing on the open prairie, or in other dry places, it becomes dwarfed and reduced in all its parts, with crimson flowers which go purple in drying.*

The reason of the colour-changes.—Thus it would appear, that dwarfing is useful or necessary at high altitudes, and whether originating in normal variation, or from the direct influence of environment, is preserved by natural selection. A progressive change in the colours of the flowers is correlated with extreme metabolism, and a reduction, or rather transference of growth-energy, whereby small plants with highly developed flowers are produced. Hence, as it would seem, the blueness of alpine flowers is not a result of direct selection by bees or otherwise, except to the extent of the necessity for *conspicuous* flowers, but a side-result of other causes and other needs, transforming the whole organism.†

The subject of alpine vegetation is a very wide one, and the present contribution must only be regarded as a short series of notes on numerous points, each one of which might well form the subject of a lengthy discussion.

T. D. A. Cockerell.

[We are glad to be able to congratulate all interested in the study of natural history on the appointment of our valued correspondent, Mr. Cockerell, to the Curatorship of the Jamaica Museum. There are few men better qualified by previous experience and a *passion* for natural history to utilise the splendid opportunities he will have there; and his recent marriage has given him a companion whose love for nature is only less keen than his own. They will have the good wishes of all Selbornians.—Ed., *N. N.*]

II. Aquatic Conditions.

Since reading Professor Henslow's able articles on Environment, I have taken several notes on the subject, in the cases of

* *Oxytropis lamberti* f. nov. *vivida.* Silky: flowering stems over seven inches high, flowers bright purplish-crimson, with indistinct purplish veins, central portion of standard white with well-marked purple veins. Leaves (including stalk) over four inches long; leaflets lanceolate (on smaller leaves tending to ovate) about 15 to a leaf, silky-hairy on both sides. Flowers about 15 on a stalk. West Cliff, Colorado, near the waterworks, a clump in flower, June 3rd, 1889. This is described from a well-developed example of the "red loco"; other forms are much more reduced.

† See *Nature*, Jan. 1st, 1891, p. 207.

Myosotis, Veronica, and Epilobium, which I should like to lay before the readers of NATURE NOTES.

Each of these families may for convenience be divided into two groups, the water species, and the land species. If then we were to find in these distinct and widely differing families any feature common to all the aquatic species, and wherein they all alike differed from the terrestrial species, it might be reasonably concluded that this common feature was the result of the watery environment; and conversely, any feature common to the terrestrial species solely would be the result of the dry ground. But this is not the case.

In all our floras we find the Myosotis family divided into two main divisions, the first including those species which have the hairs on the calyx appressed and which are all aquatic; the second the terrestrial species, in which the calyx hairs are spreading. In the first division, too, the hairs on the other parts besides the calyx are, as a rule, appressed, and are more scanty and, on the whole, softer than the rough hairs of the second division. In the case of the genus *Veronica* all the British terrestrial species are hairy, though *V. serpyllifolia* has but a slight down on the stem, whilst the three aquatic species, *scutellata*, *Anagallis*, and *Beccabunga* are all glabrous. So far, then, it would seem that the effect of the water is to lessen the number of the hairs and to soften them. But in the genus *Epilobium* we find the reverse of this; for whereas the *Epilobium montanum*, so common on walls and cottage roofs and in gardens, is, with the exception of the slightly pubescent stem, quite glabrous, yet the *Epilobium hirsutum*, though an inhabitant of watery places, is thickly hairy all over. Comment hereon is needless. If the environment had really anything to do with the modifications of plants, we should expect to find at least several varieties of such a common species as *Veronica Chamædrys*, but I know of no varieties of it. Even such a seemingly unimportant characteristic as the two lines of hairs is always present. It would seem, then, from these examples, that as the plants in question were created, so they have remained alike uninfluenced by their environment and unsubject to that spontaneous and fortuitous variation, to which Mr. Darwin attributed the origin of species. I should state perhaps, before concluding this article, that though I think that no other conclusion can be fairly come to from a careful study of the above-mentioned facts, yet there are facts which do seem to indicate clearly, that the environment is not altogether without some effect on plants. The facts are, I believe, on both sides pretty equally balanced.

HENRY ST. A. ALDER.

III. A REPLY.

[We have received some other communications on the subject of Professor Henslow's theory, which we have not space to insert in the present number. In order that each part

of the subject may be complete in itself, we have asked Professor Henslow to comment upon the foregoing papers, which he does as follows]:—

With reference to "the reason of the colour changes of Alpine flowers" which Mr. Cockerell suggests, if I understand him aright he implies that Alpine plants utilise their energies in making brilliantly coloured flowers *at the expense of their vegetative system*, so that they are consequently dwarfed. According, however, to the investigations of MM. Bonnier and Flahault, *colour* has nothing to do with *dwarfing*, for plants raised by seed from the same individuals and grown near Paris as well as in high latitudes and high altitudes, have more brilliantly coloured flowers, and leaves of a deeper green colour in the latter situations than those near Paris. The brilliant colour really results from the enhanced chlorophyllous tissues of the leaves, which alone makes the materials for the colours of the flowers. The former is a direct consequence of prolonged and less interrupted sunlight. The "extreme metabolism" is thus the immediate effect of more powerfully assimilative tissues; therefore, so far as the dwarfing is concerned, it is a disadvantage.

With reference to this last peculiarity, M. Bonnier has shown that when seeds of lowland plants are sown at high altitudes, the plants *at once* assume a dwarf or prostrate habit, internodes not being able to develop to a like extent as at lower altitudes; and as a similar dwarfness uniformly occurs in high arctic regions as well, the *cause* of dwarfing is presumably the relatively low temperature. A corroboration of this view is seen in the following experiment: if plants be grown under red, yellow, green, blue and violet coloured glasses it will be found that the internodes begin to elongate in the blue-green till they reach a maximum under red, correspondingly with the increase in amount of the obscure heat rays. I think, therefore, we may safely attribute dwarfing in the Alps generally to low temperature, but the brilliant colours of the flowers is undoubtedly due to the heightened assimilative powers of the "improved" foliage under sustained sunlight of high altitudes as well as latitudes.

Mr. H. St. A. Alder supplies some interesting notes which quite corroborate in the main my contention; but he will find from a more extended series of observations that there is no rule in nature without—often plenty of—exceptions. It is no new observation of mine that plants frequenting wet places are, *as a rule*, less hairy than others, notwithstanding *Epilobium*, *hirsutum*, *Lythrum Salicaria* and others. In all cases it is *the majority* which forms the basis of every generalisation in natural history, and by no means necessarily "all," as Mr. Alder seems to imply. When a generalisation can be experimentally verified it becomes established. Thus *Polygonum amphibium* has glandular hairs when growing on land, but none when grown in water.

I would venture to suggest caution in raising arguments

upon anything we "should expect to find." The most unexpected things often appear which may quite upset all *a priori* arguments. For example, from previous experience I might never have expected to find any varieties of *Draba verna;* but M. Jordan who did, says he has cultivated about two hundred! Mr. Alder alludes to the constancy of the line of hairs in *Veronica Chamædrys*. I might have expected no change in the similar line of hairs in chickweed, having been familiar with it for some forty years. But, in plants growing in Malta, I found specimens with a transition from the line of hairs to a general diffusion of hairiness all round the stem. So much for expectations!

Mr. Alder uses the word "created." If he intimates by that word that he does not believe in evolution of any sort, I fear we must "agree to differ" as to the origin of species; except that I, too, do not accept "fortuitous variations," but in variations of structure arising through the joint action of the environment on the responsive powers of the living protoplasm.

GEORGE HENSLOW.

THE IMPENDING DESTRUCTION OF KEW AIT.

DULL, unvaried, and almost fen-like in character, are the willow-bordered reaches of the Thames between Barnes and Kew Bridge, and a feeling of disappointment overtakes the pedestrian on the towing-path or the rower in mid-stream, making their way up the river for the first time, and looking in vain for the sylvan beauties which, they have heard, clothe its banks. At last the old grey stone bridge at Kew is neared, and through its arches are seen glimpses of bright green foliage. A moment more and the other side is gained, and there bursts upon the long-expectant eyes of the tourists a scene of magnificent woodland beauty. An ait, or river-islet, stretches up the stream for well-nigh half-a-mile, no mere meadow or osier swamp, but clad with noble elms, whose lace-work branches rear proudly aloft their leaves of soft green hue full seventy feet in mid air. Humbler, but no less beautiful, are the horse chestnuts, whose leaves grow darker as summer wears away, brightening the scene for, alas! too short a time, with their masses of cream-coloured blossom. Nor must be forgotten the rugged hawthorn, from whose gnarled and twisted branches have long since been wafted the snow-white petals, and the sombre grey-green bush must wait till autumn clothes it with scarlet berries, that will cling there long after the last yellow leaf from elm and chestnut have turned brown amidst the herbage, or floated away on the tide. Such are the glories so amply provided by Nature—a foretaste of even greater beauties that our travellers will see further up the winding stream;

THE THREATENED DESTRUCTION OF KEW AIT: THE ISLAND AND WHAT IT HIDES. (From the *Daily Graphic.*)

and leaving them to pursue their way, whether by land or water, let us pause awhile and muse yet longer than they on this river-islet.

Could it have been mere chance that destined these trees to grow and grow, and flourish so surpassingly on this narrow strip of green? Surely it was their destiny to form a veritable, and to the eye almost impermeable, wall of leafage, that should serve to hide from view the gloomy range of gas-works, factories and coal-wharves that have sprung up on the Middlesex bank long since the mightier of the trees took root. A noble gift of Nature, and just where most needed; and yet by a strange irony it is on the point of perishing—perishing where it least can be spared, slipping from the grasp of those who would save it, because they whose duty it is to do so absolutely refuse to exercise their responsibility.

The cause of this imminent destruction is now, thanks to the efforts of certain of the London papers, and still more to the vigorous protests of the local press at Richmond, too well known to need any words of mine to enlarge upon it; the story of the banks being undermined by the tide in such a way as to imperil the existence of the island, and with it the glorious clothing of elm and chestnut: all this is in the ears of the readers of this magazine, and many beyond its circle. Questions have been asked in Parliament, meetings have been held, all with a view to urging upon the custodians of the Ait, the Commissioners of Woods and Forests, the necessity of taking some means to protect the banks, and of going to a small expense that the whole island *with its trees*, the screen to the ugly blot on the landscape behind them, may be saved. And what, forsooth, is the only reply they have to offer? "The island is being undermined? If so, serious danger is threatened to passing steamers by the tottering trees; down and away with them and the island too!" Such is the gist of the only answer and proposal made by the negligent curators. Can it be possible that their vandal-like spirits cannot appreciate the beauty of the island, even to the extent of spending a small sum to keep it intact? or is it that some philistine minds among them are quick to appreciate the fact that there will be a good margin of profit from the sale of the felled timber, when all expenses of sawing it down have been paid?

The Ait is just as much a gem of natural beauty as Westminster Abbey, and King's College Chapel at Cambridge are of the beauty of architecture. Who would not doubt the sanity of the man who suggested razing to the ground either of those sacred edifices if their foundations were weak, when it was possible in the least degree to keep them intact? Hundreds of thousands would be spent before such measures were resorted to.

Moreover, its position is close to Kew Gardens, just at the very spot where both Englishmen and foreigners of cultivated taste, who are consequently the first to set a high value upon

such a lovely scene, are most brought together; such visitors would loudly declaim against tearing away so fair a mask of beauty, which hides the ugliness of man's creation in the rear; and all our foreign co-workers in the cause of Nature would realise to the full the force of the taunt levelled at the English by the first Napoleon when he said that they were "a nation of shop-keepers."

Thousands of pounds are yearly spent by the Government in the adornment of Hyde Park, Regents' and Battersea Parks and the Thames Embankment, with the result that all that money can do there is as nothing to the perfection wrought by Nature alone at Kew Ait; yet the Commissioners refuse to expend a sum which is a mere drop in the ocean in comparison, to save the most beautiful object between London and Richmond from destruction. We have only to look around us and we see on every side evident signs of the desire of men in these days to make use of Nature to clothe with brightness that which is of itself gloomy and dreary: the back-yard corner is turned into a moss- and fern-covered rockery; the window-sill in the narrow street is filled with geraniums; every spare patch of ground around the signal-boxes, and amidst the vast acreages of coal-sidings, of railways in the North of London may be seen covered with flower-beds or flourishing crops of vegetables; and yet where Nature has sought herself to cast a graceful mantle over a scene distasteful and unpleasing to the majority of mankind, her aid is rudely spurned by callous officials.

From an article by the editor of the *Richmond and Twickenham Times*—himself one of the most active members of our Society in this matter—we gather that it was possible to save the Corporation Island at Richmond, which was exposed if anything more to the wash of the tide and from passing steamers, by protecting the trees and banks at a small but judicious expenditure—it is fully as easy to do so in the present instance.

As already stated, this subject now occupies the minds of all Selbornians; indeed it could hardly be otherwise, as attention has been persistently directed to it by the Editor of this magazine for the last three months. It is in response to his invitation that I make this appeal, and I have every hope that his efforts will not be in vain. Gloomy though the outlook with regard to the future of the beautiful Kew Ait has appeared, there is no cause for despair. United action on the part of Selbornians has before now met with thorough success, and will assuredly do so again. It is said that Mr. Leopold de Rothschild has generously promised to contribute towards the expense of keeping the Ait intact—an offer which ought to put to shame those in whose custody it is, who can, from the funds at their disposal, well afford to pay for the whole undertaking. Other similarly minded private donors would doubtless act in like manner; but it ought not to be necessary for them to do so. The love of what is beautiful is surely stronger in the minds of

the public than it is with those who have shown themselves in this matter so utterly unworthy of the trust which is reposed in them. By public protests, in and out of Parliament, they ought to be compelled to do their duty. If that cannot be done, let them be at once deprived of the guardianship of this beautiful island, whose worth they do not understand or appreciate. So with a little pecuniary aid from others the burden will be taken off the shoulders of those whose duty it is to bear the whole expense, and no other course will be open for them but to give over to a body banded together to lovingly preserve it a shrine of Nature which was doomed to be desecrated by its unfaithful guardians.

ARCHIBALD CLARKE.

[The force of Mr. Clarke's argument with regard to the value of the Ait as a screen between Kew Gardens and the historic, but hideous, town of Brentford may be well seen from the accompanying sketch from the *Daily Graphic*, for which we are much indebted to the proprietors. As seen in the case of the "Grassholm Outrages," the *Daily Graphic* is one of the foremost of the London papers to call attention to actual or threatened invasions of the beauties of Nature, and so deserves the support of all Selbornians.—ED., *N.N.*]

A BOOK FOR NATURE LOVERS.

Lyrics and other Poems, by Lady Lindsay, 2nd edition. London (Kegan Paul, Trench, Trübner & Co.). The very first work reviewed in NATURE NOTES was Lady Lindsay's charming book *About Robins*, to which we gave unstinted praise, both for its intrinsic merit and for its fidelity to the principles of our Society, of which the writer is an ardent member. The spirit of Nature-love is equally strong in the beautiful little volume of original poems which is now before us, and which has well deserved to reach in a very short time a second edition. Those of us for whom the hysterical and unintelligible verses, so fashionable at the present day, have little or no attraction, will gladly welcome a book of fresh and simple poems, which deal principally with the manner in which the beauties and wonders of nature are interwoven with all our joys and sorrows, our sweetest memories and our deepest pain.

For although Lady Lindsay calls only one of the three divisions of her book "Songs of Nature," the title would be equally applicable to them all. Take, for example, the following concluding stanza from the "Queene of the Medowes," which might well head a Selborne leaflet against the uprooting of flowers:—

"Meadow sweet, my meadow sweet,
City walls can ne'er be meet,
Dear, for thee!
Should I take thee from thy glade,
And bid thee bloom in prison'd shade?
Nay, let be."

The spirit of reverential enjoyment in which the authoress regards the world around us is well shown by the following lines from "Gloaming":—

"Oh is not this most sweet of any time or hour,
After the garish day, and ere the night-clouds lower?
'Tis as though Nature's self should pause upon her way,
Grey-clad and pilgrim-like, to meditate and pray."

In the lines we have quoted Nature is personified and given an independent existence, as is not unusual with poets; but there is another poetical mode of dealing with natural objects which appeals more to many of us—the manner in which the sights and sounds, perhaps most of all the perfumes, of nature's giving, are associated with some of the most dearly cherished memories of our lives, and have the power to reproduce in a moment long-past scenes and to evoke the feelings that moved us then. A good example may be found in the following favourite passage of ours from W. W. Storey's *Graffiti d'Italia* (the quotation is from memory):—

"The lilac bush is in blossom,
It hath the balmy smell
Of that dear delicious summer
Of love's first miracle.
I feel, as I breathe its fragrance,
The old enchanting pain,
The sweet insatiate longing
Thrill through my heart and brain."

A very similar poem, "The Lilac Tree," is to be found among the "Songs of Love," which form a large part of Lady Lindsay's book. A similar thought is expressed in "Lavender," p. 84 :—

"'Twas sweet, aye, sweet, from many things,
But, (swecter than all) with scent
Of long past years, and laughter and tears :
It to me was redolent."

There is a well-conceived contrast between the impassioned self-surrender of "*Her* Songs" in "Love's Litany," "A Woman's Pleading," &c., and the colder and more philosophic affection which in "*His* Songs" gives the sage but surely unwelcome advice :—

"Youth and joy last not for ever,
When from golden days you sever :
Dearest, stay not to regret them—
Sweet, forget them !"

We must apologise to the authoress for mutilating her poems by these short extracts, which by no means give a true idea of the real beauty of her book. Doubtless many of our readers are already acquainted with "The Child Flower," which appeared in *Atalanta*, and "The Last Letter," which appeared in *Macmillan's Magazine*. Both of them are contained in the present volume, with several others of the same class. They are songs of the heart—direct, simple and pathetic, and utterly free from the absurd straining after "intensity," which makes so many verses of the present day much more likely to cause amused laughter than the tears they make such desperate efforts to produce.

We can cordially recommend this beautifully printed and tastefully bound little volume for a place in the library of the nature-lover or the knapsack of the summer rambler. We can hardly give a better wish to any of our readers than that they may become possessors of Lady Lindsay's book, and obtain from it as much pleasure as it has given to the writer of this review.

SHORT NOTICES OF BOOKS.

In *Father Perry, the Jesuit Astronomer* (London: Catholic Truth Society), one of his pupils, the Rev. A. L. Cortie, presents us with an interesting and readable sketch of one who appears to have been as amiable in his private life as he was eminent in science, and who died at sea, seventy miles from Pembara, at Christmas time. Mr. Cortie reminds us that astronomy has been a favourite science with the Jesuits, and that Father Perry was but one among a number of astronomers, the latest of whom were De Vico and Secchi, with whom the Society is to be credited. Whether in the playground at Stonyhurst, in the

lecture-room or on board ship, he was always a genial companion, and those who have accompanied him in his expeditions, found in him not only a scientific enthusiast but an agreeable fellow-traveller. Mr. Cortie gives an account of these expeditions, which included visits to Kerguelen's Land, Madagascar, and the West Indies; and the little volume, which is suitably illustrated, is well worth the shilling which it costs.

Here are two more books about the garden—this time of transatlantic origin, Messrs. Putnam send us *The Garden as considered in Literature by certain Polite Writers*, with a critical essay by Walter Howe; and we have from Mr. Heinemann *The Garden's Story, or Pleasures and Trials of an Amateur Gardener*, by G. H. Ellwanger. The first is one of the dainty little pocket volumes called "Knickerbocker Nuggets." It contains extracts from the two Plinys, Bacon, Sir William Temple, *The Spectator* (Addison, and Pope or Parnell), *The Guardian* (Pope), Lady Mary Wortley Montagu, Thomas Whately, Goldsmith, Horace Walpole and Evelyn. Mr. Ellwanger's book is prefaced by an introduction by the Rev. C. Wolley Dod. The essays which compose it do not present anything very new. Although written from an American standpoint, and often employing American names, there is a good deal to stimulate interest and arouse curiosity. The chapter on "The Rock Garden," for instance, draws attention to several useful plants which are not much employed by us in these situations. The beautiful printing of the book, with the charming floral headings and tail-pieces, render it extremely suitable as a present to anyone who loves a garden, even if he is not fortunate enough to possess one.

SELBORNIANA.

Kingfishers on the Cam and Isis.—Mr. F. A. Hort, of Emmanuel College, Cambridge, writes as follows on the articles of the Rev. H. D. Gordon, deploring the rapid decrease of the kingfisher at Oxford and in other places:—"I am happy to be able to say that this is not the case everywhere. Certainly, in Cambridgeshire, I am inclined to think that kingfishers are rather on the increase than otherwise. On the Cam they are still quite abundant, a river one would naturally suppose they might not be likely to frequent, as it is essentially, so to speak, a fashionable river, one on which numbers of boats may be seen daily. Between the hours of two and six, I admit, kingfishers are rarely, if ever, seen; these being the hours in which the boats are mostly taken out. That they breed freely on the Cam every year I have no manner of doubt. In Wiltshire, on the river Kennet, kingfishers were certainly not scarce two years ago. Goldfinches, as far as my experience goes, have decreased terribly in numbers during the last three years. I had only hoped that this decrease was not universal, but the testimony of Mr. Gordon shatters that hope. "The redstarts are rarer still," says the same writer. This does astonish me! I can only say that *Rubicilla phœnicurus* is as plentiful as ever in Cambridgeshire, equally so in the neighbourhood of Brecon, South Wales, and was by no means rare two years ago in Wiltshire. The black redstart—*R. titys*—I have never seen alive, but am glad to hear it is becoming common in some parts.

"As to swallows becoming scarce, that is equally extraordinary to me. Last year in Yorkshire, where there seems to have been so few in 1886, they were quite plentiful; that is to say, in the neighbourhood of Whitby. In Cambridgeshire, in the last two years, they have been so numerous that I was wondering where they all came from."

On the other hand Mr. Gordon sends us the following extract from the *Oxford Times*. F.W.L. writes:—"While boating on the streams around the city, or strolling along the river banks, the absence of the kingfisher this season is very noticeable. Since the very severe weather experienced during last winter, I have noticed but one bird. This solitary individual haunted a pretty part of the stream at Godstow, and several mornings in succession I detected it as it skimmed across or down the river. This was in April, towards the end of the month. Since that time I have looked for kingfishers in vain, nor have I heard of any being noticed in the neighbourhood, with the exception of a pair above Bablock Hythe. This scarcity, however, is not confined to this district alone, for I have noticed in various natural history periodicals many notes from different

parts of the country, o the near extermination of this bird. There is no doubt that during last winter the majority perished from their being unable to procure food, or were frozen to death, Mr. W. C. Darbey, of Market Street, having had brought to him in one day no less than five examples that had been picked up dead—but many that would, perhaps, have survived, if unmolested, fell victims to itinerant gunners. These latter had exceptional opportunities, insomuch that owing to the scarcity of unfrozen water, the kingfishers were forced to approach nearer to human habitations, and were also rendered considerably less shy. Great pity it is that such a gem-like bird should be almost exterminated in so short a time, though I have hopes that in some back streams and secluded parts there may be more pairs nesting this year than I imagine, but even if this be so, it will be many years before it again becomes as common as it was this time last year. That it was common, is patent to anyone who is in the habit of taking riverside walks. During a ramble around Port Meadow, for example, I have frequently seen six or eight birds in the early morning, and the number of kingfishers brought to the local birdstuffers last winter is also proof of its abundance till after that season. Terrible must have been the sufferings of many birds during the severe and protracted frosts, and to a bird whose sole means of sustenance is found in a watery element, its hardships and sufferings must be beyond description. I should be glad if other observers would send their notes on the destruction of this bird to this column, and I sincerely trust that anyone finding this now rare bird breeding, will do their utmost to protect it, so that the few survivors may have a fair chance of preventing the species from complete extermination."

Mr. W. H. Tuck, Tostock House, Bury St. Edmunds, writes in the same strain:—"It is idle to disguise the fact that the kingfisher is practically exterminated in the southern half of England; for, in addition to its natural enemies, this much-persecuted bird has had to contend against the severest frost of the century. Unless, therefore, some lucky birds found food in the deep rivers or the sea they were bound to succumb. In every local town boasting of a taxidermist, the same story is told of the birds coming in by scores, to be sent up to the towns in the north for the hat and screen trade. Many of the occupiers of the water-cress beds trapped these birds and sold them for sixpence or ninepence each! As the kingfisher does not get very large additions to its numbers by migrants, it is to be hoped that owners of land will encourage it to breed *for the next two years*, by offering a reward for every nest brought off in safety."

The Cheddar Pink.—Mr. J. Guthrie Smith writes as follows from Mugdock Castle, Strathblane, N.B.: "About this time last year there was some correspondence about the disappearance of the Cheddar Pink (*Dianthus cæsius*) from its ancient quarters and its gradual extinction everywhere, and a writer in NATURE NOTES affirmed that this plant did not grow from seed. Through the kindness of a brother Selbornian, Mr. Theodore Compton, of Winscombe, who offered in a letter to you plants and seeds to the members of the Society, I had a liberal supply of both from him. This place is in Stirlingshire, ten miles north of Glasgow, and is 540 feet above the sea. On the arrival of the pinks here they were carefully planted in the old walls of the terraced gardens, and there they safely passed the winter and are now in flower and very healthy. The seeds were planted in a box, came up strongly, were picked out singly, and about two months ago the sturdy little plants were inserted in the same old wall and have taken as kindly to their Northern home, as the plants from sunny Somersetshire did last autumn. The old walls here afford shelter to many rare plants, and I think I have established the Cheddar Pink in a place where it is secure from the ravages of botanists and tourists."

Mrs. T. H. Sherring, Barren Down House, Shepton Mallet, writes to say that in several places in Somersetshire, notably Castle Cary and Shepton Mallet, the "Cheddar" Pink now grows in abundance. In each case the seeds (not plants) have been brought from Cheddar and sown on the walls. Even if the fears expressed by Bishop Mitchinson (NATURE NOTES, p. 85) of the plant being dispossessed from its one original locality be ever fulfilled, it is evident that *Dianthus cæsius* will not be utterly extinct in this island.

Juvenile Students of Natural History.—Amongst the many plans adopted for the promotion of an interest in the kindly treatment of animals the following item on the programme of the Band of Hope at Haven Green, Ealing, commends itself to our notice: "May 14th, a show of live pets, with short essays

by their owners." On the appointed evening twelve competitors presented themselves, bringing with them a collection which included three tame rats, guinea pigs of several species, a rabbit, two tame ferrets, a dog and a cat, a parrot, a frog and a tortoise. The noisy barking of the terrier at each outburst of applause on the part of the numerous audience, necessitated his early removal, after which, occasional interruptions and irrelevant remarks by the parrot alone disturbed the meeting. The papers written by the children varied much in length and quality, but each gave some account of the habits and virtues of their special pets, which in turn were carried round the room for exhibition, with the exception of the frog, which having been brought in a bird-cage, found some means of escaping unperceived. Considerable interest was taken in the tortoise, said to be fifty-two years old, of whose remarkable intelligence many stories were related.

In addition to the above, encouragement was given to the children to make collections of wild flowers by the offer of a prize for the best exhibit of not less than twenty-five species gathered in the neighbourhood. This resulted in the finding of seventy-six varieties between April and June, the prize being awarded to Gertrude Thorn, aged thirteen years, for a collection comprising sixty-four nicely pressed specimens, neatly arranged in a book and correctly named by the aid of the Secretary, Mr. R. T. Lewis, F.R.M.S., who is a member of the local branch of the Selborne Society.

W. B. P. A. in Warwickshire.—Mr. Aplin is "inclined to think the Wild Birds' Preservation Acts have done some good." I hope it is so, but I fear the statement does not apply to this district, the destruction of eggs and young birds by boys and fools is enormous. If the "authorities," wherever and whoever they are, would take the least little trouble to carry out the law, this destruction might be largely checked. Thus, police notices both posted up and left at houses and cottages, personal warnings on the part of the village policeman, and an example or two taken red-handed (a very easy matter), would have a marvellous effect. Very few villagers have any idea that there is such a thing as a W. B. P. A. If the Selborne Society could extend its scope and start a travelling agent and carry out the above suggestions on its own account great good must result. ALFRED N. HOPKINS.

Berkswell, Warwickshire.

The W. B. P. A. in Shetland.—Miss M. Hope, Hon. Secretary of the Kensington Branch, calls our attention to the following paragraph in the *Pall Mall Gazette*, which is in refreshing contrast to the apathy in Warwickshire described by Mr. Hopkins:—"At the Shetland Sheriff Court a few days since a fisherman was fined for shooting four gulls in the island of Unst. This is the first case ever tried in these islands under the Wild Birds' Protection Act, 1880. A correspondent says that, since the threatened raid on the wild birds of Shetland by a Birmingham company, increased interest has been taken there in the protection of the innumerable wild birds which breed in the islands. The County Council have applied to the Secretary for Scotland for power to extend the close time for these birds to August 30th."

OFFICIAL NOTICES; WORK OF BRANCHES, &c.

THE object of the Selborne Society is to unite lovers of Nature for the following purposes:—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

At a special meeting of the Council of the Selborne Society, held on June 15th, Mr. G. A. Musgrave, who occupied the chair, described what he had done in the

matter of preparing leaflets, and offered on behalf of Mrs. Musgrave and himself to advance the money necessary for printing, to be repaid on the sale of the leaflets. On the motion of Professor Hulme, a hearty vote of thanks was passed to Mr. and Mrs. Musgrave for their generous offer.

At the usual monthly meeting, held on July 1st (Mr. G. A. Musgrave in the chair), the Rev. Percy Myles having directed attention to the suggestions for organised observation made by Mr. Holte Macpherson in the April number of NATURE NOTES, the following resolution was carried :—

"That the Council, highly approving of Mr. Macpherson's suggestion, request the secretary at the earliest opportunity to ask the honorary secretaries of branches whether it would be possible for them to take any steps to carry out such organised observations."

Mr. Myles also called the attention of the Council to the fact that the Magazine Committee has been for more than a year virtually non-existent, and suggested that it should be revived in some practical form. For this purpose the following resolution, proposed by Mr. Myles and seconded by Mr. Macpherson, was carried :—

"That the Magazine Committee shall be co-extensive with the whole council; That the business of the Magazine Committee shall be transacted at the ordinary meetings of the Council, having as early a place as possible on the agenda; That sub-committees for special purposes be appointed, consisting of members who take a special interest in the various departments of the Society's work."

The thanks of the Council were voted to Mrs. Phillips and her offer to print for distribution by the Society 1,000 copies of a leaflet on the destruction of ornamental plumaged birds was cordially accepted.

BATH BRANCH.—In accordance with his usual custom, the President of the local branch of the Selborne Society issued again this year an invitation to the members to pay a visit to Claverton Manor upon the occasion of the annual meeting. The event duly took place on Tuesday afternoon, when the picture gallery was utilised for the business portion of the proceedings. The balance-sheet presented by the hon. sec. showed that the total receipts for the past year amounted to £42 6s. 9½d. The expenditure had been £27 14s., which left in hand a balance of £14 12s. 9½d. The annual report dwelt briefly upon the various undertakings of the Society during the year, mentioning, among other matters, that with the intention of furthering the aims of the Society, which were the prevention of the destruction of wild birds, animals and plants, a library had been established at the Royal Literary and Scientific Institution for the purpose of assisting members in the study of natural history and natural science. This had swallowed up a considerable portion of their income, and they hoped that members would now assist not only in increasing the stock of books but also the number of readers. The report and statement of accounts were adopted, Mr. H. D. Skrine re-elected president, and Mr. Wheatcroft again appointed hon. secretary and treasurer, with thanks to him for his past services. Mr. Norman and Mr. Braikenridge were again appointed to represent the Bath branch on the Central Council, and Mr. Appleby was re-elected hon. librarian.

The secretary spoke on a communication from the British Association with reference to the destruction of certain plants. Both birds and plants had suffered greatly from destruction in recent years, and the British Association were determined to get exact information relative to such matters. This had already been done in Scotland and the north of England, and now there was a desire to get similar facts from the west of England and South Wales. These facts could be only obtained, however, by the assistance of those who had known for some time the flora of any locality. Speaking personally, and from an experience extending over eleven or twelve years, he could say that he had noticed a considerable diminution in their district. There was a gentleman present, and himself, who were both well acquainted with a wood, in which at one time orchids were found in plenty. Now they could scarcely see one. He was sorry to say that he had noticed a good many of the roots in the Bath market, while everyone at all familiar with the city must know of the frightful destruction of ferns that was going on. Primroses, too, were not increasing. People could pick as many flowers as they liked if they would only leave the roots untouched. He thought the best way in which the request of the British Association could be met was by the formation of a small committee to deal with the matter. Lieut.-Col. Blathwayt, Rev. W. H.

Samler, Dr. Norman, and Mr. Wheatcroft, were appointed for this purpose. The President then briefly addressed the meeting upon their work during the past year, in the course of which he impressed upon the members present the desirability of making notes of any observations of their own upon natural history, which would tend to make the Society a little more practical.

It is evident that the Bath Branch, which is, we believe, the senior among the numerous sections of our Society, has long practised those methods of social re-union which we strongly recommended in our last number. The well-known hospitality of the local President, Mr. H. D. Skrine, is liberally extended to all Selbornians, and those who have visited his beautiful residence can testify to the kindly spirit of welcome which does so much to keep that Branch in its flourishing condition.

We have received a pamphlet containing the lecture "Records of a Rookery," delivered by the Rev. Leonard Blomefield, M.A., F.L.S. We had hoped to reprint some portions of Mr. Blomefield's very interesting and valuable address; but the large number of original contributions with which we have to deal, renders that impossible for the present. Meanwhile we congratulate Bath on the continued health and intellectual vigour of the venerable lecturer. Mr. Blomefield (better known to many by his former name of Jenyns) is the senior Fellow of the Linnean Society, having attained that honour so long ago as 1822.

Our readers will be pleased to know that at the meeting recorded above, the Bath Branch voted £2 to the Magazine Fund for the enlargement and free distribution of NATURE NOTES. This fund has rather languished of late, as the Editor's illness has not allowed him to assail his friends with importunate applications, as he ventured to do when his health permitted. It is hoped that a full account of this fund, with an appeal for further aid, will be given in our next number.

LOWER THAMES VALLEY BRANCH.—It is impossible to keep pace with the activity of this Branch, and as only a limited amount of space is available, each division of the Society can only have a share. The agitation about the Kew Ait (of which a full account is given in another part of this issue), the closing of the footpaths at Ham, and other matters requiring Selbornian intervention, is going forward with energy, and, it is hoped, will be successful in achieving each of its objects.

Miss Wallis' "At Home" at the High School, Richmond, on June 22nd, was most successful, considering the terrible weather. Several eminent *artistes* played, sang, and recited to the great delight of a numerous gathering, and the only regret of the Selbornians present was that the time flew so quickly in listening to these admirable entertainers that there was not space enough for conversation and the interchange of opinions on subjects peculiarly pertaining to our Society.

CLAPTON (LOWER LEA VALLEY) BRANCH.—This Branch made their first excursion this season on Saturday last, and were joined by a few members from the Northern Heights (Hampstead Branch.) The members left Whip's Cross at 3 p.m., and walked through the lower part of the forest to Chingford, by way of the recently added portion at Hale End, with its picturesque lake forming a charming addition to this popular resort. After a tea at the Forest Hotel, a visit was paid to the old church of All Saints, the rector, the Rev. A. F. Russell, very kindly conducting the party over this ancient edifice. A pleasant walk across the fields to Hale End station completed an enjoyable outing. An excursion of the junior section will be made to the Forest on July 18th.

NOTICE TO CORRESPONDENTS.

WE have been obliged to omit from this number several articles in type, including the "Notes and Queries'" column, several reviews, and the "Children's Column," so often postponed, for which we wish to apologise to our youthful readers. As an example of the "congestion" from which our columns suffer, we may mention that the article which heads the present number, and which was written at the special request of the Editor, has been in our hands for several months, and that in each number we have vainly endeavoured to insert it. This may help to explain to some of our correspondents, who express great surprise if their communications are not inserted in the month in which they reach us, how useless such complaints are.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

No. 20. AUGUST 15, 1891. Vol. II.

NATURE NOTES FROM SOUTH AFRICA.

IT is no doubt commonly believed that the sounds voluntarily produced by certain insects are a means of communication between those of the same species, but the following note goes far to show that the song of the Cicada, so celebrated in Grecian poetry, is heard also with high appreciation by insects other than those of its own genus.

My correspondent in Natal mentions that he has frequently observed that when the Cicada is singing at its loudest in the hottest portion of the day, it is attended by a number of other insects with lovely, gauze-like iridescent wings, whose demeanour left no doubt on his mind that the music was the attraction. The Cicada, when singing, usually stations itself upon the trunk of a tree with its head uppermost, and the insects in question, to the number sometimes of fifteen or sixteen, form themselves into a rough semi-circle at a short distance around its head. During the performance one of the insects was observed occasionally to approach the Cicada and to touch it upon its front leg or antennæ, which proceeding was resented by a vigorous stroke of the foot by the Cicada, without, however, any cessation of its song. The insects composing the audience were found to be extremely active, and so wary that they took flight at the least alarm on the too near approach of any intruder, so that though many attempts were made to capture a specimen in a butterfly net, they always contrived to escape until a friend residing at Bourne succeeded in circumventing them by strategy. Observing an assemblage round a singing Cicada, he very carefully noted their exact position, and making a long circuit approached the tree from behind, then without peeping round the trunk, or otherwise betraying his presence, he suddenly clapped his hand upon the spot, and in this way managed to detain five of the audience. These interesting specimens were forwarded to me by the last mail from the Cape,

and, considering the mode of capture, are in fairly good condition. On examination they proved to belong to the same family as that most beautiful of British insects—the lace-wing fly, which, indeed, they closely resemble except as to size, their measurement across the expanded wings being a little over two inches; they have since been identified by Mr. Kirby at the British Museum as *Nothochrysa Gigantea*. In 1870 it was observed that our lace-wing fly (*Chrysopa Perla*) was possessed of a pygidium on each side of the terminal segment of the abdomen, similar in structure to that found on the flea, and regarded by many as an auditory organ. My first impulse therefore was to place this South African species under the microscope to see if it was similarly endowed, the search being speedily rewarded by the discovery of a pair of these remarkable organs, well developed, each containing about fifty-six distinct areolæ, with long sensitive hairs rising from their centres. It may, therefore, fairly be inferred that whilst this complex structure is specially adapted to receive sounds made by its fellows, though entirely inaudible to us, the Nothochrysa is also able to appreciate others which we can hear so distinctly as the song of the Cicada.

R. T. Lewis.

[Mr. Lewis's interesting and amusing description of a Cicada performing a solo before an appreciative audience of Lace-wings is, as he says in a private letter, so strange that it would sound like a "traveller's tale" were it not for the entire trustworthiness of the source from which it comes. From the same source Mr. Lewis has obtained several species of insects new to science, and some very curious information as to their habits, on which he has communicated memoirs to the Royal Microscopical Society and the Ealing Natural History Society, of both which he is an active member. For a full account of the vocal powers of the Cicada our readers are referred to the able *Monograph of the British Cicadæ*, by Dr. G. B. Buckton, F.R.S., now in progress, the first volume of which is reviewed in another column. —Ed., *N.N.*]

THE UNFOLDING OF WOOD SORREL LEAVES.

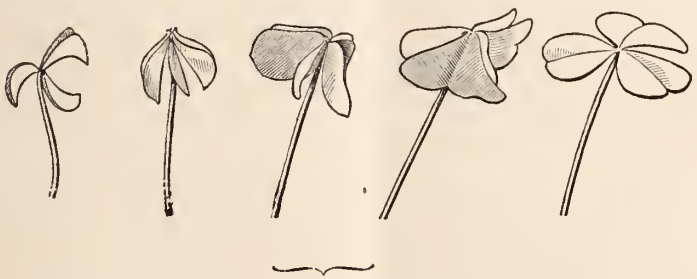
SIR JOHN LUBBOCK has recently called attention to the way in which leaves are packed when in the bud, and the way in which they unfold themselves out of it. I do not know, however, whether he has ever mentioned the beautiful way in which the leaves of the common wood sorrel are developed, but it is so neat a contrivance, and may be so easily watched by any one who will go into a wood in early spring, that I should like to describe it here, for the benefit of those who have not noticed it before.

Every one who knows anything about a wood in spring time, knows well the bright clusters of light green leaves which almost hide the delicate flower of the wood sorrel; and everyone who has noticed them at all will remember their shape—a trefoil with little notches in the middle of each division. The mature leaf is

flat, the leaflets being set at right angles to the stalk. But how did the leaf grow like this? or did it grow out of the ground in exactly this form and shape? This latter alternative would be well-nigh an impossibility, for then the leaf would offer a large plane of resistance to the overlying soil. As a matter of fact it offers the smallest point possible—only the top of the bent stalk, as shown in fig. No. 1, where the leaf is hardly to be recog-

1 2 3 4 4A 5 6

nised at all. In the next stage the leaf is beginning to open, and here the three leaflets may be distinguished. They are (as in fig. 2), all folded down their mid-ribs, and lying side by side, the middle one projecting slightly beyond the others. In fig. 3 the leaflets have moved apart, the side ones moving sideways and the middle one up and back, at the same time they open slightly, as shown in fig. 4. In figs. 5 and 6 further positions may be traced; the middle leaflet having gradually raised itself to an upright position is now turning over, and the side leaflets have moved downwards and backwards, until, as in fig. 7, they all hang unfolded round the stalk. After this the leaflets move upwards, at the same time unfolding completely, until they form the flat, three-divisioned leaf which we set out from.



6A 7 8 9

In this way the middle leaflet not only revolves through about three-fourths of a circle, but afterwards reverses its motion, until it is about at right angles to the stalk, and during all this complicated motion the movement of growth is being also carried on.

It is not very easy to explain the unfolding of these leaves on paper, but it is very easy to trace it in nature, and in early spring the leaves may be found in almost all stages, growing close to each other. Whether any one who had not seen the mature leaf could guess what these tiny folded leaflets would develop to I do not know, but I certainly think that anyone who had to devise how a flat trefoil leaf could be best stowed away, would be much puzzled to do it as daintily as has been done by the thousands and thousands of tiny green sorrel leaves which have sprung up over our island this spring.

All the illustrations (except 4A, which is a front view) show the same side of the leaf, and the successive positions of each may be traced.

AGNES FRY.

THE KEW MUSEUMS.

(*Continued from p.* 123.)

HAVING said so much on the uses of the Museums, let me now say a few words on their arrangement. The adoption of a scientific classification, rather than a commercial one, would not perhaps be the best were the Museum situated in a trading or manufacturing centre, but it has its manifest advantages forming part and parcel of the first botanical establishment in the world. In its earlier days the museum arrangement was that of the system of De Candolle; but some ten or twelve years ago the whole of the large collection in Museum No. 1 was re-arranged on the system of Bentham and Hooker's great work, the *Genera Plantarum*, and since then, on the completion of that work, the contents of No. 2 Museum were re-arranged on the same system. The same arrangement prevails in the Herbarium or collection of dried plants, so that the classification adopted by Bentham and Hooker dominates the entire collections. The advantage of this is apparent, as an acquaintance with the sequence of the orders, genera and species in the Museums aids in the ready usefulness of the Herbarium, and *vice versâ*.

The scientific classification has the advantage not only of bringing together plants of similar structure, but also those containing similar economic properties, for it is well known that those plants botanically allied mostly possess some well-defined property characteristic of them; thus in the *Malvaceæ* or Mallow family, the roots and stems of many of them are mucilaginous, represented by the common Marsh Mallow, and nearly all of them contain useful fibres in their inner barks. In the *Sapotaceæ* we look for milky juices in the stems which harden into gutta-percha, and in the seeds of the same group of plants we expect to find oils that may be useful for illuminating

purposes or for soap-making, but seldom for culinary purposes. Again, in the *Rubiaceæ* a bitter principle prevails in the barks, which furnish us with that invaluable medicine, quinine. That most important commodity, caoutchouc or india-rubber, is obtained exclusively from plants belonging to three natural orders, namely, *Apocynaceæ*, *Euphorbiaceæ* and the section of *Urticaceæ* known as *Artocarpeæ*.

A little knowledge of this kind helps us more easily to a right appreciation of the natural orders, and their value in furnishing us with articles of daily necessity. Let us further illustrate this by a glance at a few of the cases in Museum No. 1, which will serve as an example of all the rest. The cases are numbered; commencing on the top floor, the first order is *Ranunculaceæ*, or the Buttercup family. The characteristic property of the order is its acrid and poisonous nature. The most important plant from an economic point of view is perhaps the Aconite (*Aconitum Napellus*), a widely diffused plant growing chiefly in mountainous districts of the temperate parts of the northern hemisphere, and well known as an old-fashioned English garden plant. From the roots or rhizomes is obtained a crystalline substance known as *Aconitine*—one of the most powerful poisons known. Aconite root, as it is generally called, is much used in medicine in the preparation of a tincture as an anodyne liniment for rheumatic and neuralgic affections.

Passing some of the less important natural orders, we come to the Poppy family (*Papaveraceæ*), and in the cases devoted to this natural order is a very complete set of specimens illustrating the growth, preparation and uses of opium, one of the most valuable medicinal products known, and yielded by the fruits or capsules of *Papaver somniferum*. The opium poppy is cultivated very largely in Asia Minor, India and China, though in the latter country its culture is supposed to be prohibited, but yielding as it does a very large revenue its growth is winked at by the authorities. The cultivation of the opium poppy has been attempted in this country, notably in the medical gardens at Bodicote, near Banbury; but though the plant grows well it does not yield sufficient opium to make it remunerative. The collection and preparation of opium may be briefly described as follows: — When the capsules are sufficiently matured they are punctured or scratched longitudinally with small lancets; the juice then exudes in a milk-like form, partially solidifying on the capsule, when it is scraped off with a kind of a spatula, and moulded, in Patna into large round balls which are covered with the dry poppy petals; in Asia Minor it is made into lumps, irregular both in size and shape. In India the opium is used both for eating and smoking, but in English commerce its use is chiefly medicinal, and in consequence of the produce of Asia Minor being much richer in the valuable alkaloids it fetches a much higher price than the Indian product. The opium series in the Kew Museum shews the whole process of opium manufac-

ture in India, from the scratched poppy heads to the finished opium ball, a complete opium-smoking apparatus, samples of Asia Minor opium, and the alkaloids obtained from it.

A similar instructive arrangement is carried on throughout the entire collections, where the processes of manufacture are of such a nature as to be suitable for glass cases. Besides which, interspersed in their regular order, will be found illustrations of plant structure of scientific rather than of commercial interest, and many that have an equal interest in both directions. Thus many may be surprised to know that the source of the best varnish, that produces the brilliant gloss on the panels of carriages, is from a fossil resin which is dug up at Zanzibar, in places where the trees which once yielded it now no longer exist. Until comparatively recent years the origin of this resin, known in commerce as anime, was unknown. It was supposed to have been a leguminous plant, leaflets having been found deposited in the buried resin, but some years since flowers also were found so deposited, which, together with other facts, prove the tree which yielded this best fossil anime to be *Trachylobium verrucosum*, the resin of which fetches sometimes as much as £400 per ton. Speaking of resinous products used in varnish making, brings to mind a similar product known as lacquer—a term, by the way, that is applied in commerce to several different substances. Thus we have the well-known Japan lacquer, obtained by gashing the trunks of the trees of *Rhus vermicifera*, from which the juice readily flows. This juice is of a very acrid nature, like that of most of the species of rhus—the North American poison vine (*Rhus toxicodendron*) producing dangerous effects if the juice is allowed to drop on the hands. In consequence of this poisonous or blistering character, great care is taken by the Japanese collectors to protect their hands with thick gloves. After the juice is drawn from the wounds in the trunks it is prepared for use by mixing with various ingredients or different colouring substances as required. The process of lacquering, as formerly practised by the Japanese, was a very tedious one, the articles themselves, which are mostly made of wood, being so completely covered with the lacquer that a very thick deposit is laid on, metals like gold and silver powder, being so used as to give the article the appearance of having been made of solid metal. Some of the old Japanese lacquer work is very fine and very costly, good examples of which may be seen in South Kensington Museum, but in the Kew Museum not only are the finished articles shown but the whole process, from the trunks of the varnish trees scored to show the collection of the sap, onwards. Indian lacquer work differs from that of the Japanese both in the nature of the raw product as well as in the mode of preparing and manipulating it. Lac, as it is commonly called, is a kind of resinous exudation formed by the puncture of a small hemipterous insect in the bark of a certain species of *Ficus* and several other trees. The

crude lac encrusts the bark often to a considerable thickness, and when simply removed forms stick lac, when melted and purified shellac, grain lac, thread lac, and various other forms are produced. Lac is largely used in India for covering the well-known painted wood-ware, imparting a lasting gloss, and preserving the colours. In this country lac is used chiefly in the composition of French polish, and for making sealing wax.

India rubber or caoutchouc is perhaps, at the present time, one of the most important commercial products of the vegetable kingdom in consequence of the great and increasing demand all over the civilised world for the substance as an insulator for telegraph and telephone wires. It might at first be thought that this useful product was obtained only from one species of plant —which indeed was the case when india rubber was first introduced to use at the latter part of the last century. The Kew Museums, however, show what has been done since then, not only in the discovery and development of new sources, but in the extension of their geographical range, so that the supplies of such a valuable substance may be maintained for the use of future generations. Much may be learnt as to the nature of india rubber in its raw state, and on the mode of collecting and preparing it in the forests of Para, by a glance at one of the several cases devoted to products of the natural order Euphorbiaceæ, for it is to a tree of this order, namely, *Hœa Orasihensis* that a very large portion and the very best quality of the rubber of commerce is obtained. We here see how the tree is tapped or gashed with a small hatchet to cause the milk to flow, how it is collected in small rough earthenware cups, then poured into a large pot made of a gourd, which, when full, is emptied into a large basin like a washing basin, from which it is ladled by a cocoa-nut shell and poured, while yet in a milky or fluid state, over a kind of wooden paddle which is held over a fire, the smoke and heat of which causes it to coagulate; successive layers of rubber are thus deposited until it has become sufficiently thick, and when hard it is slit along the edge and the paddle withdrawn when the rubber is ready for exportation. Other plants yielding rubber are *Manihot Glaziovii*, likewise an Euphorbiaceous plant and a close ally to the plant furnishing tapioca. *Ficus elastica*, the well-known india rubber plant, so much cultivated as a parlour plant, which furnishes the best Assam rubber. This belongs to the section or tribe Moreæ, of the natural order Urticaceæ. Another Urticaceous plant, but belonging to the tribe Artocarpeæ, which produces rubber, is *Castilloa elastica*, a tree of Guatemala, Nicaragua, British Honduras, &c., the produce of which is known as Central American or West Indian rubber. The remainder of the rubber of commerce is furnished by plants belonging to the natural order Apocynaceæ, *Landolphia florida* on the East and West Coasts of Africa, *L. Owariensis* in West and Central Africa, and *L. Kirkii* and *L. Petersiana* on the East Coast; while

from Borneo and Perak we obtain rubber from allied apocynaceous plants such as *Leuconotis eugenifolius* and *Willughbeia firma* and others. These are all climbing plants, with stems about the thickness of the wrist. It will be seen, then, that the milky juice which ultimately coagulates into useful commercial rubber is contained only in certain plants, and those belonging only to three natural orders, namely, *Euphorbiacea*, *Urticaceæ*, and *Apocynaceæ*.

The few notes here given are but scanty when one considers the vast contents of a museum so extensive as that at Kew, but I hope they will serve to draw the attention of the readers of NATURE NOTES to the character, value, and working of this important branch of the National Botanical Gardens.

The Royal Gardens, Kew. J. R. JACKSON.

SOME LONDON BIRDS.

(*Continued from page* 125.)

(50.) SPARROWHAWK (*Accipiter nisus*).—One seen on 21st January, 1885, in Hyde Park. Several other occurrences have been recorded in the newspapers during the last few years.

(51.) HERON (*Ardea cinerea*).—Occasionally seen flying over London. One took up its abode on the island in the water in Hyde Park for several days in May, 1884.

(52.) MALLARD (*Anas boschas*).—Occasionally a few birds of this species visit us, usually in hard weather (*e.g.*, January, 1887).

[(53.) POCHARD (*Fuligula ferina*).—I include the pochard in this list, as I have on several occasions in winter seen birds of this species on the Serpentine, which were to all appearance wild, and they kept right out in the middle, unlike the tame pochards on the St. James' Park water. The latter do, however, occasionally visit Hyde Park, and it is just possible that the birds in question were not wild.]

(54.) RING DOVE (*Columba palumbus*).—The extraordinary increase in the number of London woodpigeons during the last few years has been most curious and interesting. Now it is quite common to see about fifty all feeding together in Hyde Park. They frequent all the parks and larger squares, and a good many pairs nest in town every summer.

(55.) STOCK DOVE (*Columba œnas*).—Occasionally, but very rarely seen.

[(56.) MOORHEN (*Gallinula chloropus*).—I have included this bird, but put it in brackets, as presumably the birds on our ornamental waters have been intro-

duced. Anyhow, they are firmly established now in Hyde Park and Kensington Gardens, and breed freely.]

(57.) Lapwing (*Vanellus vulgaris*).—One noticed by my brother in March, 1890, flying over the Serpentine, and a small flock was observed on the 28th November last, flying over Hyde Park in a south-westerly direction.

(58.) Common Sandpiper (*Totanus hypoleucus*).—I noticed a pair on the banks of the Long Water on 17th May, 1890. If a stricter watch were kept, it would probably be seen that this species passes through London regularly every spring.

(59.) Black-headed Gull (*Larus ridibundus*).—Occasional visitor to London. A good many are usually to be seen during February and March on the Thames near Waterloo Bridge, and they were more numerous there than usual this year, on account, no doubt, of the severity of the weather. Once or twice last winter I noticed them over the frozen Serpentine, and three were flying just over the chimney-pots of Lancaster Gate on the 24th January last.

(60.) Common Gull (*Larus canus*).—Seen sometimes in winter on the Thames near the Temple.

(61.) Herring Gull (*Larus argentatus*).—An occasional visitor. Two birds, believed to be of this species, were observed flying over Gloucester Terrace on the 24th April, 1887.

(62.) Kittiwake (*Larus tridactyla*).—Sometimes seen on the Serpentine, and not unfrequently on the Thames.

(63.) Dabchick (*Podiceps fluviatilis*).—At one time dabchicks used to nest on the Round Pond in Kensington Gardens, but they no longer do so, and the best place to see them is in St. James' Park, where they are most flourishing.

[Addendum. (64.) Reed Warbler (*Acrocephalus streperus*).—A summer visitor which has been recorded as nesting in Kensington Gardens. I never had the luck to meet with it there till a short time ago (2nd May) when I heard one singing in a rhododendron shrubbery close to the water].

As I have already stated, the above list could be greatly extended by including all the species which have been from time to time recorded by other observers. I am sorry not to be able to include the woodcock and some others which have been frequently noticed; but on the other hand one or two London rarities are included, notably the pied flycatcher, hawfinch and yellowhammer; the last-named species is very sedentary in its habits, and hardly ever makes its appearance in town, although it is so very common and numerous throughout the country. This list is at any rate sufficiently long to show that Londoners have an interesting field for observation and without going far from their doors.

A. Holte Macpherson.

A BOOK FOR NATURE LOVERS.

Monograph of the British Cicadæ, by George Bowdler Buckton, F.R.S., L.L.S., L.G.S., L.E.S., &c. Macmillan & Co. [Two vols. Price three guineas.]

The book for Nature lovers which we notice this month is not at all of the same nature as those which we usually select—cheap, popular, and inexpensive. It is an accurate scientific treatise on a comparatively limited group of the enormous class of *Insecta;* it contains an immense number of technical details, and the quantity of admirable coloured illustrations given has caused the price to be so high that it is beyond the reach of most of our readers. In spite of all these drawbacks we cordially recommend all Nature lovers, whether they are skilled entomologists or not, to take the first opportunity of looking through this work, and we feel sure that those who do so will acknowledge that they have here something far different from, and superior to, the ordinary dryasdust monographs on groups of insects, which have no interest but for a very limited number of specialists. It would be impossible for any one who had read the most interesting and copious introduction with which Dr. Buckton has prefaced his work, not to take very considerable interest in the subject of his *Monograph*. In the first place he eloquently, and on good authority, claims a high place for such monographs as contributions to scientific knowledge, as follows :—

"Addison, in No. 121 of the *Spectator*, writes: 'I could wish that out of several writers some one would take each his particular species and give us a distinct account of the frame and the texture of its parts, and particularly those which distinguish it from other animals; this would be one of the best services that they could do to mankind.' Bacon thought that it was within the capacity of man to control, and even to command, the forces of Nature, but our steps in the investigation of biological problems must for a long time be faltering. Even the first great generalisations of Newton and of Darwin will require modification, as our knowledge becomes more exact, and our materials for reasoning, based on experiment, accumulate. In such a manner safe induction passes into practical deduction, and experiment becomes the best proof of acquired knowledge."

Dr. Buckton gives a very full account of the curious myths and tales told by the Greek and Latin writers, and devotes part of his introduction to an anthology of quotation from the various poets who have celebrated the Cicada. There are Anacreontic odes and extracts from Virgil and Lucretius, and among our own poets, from Cowley and Browning; but our readers will perhaps be most interested in the following passage with regard to the allusions made by the President of the Selborne Society and Poet Laureate of England, for ascertaining whose views Dr. Buckton has, we believe, exceptional opportunities.

"Lord Tennyson, with his usual accuracy in natural history as well as in astronomical observation, clearly discriminates between the Cicada and the grasshopper. He gives in 'Œnone' a fine picture suggesting the sultry summer heat—

"'The grasshopper is silent in the grass,
The lizard with his shadow in the sun
Rests like a shadow, and the cicala sleeps.'

"Again, in 'Mariana in the South,'

"'At eve a dry cicala sung
There came a sound as of the sea.'

and once again we have in his early poem 'The Dirge,'

"'The balm cricket carols clear;'

on which Dr. Murray suggested to me, as a clue, *baum* or tree-cricket; but now I have good reason to know that the cricket of the hearth, which feeds on meal or balm amongst other things, was the insect meant, and no 'tree singer.'"

There are few subjects which are treated in a more slovenly manner than the etymology of the scientific names of animals and plants. The wild guesses and utterly unscientific assertions which are made in most botanical and zoological works are enough to make the hair of the trained philologist stand on end. The discussion of Dr. Buckton on the derivation of Cicada is a refreshing contrast to such abominations, and a model of the way which such work ought to be done.

He has had recourse for advice to the highest authority, Dr. Murray, and the result is a disquisition on such derivations, which we much regret space does not allow us to transfer to our pages.

Among the subjects which the author promises to deal with in the *Monograph* (of which the first volume only has appeared), is that of the curious sound-organs possessed by some species. Readers of the article by Mr. R. T. Lewis on "Nature Notes from South Africa," in the present number, will look with interest for an explanation of the vocal powers of these stridulent insects. The females are, we believe (*mirabile dictu!*), comparatively silent, and the "music" is caused by the amatory chirping of the male. There are people who are so fond of this that they keep Cicadas in little cages to sing to them. Whether this song is an unmingled blessing is doubtful, for some large South American species are said [not by Dr. Buckton] to chirp "loud enough to be heard at the distance of a mile!"

We have said nothing of the excellent manner in which the writer has dealt with the forms, metamorphoses, general anatomy, and the chief details connected with the life history of this family of insects, as our object has been to dwell rather upon the very unusual and successful manner in which he has popularised and brightened what might have been to outsiders a harsh and repellent treatise. But those who had read Dr. Buckton's former entomological productions will be sure that, for scientific accuracy, the task could not be in more competent hands.

In addition to the diagnoses of all the British species, about 230 in number, each species is illustrated by one or more excellent coloured drawings. Our readers will be interested to know that the author acknowledges that he owes many of them to the enthusiastic zeal of his daughters, as these ladies are among the most active workers for the Selborne Society, of which Dr. Buckton himself is a veteran and honoured member.

PERIODICALS AND PAMPHLETS.

Of the many pleasing proofs of the hold that the study of natural history has upon the minds of young people in the present day, there is not one more convincing than the large portion of the magazines, now published in almost every important school, which is occupied by notes on botany, zoology &c. When we remember how—not very many years ago—such pursuits were looked upon with the utmost disfavour as eccentric deviations from the orthodox studies, we must felicitate the schoolboy of to-day on the increased wisdom of his preceptors, and the increased pleasure of his school days. Apart from the intellectual gain there are many cases in which the out-door study of natural history is of great benefit to boys who are physically incapable of taking much part in athletic exercises; indeed, such work, good for mind as well as body, might often serve to counteract the absurd and barbarous idolatry of athletes and athleticism which at present works so much mischief in our public schools. Canon Fowler, of Lincoln, himself a distinguished head master, has recently shown how the public schools which are most distinguished for successes in "Sports" are far inferior to others in intellectual contests, and adds: "Another side of the subject, a side which I have always considered, from long experience and observation, to be most dangerous, is the deterioration of character which is inevitably caused in many boys who have come to the front in games by the amount of flattery and general adulation that is bestowed upon them by their fellows, and by the notice and favour which is often shown them by certain of the masters. I have seen boys who gave every promise of turning out thoroughly well, gradually, from pure conceit, losing their heads and becoming thoroughly spoilt. Sometimes the nonsense gets knocked out of them later on, but occasionally it sticks to them; but worse than this, I have seen the moral character deteriorate, owing to the boundless influence that they have gained by their position, and have not known how to use aright." But the "body *versus* brains" section, even of public schools, have not entirely their own way. Readers of *Tom Brown* will remember the low value put upon "Madman Martin," the ardent student of natural history

(though not quite, we admit, in a Selbornian fashion) in comparison with that portentous prig, "Pater Brooke," who seemed to think the great object of the human race was to win football matches. Things are changed a bit now, and for the change much credit is due to the prominence given to natural history in school magazines.

Notable among such periodicals is the *Stonyhurst Magazine*, which we hav seen through the courtesy of the Rev. Matthew Russell, S. J., editor of the *Irish Monthly*. We find in it a number of careful records of the appearance of birds, insects and flowers, which show that the boys of that well-known college are by no means immersed in their studies as "Philosophers" or "Rhetoricians," but can find plenty of time for intelligent observation of the operations of Nature. Specially deserving of notice is a series of papers on "Our Birds," by an anonymous, but evidently able, writer. The article in the June number on the "Wagtail," shows considerable ornithological knowledge as well as that happy style which is necessary to prevent the enumeration of ornithological details becoming a weariness to the flesh. Perhaps we are not far wrong in ascribing the zeal shown for natural history in Stoneyhurst College to the residence there of the Rev. John Gerard, S.J., one of whose able works was reviewed by us in a former number of NATURE NOTES (vol. 1, p. 58).

The Reports of the Felsted School Natural History Society (Essex County Chronicle Office, Chelmsford), gives us full proof that the teaching of natural science is conducted there in such a way as to render it as interesting as instructive. The work referred to in the report is entirely voluntary and extra scholastic, but it is evident that the masters enter as fully into the pursuit as the boys, and give them the benefit of accurate scientific guidance in making observations and collections. We are chiefly struck with the valuable collection of rare, local and otherwise interesting British plants cultivated by this Natural History Society, in what they call, by what we cannot help considering a misnomer, their *weed* garden. We hope before long to recur to this subject, and compare the work done in this direction at Felsted with similar efforts in other quarters. In each school society of this kind there is one moving spirit who animates the whole. In the present case the Rev. E. Gapp, M.A., secretary and treasurer of the society, has, doubtless, the greater portion of the work, and deserves the greater part of the credit which attaches to this very active and flourishing association.

Another school in which similar work is done, and apparently very well done too, is Queenwood College, Hants. The *Notes of the Summer Terms* for various years abound in pleasantly written and admirably illustrated records of excursions into the beautiful country which surrounds that school, and it is evident from the "Natural History Notes" appended, that there are among those excursionists some skilled and accurate observers of Nature. We shall be glad to receive accounts of work done in this direction by the schools mentioned, or others which enjoy similar advantages.

The *Proceedings of the Boys' Field Club* (T. S. Carey & Co., Adelaide, South Australia) is an account of the doings of a combination of schools for the study of natural history. We are delighted to find that it is very successful and conducted on sound principles, as may be seen from the title of a very interesting address given by Dr. Cockburn at one of their meetings—"The Naturalist Loves Life." "They should study life," he tells his schoolboy audience; "learn from it; not destroy it, for the true naturalist loves life."

The *Sunnyside Chronicle* (Alexander Burnet, Montrose) is a bright and interesting account of what is going on at Montrose Asylum. The "Bird Gossip" is well-written, and includes a very sympathetic account of the work of the Selborne Society. If the views of the inmates of the Montrose Asylum are correctly represented by the *Sunnyside Chronicle*, we can only wish that our legislators at Westminster were half as sane.

The *Rural World* (95, Colmore Row, Birmingham) is a well-edited and very cheap weekly paper, which gives valuable information for labourers, cottagers, farmers, and the rural population generally. Some of us may consider it too political, and believe that the value of its teaching with regard to poultry and small gardens would not be lessened if it did not so frequently insist on the surpassing merits of Mr. Joseph Chamberlain and Mr. Jesse Collings; but even if we were

to obliterate all politics, more than enough value would be given for the penny which the paper costs. With regard to Selbornian views, it is thoroughly sound, as may be deduced from the fact that it frequently contains articles from the pen of that admirable writer on rural matters, Miss Venables Dodds.

We receive with much pleasure the *Animals' Guardian* (30, Sackville Street, W.) each month. It is to be distinctly understood that the Selborne Society does not include an anti-vivisection crusade among its objects, and that the *Animals' Guardian* does. Having stated this, we may proceed to say that we are sure many of our readers will be much interested with the way in which this periodical advocates its cause. It does so with much ability, but, as far as we have noticed, without ferocity or exaggeration. While rightly condemning some "indefensible sports," it does not run amuck against sport of every kind, and in one of its recent numbers there is a very sensible article on a matter we have gladly noticed ourselves—"The growing consideration of sportsmen towards animals." We are sure the *Animals' Guardian* by this wise and moderate course will do more to advance its cause than by any rabid denunciation of those whom it opposes.

The *Humanitarian League's Publications* (Wm. Reeves, 185, Fleet Street, E.C.) are deserving of similar commendation. While deprecating the extensive multiplication of leagues, societies and associations which characterises the present time, we cannot help admiring the power with which *Humanitarianism: its several Principles and Progress* is written. If, as we are told in it, the best profession of the Humanitarian faith is that contained in one of the rules of Ruskin's Society of St. George: "I will not kill nor hurt any living creature needlessly, nor destroy any beautiful thing; but will strive to save and comfort all gentle life, and guard and perfect all natural beauty upon earth," then we hope that most of our readers are Humanitarians already. The pamphlet we have referred to is written with unusual power and literary skill, which is not surprising if the writer, Mr. H. S. Salt, secretary of the League, is, as we suppose, the author of the remarkable *Literary Sketches* and *Monograph on Shelley*. We are pleased to see that among the books recommended by him NATURE NOTES has a place.

SELBORNIANA.

Evolution and Environment.—Out of a large number of communications on this subject we select the following. Mr. Arthur Bennett, F.L.S., writes as follows from Croydon: "With reference to the discussion on the environment of plants, I would recommend anyone who is working at it to read the observations of L. L. Læstadius in his 'Loca Parallela Plantarum, seu animadversiones physiologico-botanicæ de variis plantarum variationibus, præcipue in Suecia boreali observatis,' &c., 1839. It is a perfect storehouse of notes on the altitudinal behaviour of plants; but seems little known out of Scandinavia."

Miss A. M. Buckton sends the following interesting note from Mr. C. Pratt, a member of the Haslemere Branch:—"In an article on the *Effects of Environment on Plants* in your last issue Mr. Cockerell mentions instances of flowers reverting to other, and to their original colours. One such instance in my experience may interest some of your readers. I brought a large number of roots of dark blue violets from the Isle of Wight and planted them in a newly-raised bank of red sand in my garden in Sussex, 700 feet higher than their former habitat. The following year the flowers were all pure white. In two years more the flowers of these same plants reverted to their original blue. I imagine this to be caused by carbonate of lime, or other chemical substance, in the newly-excavated earth."

Mr. Henry St. A. Alder carries on the discussion of last month as follows:—

"Professor Henslow seems to me not to have fully understood my contention about *Veronica chamædrys*. He is indignant, and rightly, with those who are so ready to use their imagination rather than stick to the facts; but I do not think I have incurred that charge.

"A rare plant, and one confined to but one, or but one class of situations, will, if change of environment be the sole cause of plant variation, give birth to no new varieties, and so it would come to pass that plants that are common, and therefore subject to such change of surroundings, would be the ones to produce new varieties. And, therefore, when I said that 'I should expect to find several

varieties of such a common species as *V. chamædrys*,' I think it was a very legitimate expectation.

"As to the hairs on plants, if Professor Henslow is satisfied that there is a sufficient number of instances to justify his calling *Epilobium hirsutum*, &c., exceptions to the rule that families with terrestrial hairy species are represented in watery places by glabrous ones, I have of course not a word more to say. I confess I was not aware of the change effected by environment on *Polygonum amphibium*. It is interesting to note that the same law holds good to a great extent in the animal world. I have little doubt that Professor Henslow's explanation of the dwarfing of plants in high altitudes is correct. I have often noticed how, in a too much heated conservatory, the plants run up with long internodes, 'drawn up by the heat,' as gardeners say. But I should be very grateful to Professor Henslow for an explanation of one thing. 'Heliotropism,' which is due to the red rays, is explained by the theory that the red rays retard growth, not further it, as these new experiments tend to prove, and therefore the side of the stem turned away from the light is longer than that turned towards the light, whence arises the bending of the stem."

In connection with this subject of Evolution we may insert the following by Mr. R. Goodwin Mumbray, of Richmond, a Selbornian of long standing.

"Perhaps a few remarks upon each member of the family of Nightshade may be accepted;—1. We have Deadly Nightshade, called by Linnæus *Atropa Belladonna*, *Atropa* in allusion to Atropos, one of the Fates, who is fabled to cut with her fatal scissors the thread spun and woven by her two sisters, emblematic of human life, so suddenly does death follow a poisonous dose; and *Belladonna*, from its being employed by beautiful ladies to cause dilatation of the pupil. The chief sources of danger from this plant are its tempting berries, sometimes mistaken by young children for glossy blackberries. Medicinally belladonna possesses very valuable properties; applied externally it relieves acute fixed pain. 2. Woody Nightshade or *Solanum Dulcamara*, Bittersweet, so called, because if the stalks are chewed, the taste is at first bitter, and afterwards becomes sweet on the palate. The decoction of the stalks is a good remedy for skin complaints. The berries are not generally considered injurious, but two instances are recorded by Dr. Churchill that ended fatally. 3. Black Nightshade (*Solanum nigrum*) is a low-growing plant with white blossoms resembling in structure those of its woody relative; it possesses powerful medicinal properties, but is so uncertain in action that it has never been admitted to the British Materia Medica.

"The question that naturally suggests itself to the thoughtful is, how is it that these three members of a distinct family should be found growing side by side, yet from the same soil they draw widely different principles. What becomes of the theory of the origin of species, and from what did they evolve? The answer is obvious; the species are distinct and have ever been so, each distinguished by peculiar characteristics stamped upon them by the Author of all Being."

The Plumage League.—I had a letter on Saturday from Miss H. Poland, of Warwick Road, Maida Hill, London, in which she informed me that the Duchess of Portland had accepted the office of a President of the Society she commenced for saving the lives of all ornamental birds, both British and foreign.

I am sure that your bird-loving readers will be glad to hear of this, as it will be a "feather in the cap" of her association, and an encouragement to her in her good work.

I trust it will go on and prosper, and I hope many of your readers will put themselves in communication with her, and lend all the help they can in any and every way to further the cause; a "good cause" indeed.

Nunburnholme Rectory. F. O. MORRIS.

A Flycatcher fostering a Cuckoo.—A few yards in front of my house, in a small park surrounded by a public road and other houses, several pairs of spotted flycatchers breed. One of these birds has been very busy during the past few days catching flies and insects for a fine young (female) cuckoo, whose size and ability to "paddle its own canoe" fail to make it ashamed to follow its little foster mother and ask to be fed. I have a list of eighteen British birds which are credited with rearing the cuckoo, but the spotted flycatcher (*Muscicapa Grisola*) is not one of them, and I therefore mention the bird in this relation.

Shute House, Weston-super-Mare, August 1st, 1891. T. P.

A "Singing Mouse."—(*See* NATURE NOTES, *vol. i. p.* 97.)—At the annual meeting of the Bath Branch of the Selborne Society, Mr. G. H. Leonard, of Clifton, exhibited, to the interest of the audience, a tiny singing mouse. He explained that the little animal was in every way similar to the house mouse, and had recently been taken from the Easton coal-pits, where it had made many friends among the miners. The singing at times was like the chirping of a chicken, then like a cartwheel that wanted oil, and then again it sometimes appeared to possess the true note of a nightingale. By some people the singing had been attributed to a diseased liver, and by others to a malformation of the trachea. The mouse had been examined, however, and no signs of either were found.

The Cry of the Albatross.—All ardent Selbornians will rejoice with me over a recent Natural History *trouvaille*, to wit, the discovery of the cry of the albatross—a creature which, more fortunate than another aquatic bird of considerable dimensions, speaks with the voice of melody not once only in a dying song, but diurnally, it may be, hourly. I say this important discovery is a recent one, but it might have been made years ago. The information lay at our hands, enshrined in deathless verse, quoted by every schoolboy; and yet its import was not recognised. It is to be found in the eighteenth verse of the first part of the "Rime of the Ancient Mariner," a poem than which few are better known; and yet it has remained for a Frenchman—O purblind race of English naturalists!—to draw in these last days their secret meaning from the few simple Saxon words of the great poet. For note how, with a flash of genius revealing the hidden purport of what to our beef-witted intellects seemed devoid of esoteric significance, M. Sarrazin, in *La Renaissance de la poésie Anglaise* translates the second half of the verse:—

> "Et chaque jour pour manger ou pour jouer
> Cria aux mariniers: 'Hollo!'"

I am sure you will agree with me that we owe a deep debt to our versatile neighbour. Who, therefore, among us, as a slight expression of our gratitude, will undertake the preparation of a work complementary to that of the great discoverer—*La Renaissance de l'Histoire Naturelle Française?*

AN EALING SELBORNIAN.

[Our witty and well-informed correspondent's experience must have led him to believe in the existence of Macaulay's schoolboys, who apparently knew everything that could possibly be known, together with a large selection of additional matter. As we are not so sure that the passage is habitually quoted by every Selbornian, boy or otherwise, we venture to append Coleridge's lines:—

> "And a good south wind sprung up behind;
> The albatross did follow,
> And every day, for food or play,
> Came to the mariners' hollo!"]

A Botanical Excursion.—We have received an account of a botanical ramble conducted on a principle which we cordially recommend for imitation by other Selbornians. On the 18th of July a large party of the Lower Thames Valley Branch (Juvenile Section), visited Virginia Water on a flower-hunting expedition. Miss Wallis, the Hon. Secretary of the Branch, and the creator of the local juvenile section, accompanied them; and Miss Rosa Little, who not unfrequently contributes to our columns, acted as botanical demonstrator. A most agreeable day was spent, and a large number of specimens secured. Several of the young ladies who belonged to the party were not advanced botanical students, but Miss Little has devised a plan by which they might afterwards more fully identify and study the plants which she named for them on the day of the excursion. We have seen a very interesting list prepared by her in which considerably more than a hundred of the plants gathered are arranged in their orders, with Latin and English names, notes for identification and other helps for closer study on the part of those who have first made the acquaintance of the plants named on their holiday ramble. If other botanists could be prevailed on to take as much trouble with the results of a similar expedition, we feel sure that no better method could be adopted for obtaining a pleasant and easy introduction to the study of systematic botany. We noticed on Miss Little's list *Scutellaria galericulata* and *S. minor*, but not the intermediate form *S. Nicholsoni*, which was originally discovered by Mr. George Nicholson, of Kew, at a similar excursion to Virginia Water, and is, we believe, still to be found there in abundance.

NATURAL HISTORY NOTES AND QUERIES.

The Glastonbury Thorn (*Cratægus Oxyacanthus*, var. *præcox*) (Rev. E. Downman).—There is a fine specimen of this thorn in the Victoria Park, Bath. I have seen it in flower at Christmas, I think it was in 1883. I have not noticed the behaviour of the tree at Christmas since the date named. I paid a visit to it on June the 19th (after reading the note in NATURE NOTES for June), and found it in fruit, with just a few late blooms on the top branches. The other cratægi in the Park were in full flower. A friend, F.L.S., has told me that he grew a Glastonbury Thorn in his garden, which he has often seen flowering in winter. May not the winter flowering of this early thorn be a *second* flowering, dependent on the mildness, or otherwise, of the season? The winter of 1883 was a very mild one. On the 24th and 26th December in that year I gathered flowers from twenty-seven different species of plants in the neighbourhood of Bath. I sent a note of these gatherings to "Nature," at the time, as a proof of the mildness of the season. I will observe the Glastonbury Thorn in our Park closely for the future, both in spring and winter. In the meantime it will be interesting to have notes from other observers.

Bath. W. G. WHEATCROFT.

Propagation of Ferns (Ernest W. Jenner).—Mr. W. D. Wickes, F.L.S., who has been very successful to the propagation of British Ferns, sends us the following record of his experience in the matter:—"The only condition requisite to induce the germination of fern spores, in addition to the proper degree of heat for the particular species to which they belong, is simply contact with a continually moist undisturbed surface. They will readily grow on damp soil, damp brickwork, tiles, or sides of the pots in which the parent plants are growing. Perhaps the easiest way is to sow the spores on the surface of moist loamy soil in moderate sized pots, keeping the soil about an inch below the edge of the pot, so as to admit of its being covered with a piece of glass to prevent excessive evaporation; the pots must be stood in pans in which water must be placed to keep the soil constantly moist. My own experience extends only to our native ferns, but this method doubtless will apply to exotics if only the proper degree of heat be kept up.

"The graceful *Asplenium bulbiferum*, sometimes called the carrot fern, can easily be propagated by carefully detaching the young plants from the parent frond, and placing them in pots of damp earth. The three chief things required for successful propagation are, shade, shelter, and an abundance of moisture."

The following rough and ready method of procedure, recommended by Mr. F. W. Burbidge, F.L.S., may be useful.—"In order to get them to germinate if no better appliance is at hand, get a wide-mouthed glass bottle, and fill it half full of sandy peat. Press it down tolerably firm and level, then scatter the spores over the soil, and cork the bottle. In order to give them sufficient air, either insert a quill through the cork, or cut one or two nicks in the side with a sharp knife. When the young plants are large enough for planting or potting, break the bottle carefully, and then gently separate the little plants."

Zebra Finches (E. W. J.)—Zebra finches are apt to make several false nests, and lay one or two eggs at intervals before they finally settle into a nest quite to their minds, but then they are said to be very prolific, even rearing as many as twenty young birds in a year. Canary and millet should be their regular food, with sponge cake soaked in water and pressed dry, mixed with a little hard-boiled egg, and dried ants' eggs soaked in water and pressed. They delight in a daily bath. They will build in a cocoa-nut or an open basket. E. B.

Java Sparrows (E. W. J.)—These birds will breed in a cage, and need the same treatment as zebra finches, but their diet should include a little hemp seed, lettuce and chopped carrot, and a rare dainty would be rice in the ear, as it is their natural food. E. B.

Rabbit (E. W. J.)—The cause of fur coming off is probably from insect pests. Dust the rabbit's coat well with powdered tobacco, give plenty of green

food, carrots, bran and oats, and plenty of hay. See that the hutch is well drained and kept very clean. E. B.

Flowering Plants Named ("Rusticus," Ferns, Co. Wexford).—(1) *Galeopsis*, not in flower, probably *G. Tetrahit* (Hemp-nettle); (2) *Stachys*, probably *S. palustris* (Woundwort); (3) *Lithospermum arvense* (Growell); (4) *Lepidium campestre* (Pepperwort); (5) *Hypericum* (?) *perforatum* (perforated S. John's wort); (6) *Valerianella dentata* (Lamb's-lettuce); (7) *Geranium dissectum* (Dove's-foot Geranium); (8) *Geum urbanum* (Avens); (9) *Veronica arvensis* (Field Speedwell); (10) *Orobanche minor* (Lesser Broomrape); (11) *Veronica humifusa* (Decumbent Speedwell); (12) *Veronica officinalis* (Common Speedwell); (13) *Umbellifer*—not in flower; (14) *Alopecurus pratensis* (Fox-tail grass); (15) *Bromus communis* (Brome-grass); (16) *Deschampsia cæspitosa* (Hare's-tail grass) (17) *Rumex acetosella* (Sheep's Sorrel); (18) *Luzula* (*L. sylvatica*?) (Wood-rush). [We shall be much obliged if correspondents who send flowers to be named will send perfect specimens *in flower*. In the case of *Umbelliferæ*, it is often necessary to have fruit as well for complete identification. We do not wish to unduly trouble the botanists at Kew or the British Museum, who so kindly assist us, by sending to them imperfect and immature specimens.—Ed., N. N.]

E. D., Richmond, Yorkshire, is quite correct as to Nos. 1 and 2, *Beta maritima* and *Phleum pratense*. The other two plants she sends are *Carices*, No. 3, *C. arenaria* and No. 4 *C. ovalis* These plants were so carefully arranged and sent in such good condition that there was not the slightest difficulty in immediately identifying them. The plants sent by Mrs. Meade-Waldo, Barmoor Castle, is *Impatiens parviflora*, which has established itself as a weed in many English counties. That from Mrs. G. A. Musgrave is *Mimulus luteus*, which for the last fifty years is given in English floras as having naturalised itself in many damp and boggy places. Miss Agnes Martelli's plant is *Silene Otites* and Mrs. A. Maitland Wood's *Atriplex angustifolia*. Although specimens sent by Miss Peyton from Cdnrhaiadr, Machynlleth, were carefully packed and thoroughly examined, there was no trace of the *orange-coloured growth* of which she wrote.

Curious Nesting Places.—The Rev. D. W. Barrett, Barnet Rectory, sends us the following cutting from an old Grantham journal which gives a parallel case to the instance mentioned by Miss Helen Wake (NATURE NOTES, p. 79) under the heading "A Muscovy Duck."

"Birds have always been remarkable for choosing strange and unaccountable places for laying and hatching their eggs. A hen, the property of Mr. John Cragg, builder, of Ancaster, being evidently disgusted with the nursery accommodation provided in the hen-house, chose, in preference, a willow tree standing in a neighbouring paddock. Among the branches, some fifteen feet high, she made her nest of twigs, straw, leaves, &c., and laid eight eggs. A few days ago she brought out six healthy chicks. The astonishment of the worthy builder may be imagined on seeing the happy mother proudly strutting in his yard surrounded by her little offspring. How they managed to get down from their lofty nursery is a mystery."

Matrimonial Troubles of Swans.—The Rev. J. A. Kerr writes from The Rectory, Clyst St. Mary, Exeter: "A pair of swans have a brood of six cygnets, now about as large as the common duck. The male bird was most attentive to the female while hatching, and boldly defended the nest and young, but lately attacks her with the greatest fury, and has denuded her almost entirely of the wing feathers, driving her off the pond, and exhibiting symptoms of the greatest rage, by the ruffling of his feathers and making an angry gurgling noise whenever she attempts to come near the cygnets. Perhaps some of the readers of NATURE NOTES may be able to suggest an explanation of these curious facts."

GENERAL RULES OF THE SELBORNE SOCIETY.

1. This Society shall be called the Selborne Society.

2. The objects of the Society are :—

(*a*) to preserve from unnecessary destruction such wild birds, animals, and plants as are harmless, beautiful, or rare.

(*b*) to discourage the wearing, and use for ornament of birds and their plumage; except when the birds are killed for food or reared for their plumage.

(*c*) to protect places and objects of natural beauty and antiquarian interest from ill-treatment or destruction.

(*d*) to promote the study of natural history.

3. All persons who are willing to further the objects of the Society may become members on approval by the Council, or the Committee of a Branch.

4. Membership of the Society shall cease if the Council shall for good cause so determine.

5. Members shall be either subscribing or non-subscribing.

6. The annual subscription of subscribing members shall not be less than two shillings and sixpence.

7. All subscribing members shall be eligible to the offices of the Society, qualified to vote at the general meetings, and entitled to receive all serial publications of the Society.

8. The officers of the Society shall be a President, Vice-President, two Trustees, a Treasurer, a Secretary, and twelve members of Council, and these, together with representatives chosen by the Branches, shall form the Council of the Society. The twelve members of the Council elected at the annual meeting shall attend not less than one-fourth of the meetings of the Council held during the year, and failing this shall not be eligible for re-election. Representatives of Branches shall be elected in the proportion of one representative to each fifty members, but every Branch shall have at least one representative. It shall be allowable for any representative not residing in London to vote by proxy duly authorised in writing.

9. The President, Vice-Presidents, Trustees, and the Members of Council shall be elected by the members at the Annual General Meeting, and, excepting the Trustees, shall hold office for one year. The Trustees shall hold office so long as they shall remain members of the Society.

10. The Treasurer and Secretary shall be elected by the Council; shall hold office for one year; and shall be eligible for re-election.

11. One member may hold two offices in the Society.

12. The Council shall have full control over, and management of, the affairs of the Society, and shall have power to make regulations in that behalf, provided that nothing inconsistent with these rules is done thereby.

13. The property of the Society, both real and personal, shall be vested in the Trustees; and all investments on behalf of the Society shall be made, and all valuable securities of the Society shall be held by, and in the names of the Trustees, and shall be dealt with by them on a resolution of the Council, and not otherwise.

14. The Treasurer shall have charge of the funds applicable to current expenses; shall keep the accounts of the Society; and present at the Annual General Meeting a statement of accounts. The Treasurer shall make payments only on the order of the Council.

15. The meetings of the Council shall be held at such times as the Council shall direct, but not less than four meetings shall be held during the year; five shall form a *quorum*.

16. The Secretary shall summon a special meeting of the Council if requested to do so in writing by five members of the Council.

17. Branches of the Society may be formed by the sanction in writing of the Council, on such conditions as they may deem fit on the written application of ten persons.

18. Each Branch shall elect its own officers, and not less than three members of Committee, and these shall together form the Committee for management of that Branch.

19. The Committee of each Branch may make regulations for the conduct of the business of that Branch, provided that they are consistent with these rules.

20. Branches in existence on January 1st, 1888, shall not be bound by the rules relating to procedure in the formation of Branches.

21. *Full members of a Branch shall be for all purposes full members of the Selborne Society.*

22. The Council may withdraw the warrant of a Branch for good cause.

23. There shall be an Annual General Meeting of the Society on the first Wednesday in May. A Special General Meeting may be called by the Council, and must be called on the requisition in writing of twenty Members.

24. Notice to the Council must be given fourteen days before a General Meeting of any proposal to vary, or add to, these rules.

OFFICIAL NOTICES; WORK OF BRANCHES, &c.

THE object of the Selborne Society is to unite lovers of Nature for the following purposes:—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

At the last meeting of the Council of the Selborne Society the attendance was unfortunately so small that no further progress could be made in the re-organisation of the Magazine Committee, as resolved on in last month's Council. It is imperatively necessary that something of the kind should be done at once, as the whole burden of the management of affairs has lain for the last two years on the Editor and Mr. Edward King, who are no longer able to devote so large an amount of time to work for which the Committee is really responsible. Owing to this inaction on the part of the Council, there has been considerable delay in the production of the Magazine for the last two months. It is to be hoped that prompt measures will be taken to put matters on a proper footing.

CLAPTON (LOWER LEA VALLEY) BRANCH.—On Saturday, 25th July, members made an excursion to Chigwell. Leaving the train at Loughton the party crossed the fields to Hall Lane, visiting the old church and the old rooms of the King's Head, where tea was provided, and after further walks through the village and in the neighbourhood returned to Loughton station. Several members having already left town there will be no further excursion until September.

The members of the junior section had an enjoyable outing on the 18th ult. to Chingford, and after rambles in the adjoining woods upwards of seventy sat down to a well-arranged tea at the "Forest Hotel."

LOWER THAMES VALLEY.—A number of subjects are at present engaging the attention of this Branch, and were discussed at the last meeting of the Committee, including the preservation of some beautiful iron gates on the Surrey side, which were perishing from want of care. On this matter we hope soon to publish an article by a local artist.

NOTICE TO CORRESPONDENTS.

To prevent mistake or disappointment, we request attention to the following rules:—

As NATURE NOTES is published on the 15th of each month, and the amount of MS. material received is always far greater than the available space, contributions should be forwarded *before* the 1st of the month in which it is desired that they should appear.

Correspondence intended for insertion in the magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with botany or zoology will be answered if possible, and advice will be given as to the best books for students in any department of natural science; but all questions must be accompanied by the names and addresses of the writers, not for publication, unless it is so desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

No. 21. SEPTEMBER 15, 1891. Vol. II.

HOME MUSEUMS.

IN Nature Notes for last March (Vol. ii. p. 45) I gave a short account of my private museum, dwelling almost entirely on the zoological specimens contained in it. As the result of that article I received a number of letters asking for further information, and showing so much interest in the subject and so much anxiety to carry my hints into practice, that I have determined to write some further notes as to the botanical and mineralogical portions of my collection, and to give some simple suggestions which will enable those who are anxious to do so to construct museums of their own. They will find it a much easier and more inexpensive matter than they might suppose, and the work of gathering treasures will prove just as pleasant as it is instructive.

Real students and lovers of nature—indeed, any of us who find it a duty as well as a pleasure to learn as much as is possible of the mystery and beauty of the Divine Wisdom revealed to us therein—will never be satisfied with mere book knowledge of the wonderful world in which we have been placed. The dweller in the country lives all day in a vast storehouse in which the Creator shows us His works, which we roughly divide into animal, vegetable, and mineral kingdoms, each in its natural relation to the others, each helping in the formation and support of the others. There is never any possibility that a dried and stuffed and ticketed collection, no matter how extensive, can give us teaching like this. But too often those who have most opportunities of wandering in the vast divinely-constructed museum of nature heed it the least. It has often given me the greatest pleasure to see in the many thousands of Londoners I have welcomed here, such a keen appreciation of the "common things" of the country. The woods, the gardens, the lake gave them innumerable objects for wonder and admiration, just as new to them as the curious pets

from foreign lands, and the collection of curiosities from all parts of the world, which by the help of kind friends and correspondents I have been gathering together for many a year.

For those who cannot study nature "at home" in the country, there are now extensive and well-arranged collections accessible to all. The grand Natural History Museum at South Kensington, so worthily presided over by Professor Flower, one of the vice-presidents of the Selborne Society; the splendid Museums of Botany at Kew, recently described in NATURE NOTES by Mr. Jackson, the Curator; the great collection of minerals in the School of Mines in Jermyn Street —these, or any of these, will give opportunity for months of study with increased pleasure and knowledge every day.

But, however much we may use all our opportunities of study either in the fields, woods, or in these great national collections, most nature students will like to have some private collection of their own, to which they may turn in leisure moments, or which they may re-arrange on a rainy afternoon. Almost every article in such a collection will have some private association—the mode in which they acquired it, the locality in which it was found, the friends, perhaps, now no longer here, who shared their delight in securing the prize. The letters which I have mentioned show me how widely spread is this pleasure in home museums, and how gladly many of the readers of NATURE NOTES would receive any information which would help them to secure one of their own. I must, then, delay no longer, but plunge at once *in medias res* with as simple a description of some of my own acquisitions as I can give.

Before speaking of the cases of minerals in my museum, I will try to explain how easily they may be kept and shown without having expensive cabinets to contain them, which is often a difficulty in the path of young mineralogists. Supposing there is but limited space, small shelves three inches wide, and three or four inches apart, can be made of plain deal, stained brown, and fixed against the wall with glass doors to keep out dust. Any carpenter can carry out this plan at very little expense, and an immense number of specimens can be arranged, and are much more readily seen in this way than in the drawers of a cabinet.

There is, to my thinking, an unfailing interest about stones of all sorts and kinds. They reveal so much about the history of our country, and tell us in a mute sort of way that they are the remains of long past ages, and have survived all kinds of upheavals, glacial periods, and changes of temperature. Wherever one may happen to be, something can be picked up in the way of minerals for the shelves of the home museum, and those fossils or stones we have ourselves discovered will always be reckoned far more valuable than any bought specimens. On this north side of London we live on very high ground, which was once covered by the sea, the pebbles are all rounded by

attrition, and many are brittle and full of cracks from their great age; some polish well and show beautiful colours and veinings; others contain impressions of fossil shells and sponges. The ventriculites, it is true, are generally broken in the middle; indeed, it is rare to find any perfect fossils, but even the pieces are worth preserving, as they can be compared with the perfect forms figured in geological books. The flints with cavities filled with drusy crystals are of many forms and sparkle brightly. Chalcedony and jasper can be picked up in our roads. Large masses of pudding stone occur in the fields, and when cut in half they take a high polish. A large cave in the grounds here is mainly formed of blocks of this stone. Now, our neighbourhood is not by any means rich in minerals, but I instance the foregoing to prove that even here stores for the home museum may be found and utilised. No doubt in other places a far greater variety could be obtained.

Most people have several "outings" in the course of the year, when usually there would be opportunities of collecting many kinds of specimens, fossils from the chalk or the lias, granites from Cornwall or Scotland, ores from any of the mining districts, pebbles from the seacoast; all these and many more can be obtained in our own country, and of course a foreign trip would afford a much wider range of possibilities for acquiring geological specimens.

The classifying and arranging the minerals thus obtained in various ways forms a delightful occupation for intelligent young people during the holidays, when kept indoors by wet weather, and it is pleasant to watch the keen interest with which fresh specimens are welcomed and talked over, each one having, perhaps, its own special history. This is the case with my own mineral possessions; one was picked up in the bed of an alpine stream and always recalls the beauties of scenery, the purity of air, and the sweet scents enjoyed during the mountain ramble. The limestone fossils speak of picturesque Derbyshire, with its wonderful caverns, stalactites, and crystals. Jaspers of every shade made up the beach at Aberystwith, and a glance at the polished specimens I brought home with me from there never fails to bring back to my memory the soft blue distances of the Welsh hills and the grand masses of the old Silurian rocks. My knowledge of geology being but very elementary, I often found it difficult to ascertain the names of my specimens, even with the aid of books. I was therefore glad to learn that any mineralogist will correctly name one's treasures for the small sum of one penny each. When this is done, the classifying becomes comparatively easy. If one watches for opportunities small pieces of minerals never likely to be found by oneself, are easily obtained by enquiring for a working lapidary's shop. It will probably be found in a back street, kept often by a poor working man, who will be glad enough to obtain and cut small specimens of whatever we are seeking. As a rule it is best to

avoid the showy lapidary shops at the seaside as they are apt as a rule to be high priced and unsatisfactory.

I find the inner tray of ordinary matchboxes a very convenient receptacle in which to place small stones or crystals. The trays being all of one size and shape, they fit in rows and take up little space; when re-papered, with some white cotton wool at the bottom, they look neat and keep the minerals from getting mixed.

Models of foreign fruits occupy the next wall case, and with them are some huge pods of tropical plants such as the entada, or sword bean of the East and West Indies. This is said to attain a length of from six to eight feet, and its seeds are converted by the natives into snuff-boxes, scent-bottles, spoons, &c. I have a *coco de mer*, or double cocoa-nut, the fruit of a tree which is only found growing on two islands of the Seychelles group. It is much to be lamented that this magnificent palm is gradually being eradicated by the constant felling of the trees to obtain the nuts. It is to be hoped that steps will be taken before it is too late to hinder the thoughtless destruction of such a rare and noble tree. The palm itself takes a century to come to maturity, and the nut, although it attains its full size in four years, requires ten years to be fully perfected, when it weighs about forty pounds.

The other specimens in the case are a dried baobab fruit, a pod twenty-six inches in length, containing the seeds of some unknown plant, models of the banana and breadfruit, a piece of the stem of some ivy, grown here, which measures eighteen inches in circumference, and a portion of ancient papyrus on cardboard. I may here mention that anyone who happens to have papyrus growing in a greenhouse tank, can very easily make paper from it if so disposed. I have succeeded in making some which exactly resembles that used by the Egyptians. If the stem is cut into six-inch lengths, the green bark sliced off, and the rest cut with a sharp razor into thin layers and placed on clean white paper, a row of the slices touching each other, continued to whatever length is desired, then another row placed over these transversely, leaving no gaps, and the whole pressed quickly between sheets of white glazed paper, it becomes a mass of thin pulp. The glutinous juice of the plant makes the separate pieces adhere, and if carefully lifted to fresh paper and well ironed until dry, the manufacture will be a success. If the pulp covered by the paper above and below is placed between two sheets of millboard one can then stand upon it, and ensure its being well pressed. It can be written upon with an ordinary pen, without sizing or any further preparation.

With regard to fruits, I may mention that many curious specimens may be obtained by asking a fruiterer, when purchasing at some of the importers' warehouses, to reserve such things as the Brazil nut as it is gathered, *i.e.*, a large woody

fruit, containing from eighteen to twenty-four of the triangular nuts. Most people express surprise when told that the nuts grow in this kind of wooden box, as they are seldom sold in the outer case. The cocoa-bean grows in a similar manner in a long hard-shelled pod. It is possible in this way also to obtain from the importers of foreign fruits a cocoa-nut with its outer case on, beginning to grow, and sending out a green shoot. If the nut is planted in a large pot and kept in heat one may see the very interesting growth of a baby cocoa-palm, so beautifully described by Kingsley in his book *At Last*. Amongst the things sold by Whiteley are long stems of sugar-cane newly-imported. These are worth possessing as showing the structure of grass on a large scale, but I would add a word of caution about handling the leaves. They are covered with minute spicules which, entering the pores of the skin, are apt to cause great pain and discomfort. I think I have said enough to show how, in various ways, one may keep enriching one's collection. A visit to a new place always suggests to my mind fresh chances of meeting with curios, and thus the possession of a home museum gives a pleasant interest to our walks, whether they are in town or country.

E. Brightwen.

The Grove, Great Stanmore.

EVOLUTION AND ENVIRONMENT.

S you have admitted the Rev. G. Henslow's articles on the above-named subject into the columns of Nature Notes, you have, I am sure, done both wisely and well in not only being ready to admit but in inviting the opinions of anti-evolutionists on his theories. But first of all, what is evolution? There is nothing like beginning at the beginning.

Herbert Spencer, whom Professor Tyndall calls "the Apostle of the Understanding," tells us "Evolution is a change from indefinite incoherent homogeneity to a definite coherent heterogenity, through continuous differentiations and integrations." A definition, this, admirable for its lucidity and simplicity of diction, no doubt, but which does not seem to have taught me anything very new or valuable.

In the "Origin of Species," by Mr. Darwin, which, by-the-way, never tells us what the origin of his "origin" was, anyone who takes the trouble to count will find in that one volume no fewer than just seven hundred such satisfactory proofs of his dogma as the following: "I believe," "I think," "probably," "possibly," "no doubt," "we need not doubt," "it appears," &c., &c.

Thus, similarly, Mr. Henslow, in his article on "Survivals" (NATURE NOTES, vol. ii. p. 105), uses the phrases "reasonable grounds for believing," "probably," "sufficiently" and so forth. He begins by telling us that according to its "environment"—in plain English, its surroundings—so is the effect on the creature (which he calls the "living protoplasm") itself surrounded, as every living creature I suppose must be surrounded, by something or other. Who has ever denied it? The question is not whether it is so or otherwise, but whether a new *species* is produced thereby? Look at the Negro and the Neapolitan, the Pigmy and the Patagonian, the Chinese and the Circassian. What does he call them, one species or half a dozen? How do his so-called species of plants compare with them? How as to fertility? "There's the rub!"

To say that nature "brings into existence new *species* by their surroundings" is mere assertion, and begs the whole question. The evolutionist who makes this assertion, then conveniently tells us, that if it has not been so it is because the "environments" have not been "very" different, or "not sufficiently so," which is the same argument over again in other words.

In some, however, they do (I mean we are told so) "acquire" "certain specific characters," and keep them for "incalculable ages." In what book of chronology has he found this calculation? In more or less large genera, he tells us there is at least one such "survival." What has become, I should like to know, of all their predecessors? for Darwin tells us that in all improved species the said inferior predecessors have been "exterminated"—improved off the face of the earth; and how have the others, such hundreds of thousands of real species, sprung into existence up to the present day? I repeat, the question is, has a single new *species* been thus formed, one which will be infertile with all others? The varieties produced by "breeders of cattle and cultivators of plants," are none of them new species, or any other than what they were before, however "plastic" they may be—that is the word—their "plastic tendencies;" tendencies to what, to variety or to specification? Let us be told this plainly.

F. O. MORRIS.

[In accordance with the Rev. F. O. Morris's request, we insert his vigorous paper, as any wish of Mr. Morris, who, as we have before said in these columns, has done invaluable service to one of the causes which Selbornians have at heart, we are anxious to gratify; but we cannot open the already crowded pages of NATURE NOTES to a discussion on the general principle of evolution. Whole libraries have been written on the subject, and the controversy is still carried on in the pages of many journals. The object of our magazine is not at all so ambitious as to attempt to rediscuss great philosophical questions. The name "Nature Notes," is intended to express what is the character of work which we wish to do. Observations on

nature, however simple, especially on the animals and plants of our own country, will, if there is anything new or interesting about them, always be gladly received. Our other contributors will excuse us if we mention the paper by Miss Agnes Fry in the last number, as an example of how much may be learnt from the careful observation of a very common object. There is ample proof that there are among our readers a large number who have taken their position on different sides of this interminable evolutionist controversy. We shall always be pleased to have any notes from members of either party as to observations from nature of what they consider is favourable to their theory. Professor Henslow's communications, dealing with the commonest British wild flowers, and taking their behaviour under different circumstances as arguments for his hypothesis, seemed exactly to carry out these requirements. To his first article was appended a note, saying that "articles on the other side, written with equal knowledge and *a similar absence of the polemical spirit*," would be willingly inserted. We asked for, and would be very glad to receive, an article dealing with the new point raised in Professor Henslow's last paper, viz., the survival of the dwarf willows, considered from the point of view of his theory of environment, since it certainly seems to need some reply from those who have so repeatedly relied upon those very plants as valuable arguments against evolution.—Ed. *N. N.*]*

CERTAIN REMARKABLE HABITS IN BEES.

AMONG animals of the highest types of organisation, we have long been accustomed to facts which seem distinctly to point to processes of reasoning. Elephants, horses and dogs have furnished abundant evidence of conscious adaptation of means to ends, and naturalists have been quite ready to grant to these animals the possession of powers of mind beyond what is ordinarily included in the term

* Since the above was written we have received a communication from Professor Henslow, who is quite willing to forego any discussion of the main principle of evolution, but wishes to point out, with regard to the portions of Mr. Morris's paper which have some direct bearing on his own article, that :—

"(1) The collection of quotations given by Mr. Morris from the writings of Mr. Darwin and those of Professor Henslow, showing how often probability instead of positiveness is asserted by them, is a conclusive proof of the entire absence of 'dogma' in their widely differing theories.

"(2) When Mr. Morris says that a certain statement is 'mere assertion and begs the whole question,' he entirely forgets the numerous arguments which have been brought forward in support of it.

"(3) In answer to Mr. Morris's question 'How as to fertility?' it will interest him to know that innumerable hybrids and subsequent crosses between natural species are quite as fertile, sometimes *more* so, than the original species."

"instinct;" but in cases of the so-called "inferior" types or divisions of the animal kingdom, surprise, not to say incredulity is evinced, when reasoning power is called in to explain certain methods of procedure. Yet we see no way of escape from believing that even among the invertebrata are found clear cases of *pre*vision of the future, and *pro*vision for its needs. Such instances are furnished in a very high degree among the *Insecta* by the *Hymenoptera*. It is needless to recal what is now well ascertained on this point in the habits of various species of ants. From the days of Solomon, these active creatures have furnished the naturalist with most interesting matter for observation and speculation, and the moralist with illustrations of the lessons he would enforce.

It is, perhaps, less widely known how frequently bees exhibit signs of forethought and cautious regard for coming needs. Apiarians have long been acquainted with evidences of the kind referred to,* as gathered from the behaviour of queenless stocks, when combs with eggs are supplied to them; from the precautions taken against the breaking away of combs when a glut of honey suddenly occurs; from expedients adopted when combs are detached, or have been tied into frames on removal from skeps. But perhaps one of the most curious of the consequences of reasoning among these insects is their conduct when a sudden dearth of nectar threatens them during the breeding season. They will then drag from the cells the partially developed larvæ and eject them from the hive. We can imagine no other reason for this than a well-grounded fear that supplies will run short for the adult population. More than this: the larvæ first chosen are always those of *drones* —the non-producers of the community—moreover, the fully grown males will have been previously ejected from the hive or otherwise got rid of as worse than useless.

But the recent rainy weather, with the probabilities of an end of honey-gathering suggested by it to the bees, prompted mine to a further display of economy of a very remarkable kind, and this notwithstanding a crate of fairly filled sections above the stock-box. Frugality is always quoted as among bee-virtues, but it is not often that it leads them to cannibalism; yet it is a positive fact that my bees, not content with ejecting larvæ of both drones and workers, proceeded to suck out the soft contents of the corpses, leaving only the white chitinous covering, which had not hardened sufficiently to prevent the workers from piercing it with their mandibles, and then inserting their tongues.

The carnivorous habits of wasps are matters of every-day experience. Similar tendences on the part of bees are restricted,

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* I have detailed various remarkable facts in Chapter xxv. on "Intellect and Instinct in Bees," in my book "The Honey Bee," published by the Religious Tract Society.

so far as I am aware, to the peculiar circumstances under which I have detailed their occurrence. Do these facts point to atavism far remote, or are they evidences of a process of reasoning developed under peculiar conditions? I incline to the latter explanation.

Ealing. W. H. HARRIS.

CHILDREN'S COLUMN.

Squirrels.

I DON'T think you could guess what I have been doing this evening. I have been cutting a squirrel's nails! It was not altogether easy work, for the poor thing was afraid, and turned and twisted and plunged, and tried to scratch and bite. In his fright he did bite the hand that held him, and he got hold of my thumb and made it bleed also. Then he looked about with bright eyes, on the alert to get away if only he could manage it. I thought all the time what a beautiful, wild, untamed, and untameable creature he was, and what a shame to keep him away from his free woods. He was, fortunately, taken from his mother's nest when he was only a baby, and so is used to living in prison; but, if he were my own, I think I would take him into some thick wood some day in the summer time, and let him go and find other squirrels and live his own life. I am told, however, that this would not be really kind, because he has been taken care of in a cage nearly all his days, and is not fit now for rough out-door life. Still, I feel so much about it that I wish no other squirrel might ever be caught, and I want to beg you boys not to make prisoners of happy little wild creatures like this. Keeping a rabbit is different, because you can let it out in the garden and on the lawn for air and exercise; but if you were to let a squirrel out it would be over the wall or up a tree in a minute, and you might never see it again.

Have you ever seen a squirrel? It is a very pretty, graceful, little animal, bright reddish-brown in colour except on the breast and under the body, where it is white. It is eight inches long without its tail. Measure this length with a yard-measure, and you will see what a small creature it is. Its soft, bushy, brown tail is more than six inches long—nearly as long as its whole self. When it runs over the ground this brush trails behind it. When it sleeps it curls itself up like a cat, but uses its tail as a blanket to cover its back; when it eats a nut it sits up on its hind-legs, holding the nut in its fore-paws, and letting its tail stand up behind it and curl forward over its head as a sort of umbrella. It looks very pretty like this, and many

pictures are made of it. Hear what an old poet named George Wither says of its having its dinner out in the rain :—

"The little squirrel hath no other food
Than that which Nature's thrifty hand provides ;
And, in purveying up and down the wood,
She many cold wet storms for that abides.

"She lies not heartless in her mossy dray,
Nor feareth to adventure through the rain ;
But skippeth out and bears it as she may,
Until the season waxeth calm again."

Just above these verses is a picture of a squirrel sitting up on its haunches with a nut in its fore-paws. The rain is coming down very heavily.

A "dray," you should know, is a nest. Squirrels live chiefly in trees, and build their nests sometimes in hollow trunks and sometimes in little nooks just where the branches join the trunks. They are very clever in making their nests look like knots or knobs of wood belonging to the tree itself, so that people may not know them to be nests ; and they take care to have the outside of them the same colour as the bark of the tree. They are made of moss, leaves, woody fibres, and anything soft that can be picked up, all very neatly woven together. Inside lie the baby squirrels, which are fed and tended most carefully by their father and mother.

"What do squirrels eat ? " you want to know. Nuts, acorns, beechmast, leaf-buds, and the tender shoots of plants. When winter is beginning, squirrels gather stores of all these things, and lay them up in storehouses. They do not put all their food in one place, but seem to think it safer to hide it in many places, sometimes in the ground, sometimes in holes in tree-trunks. Last autumn our squirrel busied himself in taking up a pile of nuts to his bedroom in readiness for the winter. All his food is put in at the bottom of his cage, and he either eats it there or carries it up to a nice, dark, cosy little bedroom at the top. For many days he was hard at work, cracking each nut to make sure that it was good, and carrying it up without its shell to his private storehouse. He had at last a great heap of nuts. They were laid neatly in rows, row upon row, reaching nearly to the ceiling. It was amusing to watch master squirrel in such earnest preparation for a long cold winter when we, like himself, might be in bed all our time and unable to give him any food.

Do you know how a squirrel gets at the kernel of a nut? He does not crack the shell as we do, but saws a hole in it with his four front teeth (two in each jaw), which are sharp and chisel-shaped. (Look now in the tool-box for a chisel, and you will see what I mean.) On account of the teeth, and the way in which the teeth are used, squirrels are called gnawing animals or gnawers.

When the kernel is picked out of the nut its brown skin is carefully stripped off. The small creature seems to know that it

is not good to eat. Boys and girls do not always remember this when they eat nuts.

Squirrels are very lively, active, and playful when they know they are safe from enemies, and they jump from bough to bough, and chase each other, and look as if they were having fine games. They are so quick that they can spring out of the way of a shot when warned only by the flash of the gun; but they are weak, timid little things, easily frightened, and not easily tamed. Our squirrel seems hardly to trust us yet, though he has had nothing but kindness, and has never been frightened or roughly handled. He understood, though, I think, that we were giving him friendly help as soon as I began with my scissors upon his nails, for he held them still, and stopped all his struggles. On each fore-foot are four nails, and on each hind-foot are five. How many altogether?

I cut the tip of every one just to make it blunt so that it should not catch in the wires of the cage, or in the flannel and cotton-wool, which serve as blankets and counterpane. The poor thing has been quite unhappy lately, caught over and over again by its long sharp claws. Each nail is round like a sickle, and is used for climbing and clinging, so that it would not do to cut off more than the tiniest bit of the tip.

Suppose now we finish with Cowper's description of a squirrel. And if you like, you can learn it by heart.

"Drawn from his refuge in some lonely elm,
That age or injury has hollowed deep,
Where, on his bed of wool and matted leaves,
He has outslept the winter, ventures forth
To frisk awhile, and bask in the warm sun,
The squirrel, flippant, pert, and full of play,
He sees me, and at once, swift as a bird,
Ascends the neighbouring birch; there whisks his brush,
And perks his ears, and stamps, and cries aloud,
With all the prettiness of feigned alarm,
And anger insignificantly fierce."

ELIZABETH MARTYN.

A BOOK FOR BOTANISTS.

Biographical Index of British and Irish Botanists, by James Britten, F.L.S., and G. S. Boulger, F.L.S. [West, Newman and Co., 54, Hatton Garden, E.C. Price 6s.; by subscription 3s. 9d.]

The announcement that this most interesting and useful work, which has been published in the numbers of the *Journal of Botany* for the last three years, is to be issued in book form, gives us an opportunity of expressing our satisfaction that there are still some botanists left amongst us who prefer to do good work on their own account rather than to borrow everything secondhand from the Germans. The chief offenders in this respect are the Oxford Clarendon Press, who devote a large part of their catalogue to a list of ponderous translated volumes on botany with not one book by an English botanist, as if they were desirous by the contrast to throw into prominent relief the poverty in literary production of the Oxford School of Botany. Only last year they published without editing or addition, the fifteen year old *History of Botany* by Sachs, which is indeed a masterly and illuminative sketch from the

German point of view of the various stages by which the present knowledge of physiological botany has been built up, but as a general history of botany and botanists, especially English ones, is utterly meagre and disappointing. They have printed also a translation of the same author's *Lectures on Physiology*, disfigured as it is by perpetual exhibitions of the most pitiable egotism and frequent attacks of an unpleasant nature on his brother botanists—notably most uncourteous and depreciatory allusions to the greatest English naturalist of the century. Of course one would not for a moment dispute the scientific value of Sachs' book, but deplore the fact that the Clarendon Press delegates were unable to secure an editor not too servile to mercilessly expunge the grosser errors against good taste, especially those which are likely to be most offensive to English readers.

The latest example of "German thoroughness" in connection with English botanists is a work called *Botanisches Adressbuch*, by Wilhelm Engelmann, Leipsig, recently published. The thoroughness displayed is undoubted, but it unfortunately consists in being thoroughly inaccurate from beginning to end, and displays wonderful ingenuity in being able to crowd so large a number of mistakes into a comparatively small space. Mr. Frederic N. Williams, F.L.S., tells us that he has taken the trouble to count them, and has been rewarded for his pains by the discovery of no less than eight distinct blunders in each page—together with many minor errors both of omission and commission. Doubtless the Clarendon delegates are already yearning to set to work at this precious production a number of translators who may be expected to produce a version of it sometime within the next few years; they need hardly be deterred from such a purpose by the fact that it is already in English, since the English is of that order which persistently describes the writer of a flora as a "florist," and gives a list of the botanic celebrities of "Norfolkshire" and "Middlesexshire"!

It is refreshing to turn from such blind Teutonic guides, who profess to teach us all about the botanists of our own country, to the really admirable piece of work before us. It would be hard to find two men better qualified for the task than the joint authors; probably Mr. James Britten (known to all our readers as formerly one of the Editors of NATURE NOTES) knows more about the ins and outs of the lives of British botanists than anyone in the three kingdoms; Mr. G. S. Boulger (also a Selbornian by the way) has devoted much attention to the subject and is, we believe, engaged upon a new edition of Pulteney's well-known *Sketches of the Progress of Botany in England*. It is not every one who can appreciate the great labour expended by these gentlemen on what they are modest enough to call a compilation, but is really a work containing a large number of historical facts, many of them ascertained by direct personal research. The writer of this review can testify that he has frequently spent hours in libraries, endeavouring, sometimes in vain, to ascertain the details given most succinctly in some one of these biographical sketches, and that he would far rather undertake the construction of the whole of Mr. Engelmann's List of British Botanists (minus, he hopes, the eight errors per page) than be responsible for the details of some single biographies given in Messrs. Britten and Boulger's work.

The book is one which will be of value to all our readers who take an interest in British botany; it answers many questions which are often asked in the columns of such a magazine as our own, it guards against the commission of innumerable mistakes in names and dates, presents in a most compact and concise form, the leading facts which would otherwise have to be gleaned from hundreds of volumes.

Quite apart from its special interest to botanists, the work may be recommended to all biographical students as a model of condensation, and a manual of ready reference to the larger biographical works; we can hardly doubt that it will lead the way to a series of biographical indexes on special subjects, constructed after the same fashion. That we have not exaggerated the merits of the book may be amply proved by careful examination of the following single extract:—

"**Sherard, William,** *né* Sherwood (1659-1728); b. Bushby, Leicestersh., 1659; d. London, 12 Aug., 1728; bur. at Eltham, Kent. B.C.L. Oxon., 1683. D.C.L., 1694. F.R.S., 1718. Pupil of Tournefort. 'Schola Botanica,' under pseudonym SAMUEL WHARTON, 1689. Visited Cornwall and Jersey, R. Syn. ed. 1, 1690, Appendix. Edited Herman's 'Paradisus Batavus,' 1698. Consul

at Smyrna, 1703-15. Brought Dillenius to England. Founded Chair of Bot. at Oxford, and bequeathed library, herbarium of 12,000 species, and MS. 'Pinax' to University. Plants in Hb. Sloane. Pult. ii. 141; Rees; Jacks. 606; Rich. Corr. 293; Gorham, 11; Journ. Bot. 1874, 129; Semple, 48; Gent. Mag. lxvi.; Nich. Illustr. i. 339, &c., Druce, Fl. Oxf. 380. *Sherardia* L."

It is worth while to notice the value of giving the names of the genera dedicated to the various writers, as in the last line of the above extract. We have often had occasion to point out the inaccuracy and inconsistency with which botanical writers deal with the derivations of genera and species; this is as remarkable in commemorative names as in those which are derived from the old Greek and Latin names. For example, Linnæus the founder of the genus *Sherardia*, distinctly says (*Critica Botanica*, p. 77), that it is called after "Sherard, Consul Smyrnæ.," but in spite of this, Hooker and Arnott, who are responsible for more mistakes in derivation than any British Botanists, transfer the honour to Sherard's brother James, and are followed in their error by Sir J. D. Hooker, in *The Student's Flora*. Irvine, who often gives curious information as to etymology, gives the correct name in his *Illustrated Hand Book*, and so does Alcock in his *Botanical Names for English Readers*, the most trustworthy authority in such matters. It will be a comfort to have uncertainty removed in this, and scores of similar instances by the research of such accurate writers as Messrs. Britten and Boulger.

It only remains to say that these gentlemen certainly expect to make no financial profit from the fruits of their great labour as the book is to be offered at the remarkably low subscription price of 3s. 9d., although greatly enlarged from the form in which it appeared in the *Journal of Botany*, containing over 2,000 notices. We must also warn the large number of our readers who will find it a very cheap and useful addition to their libraries, that they must make early application, as the number of copies to be printed is limited to 500, which are sure to be very rapidly exhausted, if there is any proper appreciation of good and conscientious work done by British botanists.

SELBORNIANA.

A much discussed Quotation.—In the *Zoologist* for 1884, page 117, the reason is given why the kingfisher was called the "sea blue bird of March" by the Poet Laureate, observation shewing it not to be more common then than at other times of the year: the phrase is traced to Alcman, the Spartan lyric poet, who calls the halcyon the "sea purple bird of spring," a description of it not much altered by Tennyson. If S. S. (NATURE NOTES, Vol. i. p. 60) is interested in the constructions which have been put on the poet's meaning in these lines, I may take this opportunity of mentioning that they were discussed in the *Field*, of March 12th, 1864, *et seq:* to which he may possibly like to refer.

Keswick Hall, Norwich. J. H. GURNEY.

[In addition to the references given by our correspondent we may mention an authoritative note by Mr. B. B. Woodward in *Science Gossip*, for February, 1877. A very interesting discussion in the *Academy*, Vol. xxv. (1884), was begun by the eminent scholar, Dr. Whitley Stokes, who was the first to suggest that the Laureate had taken the phrase from Alcman; it was continued by the Rev. W. Houghton, who inclined to the swallow, the Rev. H. T. Wharton, who agreed with Dr. Stokes, Mr. J. M. Gillington, who advocated the claims of the wheatear, and Dr. E. Spencer, who supported those of the blue titmouse. The controversy concluded by a communication from Mr. Anthony Belt, the Selborne Society's Honorary Secretary at Ealing. In NATURE NOTES, Vol. i., p. 93, we had the pleasure of publishing a statement which came direct from our President himself, to the effect that the "sea-blue bird" was certainly the kingfisher, and that he derived the phrase from his own remembrance of having seen the kingfishers in the Lincolnshire rivers, appearing for the first time in the month of March. We have since had an opportunity of obtaining from Lord Tennyson, through Mr. James Britten, a repetition of this statement, with the interesting

addition that were he rewriting the poem he would substitute "darts" for "flits by" and "sea-shining" for "sea-blue." Perhaps it will be convenient for our readers to have before them the original passage :—

"When rosy plumelets tuft the larch,
And rarely pipes the mounted thrush ;
Or, underneath the barren bush
Flits by the sea-blue bird of March."

Very much ink has been spilt in elucidating this verse. Let us hope that the point is now finally settled, and will trouble commentators no more.—ED. N.N.]

"The Kew Museums."—We are pleased to find the articles on this subject, which have lately appeared in NATURE NOTES by the Curator of the Museums have been referred to, quoted from, or copied *in extenso* by several newspapers in the neighbourhood of London. In each case their readers have been recommended to utilise the information given by the very highest authority on the subject, and to make more frequent visits to these too little appreciated museums. This we have no doubt is the very object Mr. Jackson had in view in writing the papers.

He has sent us a note of the following misprints which occurred in his articles : —On p. 146, *Rhus vermicifera* should be *R. vernicifera*. On p. 147, for *Hevea Orasiliensis* read *Hevea brasiliensis*, and on p. 148, for *Euphorbiacea*, read *Euphorbiaceæ*.

While apologising for these misprints, we feel sure that Mr. Jackson, who is well aware of the immense difficulties under which the editorial work of NATURE NOTES has been for some time carried on, will forgive us for these blemishes which certainly were not due to any want of legibility in his admirable "copy."

"Some London Birds."—The Rev. Leonard Blomfield, F.Z.S., who has probably observed British birds for a longer time than any living English Naturalist, has kindly sent the following note on the subject :—

"The author of the article on 'Some London Birds,' in the recent numbers of NATURE NOTES may like to know that I remember hearing *Nightingales* not unfrequently in Hyde Park when I was a boy, *i.e.*, in the first quarter of the present century. My father had a house in Connaught Place, and the park in those days was separated from the Uxbridge Road (as it was then called) by a high wall, on the park side of which there were shrubs and bushes, where I used to hear the nightingales singing as I lay in bed."

Mr. A. H. Macpherson, B.A., the author of these articles (which have attracted considerable attention, and caused great surprise to many Selbornians who had no idea how rich is the avifauna of the metropolis), sends us the following :—"As a supplement to my list of 'Some London Birds,' I may mention that the other day (August 24th) I found in the flower walk two young bullfinches and heard the voices of several others. I am informed that a gentleman captured a pair of old birds this spring, brought them to town and let them go in the flower walk, where they stayed, built their nest and brought up a brood of three or four young birds."

Native Names for Native Plants.—We have much pleasure in inserting the following letter from Mrs. W. Arthur Smith, the active Hon. Secretary of the Birmingham and Midland Branch of the Selborne Society. "May I ask you to use your influence with the readers of NATURE NOTES, and through them the larger circle of the public, in condemning the present custom so much in vogue of calling flowers by their botanical titles in ordinary conversation instead of using the sweet old English names, which are so much more expressive and pleasing. The Latin name conveys no meaning to the average individual, and it is often pronounced wrongly by the would-be scientist, who struggles with it ; while our English names, besides being often descriptive, are associated in our minds with some of our greatest poets and literary writers.

Fancy Shakespeare making Ophelia speak thus, "There's *Rosmarinus*, that's for remembrance. There's *Fæniculum* for you and *Aquilegiæ ;* there's *Ruta* for you, and here's some for me. There's a *Bellis*—I would give you some *Violas*, but they withered," &c., &c. Or, again, Oberon would now have to say,

"I know a bank where the *Thymus Serpyllum* blows,
Where *Primula elatior* and the nodding *Viola* grows,
Quite over-canopied with luscious *Lonicera Periclymenum*," &c.

May flower or ladies' smock now gives way to *Cardamine*, speedwell to *Veronica*, pansy to *Viola*, larkspur to *Delphinium*, snap-dragon to *Antirrhinum*, and worst of all, perhaps, the little forget-me-not hides its diminished head under the dreary title, *Myosotis*! It is quite correct to use botanical names when flowers are spoken of botanically, but at other times it seems rather pedantic and unmeaning to use Latin words when our own language supplies better and more descriptive names, which also have the advantage of being understood.

[While quite concurring with our correspondent's condemnation of the foolish habit, which might lead to the terrible results which she describes with playful exaggeration, we cannot agree with her that it is now much in vogue; among a large acquaintance with botanists and flower lovers, we can hardly remember one who errs in that way. Is it possible that the "pedantic and unmeaning" practice is confined to the midland district? It is also necessary to remind our readers, especially those who send flowers for identification, that there are a very large number of British plants which have no native names whatever, and also that there are a number of common names which are applied in different parts of the country to widely different plants, so that in most cases where accuracy and precision are required scientific names are quite indispensable.]

Gardens of British Wild Flowers at Richmond and elsewhere.—We have noticed in the *Thames Valley Times* a somewhat similar complaint to that made by Mrs. W. Arthur Smith in the foregoing paragraph. A Richmond lady writes to say how difficult it is to recognise the *Petasites fragrans* and *Bidens tripartita* are "familiar field flowers"; very difficult indeed, one might add, for they most certainly are not. She suggests that the garden of British flowers lately established at the Richmond Terrace Gardens might be made more useful by weekly botanical demonstration, and is so exhilarated by the anticipation, that she incontinently breaks into poetry—

"Behold the Borough Botanist teach youngsters by the hour,
And call by truly awful names each wild and harmless flower."

This, she says, would be a means of "teaching the young Selbornian idea how to shoot!"

The formation of gardens of British wild flowers has been frequently advocated in NATURE NOTES, and it is not easy to suggest one that would be more interesting and more beautiful than a good collection of plants illustrative of the flora of the Thames Valley. Richmond has peculiar facilities for such an undertaking, and it has close at hand the two botanists who have most carefully studied the plants of the Lower Thames Valley—Dr. Dyer, the Director of Kew Gardens, who published in 1869 in conjunction with Mr. Trimen, the *Flora of Middlesex;* and Mr. Nicholson, Curator of the Gardens, who gave in 1875 an admirable account of the plants on the Surrey river-side, under the title of *The Wild Flora of Kew Gardens.* One was justified, therefore, in expecting great things of such a scheme, and certainly those expectations were immensely increased by the great flourish of trumpets with which it was announced in the *Richmond and Twickenham Times.* The Garden is, it seems, under very distinguished patronage—that of the Vestry, the Town Council, the General Purposes Committee and the Terrace Gardens Committee (whether these are all separate bodies or merely one assuming various titles and aspects in its chameleon-like change, we know not), and the Editor evidently thinks that what has been done reflects the highest credit on all these municipal authorities. It will "give pleasure to all local lovers of natural science," it will "open the eyes of many people to the variety and beauty of the flora of the Thames Valley;" it will "prove a source of useful information to botanical students;" it is one for which all "Selbornians and other nature lovers" ought to be extremely grateful.

Fortunately for readers, very unfortunately for the collection itself, in the same number of the paper which has been quoted, an account is given of it and the plants contained therein. This account will be read with the utmost amazement by any botanist, or indeed by any body who has a fair knowledge of British flowers. A better example of *parturiunt montes nascitur ridiculus mus* could not possibly be found. The contrast between the pompous prelude and the paltry performance reminds one of nothing so much as of those amiable and amusing swindles which are perpetrated at some bazaars, in which the unwary spectator is handed a catalogue of magnificent pictures by great artists, and penetrates the gallery to find himself confronted by an ingenious arrangement of brick-

bats, red herrings, and old boots. A careful perusal of the leading article leaves no doubt that the glowing periods which have just been quoted, must have been written in grim irony. The editor of the *Richmond and Twickenham Times*, one of the most vigorous and versatile Selbornians known to us, must have far too much knowledge of nature, and far too much familiarity with the valley of the Thames, not to know that all the statements made in the paragraph quoted above are very curiously the reverse of what is actually the case. But the sarcasm, though severe, is not sufficiently obvious, and lest some of the Richmond Selbornians may be led into the belief that the writer is in earnest, it well be necessary to say a few words with regard to the actual contents of this much vaunted collection. The grandiloquent account mentions just eight plants ; the mention of *Hypericum* gives us no clue as to what is meant, as there are about a dozen British species of the genus. Of these eight plants the first, *Petasites fragrans*, is not a British plant at all, but a native of southern Italy, introduced into England during the present century ; it frequently escapes from the gardens in which it is planted, and probably has been confused by the managers of this wild garden with *Petasites vulgaris*, an undoubted British plant which grows on the river side close to Kew Gardens. The next three plants, *Linaria vulgaris*, *Cichorium Intybus*, and *Epilobium angustifolium*, although native plants, are by no means characteristic of the river side. *L. vulgaris*, a rank growing weed in garden ground, is a denizen of dust heaps and dry banks ; *C. Intybus*, of road sides, and other waste places ; *E. angustifolium* is generally found in open woods. The top of Box Hill, where it is found in Surrey, is a much more likely locality for it than the river bank. Of course these plants, as well as many hundred others, are to be found in the wide limit of the Thames "basin," but they are by no means typical of the flora of the Thames, or indeed of any other river whatever. The plant which does grow in profusion along the banks of the Thames is *E. hirsutum* ; possibly that is the plant which has been placed in the Terrace Gardens. The youngest Selbornian could distinguish in a moment its regular petals from the irregular ones of the *E. angustifolium*. We have left then just four genuine British riverside plants ; let us see how far the account given of them is trustworthy, and how far they are illustrative of the richness and variety of the Thames Valley Flora. Perhaps it will not be necessary to go beyond the first ; we are told that *Bidens tripartita* is "a rare plant" ; but the Borough Botanist was fortunate enough to secure a specimen last year, and having carefully sown the seed of his prize was able to produce the plant in all its glory at the Terrace Gardens this year. Now what are the actual facts of the case? *B. tripartita* is a *very common* plant ; very common in the Thames Valley, it may be found in almost every part of Middlesex ; very common in England ; very common in Europe ; *per omne territorium*, says Nymanun, in his *Sylloge* : it is to be found over a great part of Asia, in Africa, and in America—a pretty wide distribution this for a rare plant. It is indeed a common and ugly weed, one of the most dirty-looking and unattractive of the British flora, and likely to become a noxious pest when introduced into cultivated ground.

Space will not allow us to dwell upon the remaining three riverside plants, *Symphytum officinale*, *Lythrum Salicaria*, and *Spiræa Ulmaria*, save to state that they are all extremely common plants ; instead of being in any way characteristic of the Thames, there is probably not a single county in England in which they may not be found growing by the brook sides and in moist ditches.

How varied and interesting the Flora of the Thames banks actually is, when surveyed by a competent observer, may be ascertained in the work by Mr. Nicholson mentioned above, in which he gives many scores of plants growing in the little strip of river-side ground from the Brentford Ferry to the beginning of the Old Deer Park. This boasted Richmond Garden gives us, for the whole length of the river, *four very common plants*, which are about as illustrative of the banks of the Thames as a sod of way-side turf containing docks and dandelions, nettles and plantains would be illustrative of the Flora of the British Isles. And this is what the Editor of the *R. and T. T.* tells us is a pleasure to all lovers of Natural Science, calculated to open our eyes to the variety and beauty, &c., most useful to botanical students, a joy for ever to Selbornians, "a good work done in the interests of natural science!" Truly, Mr. Editor, the satire is too severe. The conjoined councils and committees may have posed as patrons

of an undertaking which has turned out absurd and abortive, but they hardly deserve to be prominently held up to ridicule by such bitter irony as this.

Possibly some botanists may ask ourselves whether it is not crushing a gnat with a club, or breaking a butterfly on a wheel to waste serious criticism upon such an undertaking. If the satire we have quoted had been sufficiently obvious we should not have done so, but as it is quite possible that some readers might be misled by it, we have found it neccssary to warn them as to the real nature of the "collection" referred to. Many efforts have been made for the botanical instruction of the flourishing juvenile branch of the Selborne Society in Richmond, and it would have been vexatious beyond measure that they should be induced to accept such inaccurate and misguiding teaching as that which we have noticed. We have no space to enumerate the number of elementary blunders in botany which appear in the description referred to. The way in which the names of plants are printed appear to an accurate botanist both bad botany and bad Latin. We should pity the fate of the schoolboy who would write of "the *Genus* Taxaceæ" in a paper intended for his master's eye. The most curious part of the affair is that the mistake made cannot be traced to any source whatever. Among a score of more or less familiar works on British Botany, many of them of course defective in parts, there is not one that gives any support to the extraordinary statements given above. It seems as if those responsible had either evolved their notions out of their own internal consciousness or had picked up hear-say gossip inaccurate and misleading, without the slightest idea that those who aspire to teach others should have some slight modicum of knowledge themselves. The lady whom we have mentioned is doubtless quite right in her desire for sound botanical instruction at Richmond, but assuredly it is not with the *juvenile* Selbornians it ought to begin.

But the question is what is to be done in the matter? Surely there must be more than one botanist in Richmond who could prevent the perpetration for the future of such gross blunders as have been recounted. The investment of sixpence in a copy of the London Catalogue, which we lately recommended as a *sine quâ non* even for tyros, would prevent the commission of the more serious blunders as to distribution. There is, we know, one lady Selbornian who has a really interesting garden of British wild flowers, within a short distance of that we have described; probably, if properly approached by the combined committees, she might give them from the sweepings of her garden a far better collection than that of which they are at present so proud. At any rate, unless they take some steps in the matter, their "botanical garden" will be a laughing stock to not only every botanist in the country, but to every child who has learnt the rudiments of botanical knowledge at a common national school.

The discovery that such ignorance should be possible among the ruling powers of a place like Richmond, and that so good an opportunity of doing a good work should be utterly thrown away has confirmed us in our purpose of giving some particulars as to real gardens of British wild-flowers, with hints as to the manner in which they may be best started and continued. Mr. Arthur Bennett, F.L.S., has kindly promised to give us some account of the garden in which he has grown some of the rarest British plants by experiment and distribution. We have received from the Rev. E. Gepp, M.A., a list of the extensive weed-garden at Felsted of which we recently wrote. Mrs. Brightwen has kindly promised an account of the British plants grown in her beautiful garden at Stanmore. Probably we shall be able to print an account of the plants grown in the Twickenham garden which we have just mentioned. It is hoped that particulars may be given of some of the older Botanical Gardens, such as that of Mr. Pamplin in Wales. Mr. R. J. G. Read, for a long time Hon. Secretary of the Bedford Park Natural History and Gardening Society, has promised us the fruit of his long experience in introducing wild plants into the garden. At any rate we trust that we shall be able to give our readers such instruction as may prevent the possibility of any other locality being the scene of such a ridiculous fiasco as that at Richmond.

Beautiful Wrought Iron Gates Perishing.—Our next extract, a much more practical one, is also from the *Richmond and Twickenham Times*, of which we may repeat that there is no newspaper so rich in fruitful suggestion for Selbornian work. It concerns the wrought iron gates near Richmond, whose sad condition we mentioned in the last number of NATURE NOTES. It would not seem strange if England, the greatest iron country in the world were to have

wrought-iron work as a national art wherewith to embellish her unrivalled parks and beautiful gardens. At one time it seemed as if it were to be so, as is testified by the iron scroll-work wrought by ordinary smiths, specimens of which may be seen at South Kensington and elsewhere. We shall probably never reach that pitch of enthusiasm which makes the inhabitants of Antwerp regard as one of their most precious treasures the iron well-cover executed by Quinten Massys. The least we may do is to guard from destruction the valuable examples of wrought-iron work which we have. Mr. C. J. Lauder, R.S.W., makes the following forcible appeal for this protection in the *R. and T. T.* :—"I notice a number of fine old gates in wrought iron in Richmond and the surrounding neighbourhood, from Teddington to Mortlake, all of them, with one or two exceptions, showing signs of neglect and ill-treatment. Some are rusting to death, and past repairing, their bars and scrolls twisted and broken, and the leaf-work gone ; others are not quite so bad, and still capable of preservation. I seek to interest you and your fellow Selbornians, and in that way the estate agents and owners having these relics in their charge, by calling attention to them in your columns, in the hope that something may be done to save some of them at least from further injury. I do not claim for them the excellence of the best Flemish or Italian work, nor great antiquity. Of their historical associations I know nothing, but judging from other things, some of them must be very rich in that way. I view them solely from an artistic point of view, and so regarded many of them are very precious. All of them are fair examples of the work of a time (not very remote) when the worker was still a craftsman, and before he had begun to sin in cast iron.

"Trim flower beds, freshly-painted windows, and well-pointed brick are too commonly seen in conjunction with a badly-used gate—not the least valuable thing on the holding—slobbered with paint or boarded up. Now boarding up is the unkindest cut of all ; these gates are all meant to be seen through, just like a piece of good stained glass.

"You must be familiar with the lovely old screen on what is called the Water Gallery at Hampton Court, facing the Jubilee Gate. I think the guides say it is the only one now *in situ* of nine that once graced the Royal Park, but half the crown is gone, and a moderately strong hand could shake it to pieces. One foliation lies hanging over from the top bar, and has hung there for more than a year, and will fall yet and be carried away. The leaf work in one of the ovals is down, and could be poked through with a stick. Some glimmerings of its value seem to have dawned on its keeper, for here and there a rusty wire links a falling leaf to its scroll. I think this gate is attributed to Shaw, of Huntingdon, and some of its companions are to be seen in the South Kensington Museum. I fear this one is past saving ; 'weeded and worn,' beautiful in death, a prayer and a poem in one.

"This gate is national property, and I think the Selborne Society ought to look after it." [We believe the active Lower Thames Valley Branch are engaged in carrying out this suggestion.]

The Coming Folk-lore Congress.—Members of the Selborne Society have displayed so much interest in the subject of folk-lore that we do not doubt that many of them will take the opportunity of attending the International Folk-lore Congress to be held October 1st to 7th, at the rooms of the Society of Antiquaries, Burlington House, Piccadilly. The opening address is to be given, on the 1st of October, by Mr. Andrew Lang, who holds a reception of the members of the Congress that evening. On other days the Chairmen of the Sections, Mr. Sidney Hartland, Prof. John Rhys, and Sir Frederic Pollock will give addresses, and there will be a very interesting conversazione on the evening of the 5th of October, to which members of the Congress will be admitted free, and friends of members upon payment of a small sum. There will be an entertainment comprising an English mumming play, children's games, sword dance, savage music and folk songs. It is further proposed to arrange an exhibition of objects connected with and illustrative of folk-lore, which it is hoped will form the nucleus of a folk-lore museum, likely to prove of permanent interest and value. Tickets of membership of the Congress at the extremely low price of half-a-guinea may still, we believe, be obtained from the Hon. Sec., Mr. J. J. Foster, Offa House, Upper Tooting, who will supply any further particulars which may be desired.

THE MAGAZINE FUND.

The Magazine Fund was started by the Editor for the following purposes:—(1) the gratuitous distribution of the magazine to public institutions, free libraries, working men's clubs, young men's and women's Christian Associations, parochial institutes, and similar bodies; (2) the enlargement of the size of the magazine; (3) the provision of illustrations.

In pursuance of the first of these objects, more than 200 copies of NATURE NOTES are gratuitously distributed each month to institutions of the nature described. This has been found to be one of the most efficient methods of making widely known the objects of the Selborne Society, and has in several cases been the means of adding new members and even fresh branches to the Society.

The second object has also been carried out by the permanent addition of four pages to the magazine.

It has been possible to accomplish the third object of illustrating our pages only to a small extent; but the manner in which such illustrations have been welcomed by our subscribers, shows how desirable it is that they should be much more frequently given. In addition to some small sums previously acknowledged in NATURE NOTES, the editor has received the following amount, for which he wishes heartily to thank the contributors:—Mrs. Brightwen, £5; Bath Branch (per Mr. Wheatcroft, hon. treasurer, £2; Ealing Division of the Lower Thames Valley Branch (per Mrs. Percy Myles, hon. treasurer), £1 15s.; per Mr. G. A. Musgrave, £1 10; Kensington Branch (per Miss Mary Hope, hon. treasurer) 10s.; Sir James Sawyer, Birmingham, 10s.; total, £11 5s.

The Editor is now obliged to resign the control of this fund as well as of the other self-imposed duties of management; but he much desires that the work that has produced such good results should not be allowed to drop. Other friends have kindly promised contributions which he hopes they will forward as soon as a successor has been appointed to carry on the work of managing the magazine.

WORK OF CENTRAL COUNCIL, BRANCHES, &c.

AT the last meeting of the Council of the Selborne Society much regret was expressed at the loss of Miss Wyatt, who for a considerable time has given most efficient aid to the Society as Hon. Secretary and Treasurer of the important Rape of Lewes Branch. Mrs. Payne, Hatchlands, Cuckfield, Hayward's Heath, has been elected in her stead. The formation of a new Branch at Malvern was authorised. The Rev. F. H. Fowler, Malvern, is the Hon. Secretary.

The Editor of NATURE NOTES explained that it was quite impossible for him to continue to act as manager, as well as editor, of the magazine; and asked that the suggestions made by him two months before might be put in some more distinct form, which should be binding upon members of the Council. In response to his request the following resolution was unanimously carried, "That this Council recognises the necessity of acting as an actual executive, not merely deliberative Committee; and that the members of the Council, agreeing with the suggestion made at a recent meeting, undertake each to give active assistance in some department of the Society's work. That a copy of this resolution be forwarded to each member of the Council not present at this meeting."

In spite of this drastic resolution, the Council has not yet been able collectivcly to take measures for the carrying out of the responsibility which they fully accept.

The Editor begs to acknowledge with thanks the receipt of several letters from individual members of the Council, and other members of the Selborne Society, with the kindest wishes that he may be relieved from the pressure which has been thrown upon him. The Birmingham and Midland Branch have also passed a formal resolution expressing a strong desire that the necessary assistance should be given, as the regular and efficient management of the magazine is most important in the interests of the Society.

The Editor wishes to explain to these friends and other members of the Society that he does not wish in the slightest degree to shift any responsibility from himself to anyone else, but to place the burthen of management on the

right shoulders. He never undertook anything more than (at first in conjunction with Mr. James Britten) the literary control of the magazine—in fact, the duties involved in the word "Editor." To quote the words of the 1890 report:—"A standing Committee for the management of *all matters other than literary* was appointed" (NATURE NOTES, vol. i. p. 65). This Committee has been gradually enlarged until it includes all the members of the elected Council. But as a matter of fact the Editor has always been obliged to perform the duties of Manager as well as Editor of the magazine; and has had no assistance whatever from any member of the Council except Mr. Edward King, who has expended much time and trouble in the advertisement department of the management. Mr. King is now obliged to withdraw that assistance, and the Council are merely asked to take upon themselves the duties for which they are answerable. The Editor, as is known to most members of the Society, was prostrated by a very severe illness last autumn, and has been more or less an invalid ever since. In spite of this, he has been able, mainly by the assistance of private friends, to continue the editorial, as well as managerial work, but he is at present very ill indeed, and although he hopes, should his health be restored, to continue to give his literary assistance to the Society, he must absolutely decline any longer to take upon himself the duties connected with the management of the magazine. He has no fear, however, that when the facts are distinctly known there will be any need of volunteers for the work.

The following members of the Council have individually promised him to undertake or continue work in various literary or business departments:—Mr. A. H. Macpherson, Mr. A. Clarke, Prof. Hulme, Mr. W. F. Kirby, Mr. H. B. Hyde and Mr. W. D. Wickes. Mrs. Percy Myles, Miss Agnes Martelli, and Mr. R. M. Wattson, delegates of Branches, hope as heretofore to take an active part. Mr. Otter, besides much other help, will continue to act as Treasurer of the Magazine Committee as well as of the Society, and it is hoped that Mr. G. A. Musgrave will be responsible for similar work in another direction. From the other members of the Council, some of whom are the most directly responsible for the starting of the magazine, nothing has been heard. If it is impossible for them to spare time to attend to their duties, there is no doubt from the promises that have been received that other members of the Society will be found ready to take their places. Nothing is now left to be done except the organisation by the Council of their *executive* functions. There is hardly any doubt that when that is accomplished there will be a distinct advance in the regularity and efficiency of the management of the magazine, the activity of the work, and the extension of the influence of the Selborne Society.

NOTICE TO CORRESPONDENTS.

To prevent mistake or disappointment, we request attention to the following rules:—

As NATURE NOTES is published on the 15th of each month, and the amount of MS. material received is always far greater than the available space, contributions should be forwarded *before* the 1st of the month in which it is desired that they should appear.

Correspondence intended for insertion in the magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with botany or zoology will be answered if possible, and advice will be given as to the best books for students in any department of natural science; but all questions must be accompanied by the names and addresses of the writers, not for publication, unless it is so desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to the REV. PERCY MYLES, 1, Argyle Road, Ealing, W.

Nature Notes:

The Selborne Society's Magazine.

No. 22. OCTOBER 26, 1891. Vol. II.

The Rev. Percy Myles.

IN MEMORIAM.

MOST readers of NATURE NOTES will have learnt with regret rather than surprise that the serious illness which attacked the Rev. Percy Watkins Myles about a year ago, and rendered him for the past twelve months more or less of an invalid, terminated fatally on Wednesday, October 7th. In this Journal, the existence of which was largely due to his initiation, and which owed its present position mainly to his fostering care, it seems fitting that such memorial as can be written of Mr. Myles should find its place.

Mr. Myles was born at Kilmoe, Co. Cork, on Feb. 27th, 1849, his father being then curate and afterwards rector of that parish. He was educated at Tipperary Grammar School, and in 1867 entered Trinity College, Dublin, where he graduated as B.A., and distinguished himself in English language and literature; being also Senior Moderator and Gold Medallist of the university. In 1870 he took deacon's orders in the Church of England, and was ordained priest in 1873 by the Bishop of Lichfield. His first curacy was at St. John's, Wednesbury (1871-4); and here he married the wife who has always taken a most active interest in his pursuits and shared in his work. He then came to London, and was senior curate at Holy Trinity, Chelsea, from 1874-8. In 1878 he left Chelsea for Hillingdon, having received an address and a purse of fifty guineas from his former congregation. Here he stayed for about four years, at the end of which time he came to Brentford as curate to St. George's. From this he went to St. Stephen's, Ealing, in 1884, and subsequently became chaplain to the Kensington Cemetery at Hanwell—a post which he occupied until his death—in which cemetery he was laid to rest on Saturday, October 10th. Mr. Myles, who was an able preacher, frequently preached in various parts of the country on behalf of the Additional Curates' Aid Society.

On taking up his residence at Ealing in 1884, Mr. Myles threw himself with great energy into literary and scientific work, taking a prominent part in the meetings of the local Natural History Society. Here he will be greatly missed at the evening meetings, where he often lectured or took the chair, and was ever ready to enter into discussions or enlighten the meetings with his knowledge and experience. Indeed, he always entertained the liveliest interest in the welfare and development of the Society. He was also especially active in all that concerned the Local Fauna and Flora Sub-committee, of which he was a member; amongst other subjects he paid considerable attention to the "extinction of species." Mr. Myles was also a member of the local committee of the Science and Art Classes, and of the committee of the Ealing branch of the Cambridge Local Examinations, and he frequently

lectured on various educational subjects at schools in the neighbourhood.

Mr. Myles was a man of extensive reading and varied information, and was always ready to place his stores of knowledge at the disposal of anyone who asked his help. He had the warm heart and the warm temper, as well as the ready wit, characteristic of his race; and also a certain open-handed disregard of prudential considerations, which prevented him from devoting himself to remunerative work. If there was anything he could do, he was ready and willing to do it, even when the work was unremunerative or (as sometimes happened) involved actual expense. As a consequence of this no provision exists for his widow, who has been a devoted assistant to him in his various undertakings. It has been thought that some would like to mark their appreciation of their deceased friend by contributing towards supplying this deficiency. The Rev. Prof. Henslow, Drayton House, Ealing, W., a warm friend of Mr. Myles, has kindly consented to receive such contributions.

Such an announcement of course appeals with special force to the readers of this Journal, as well as to the members of the Selborne Society. From the foundation of NATURE NOTES until its last issue, his interest in it never flagged; and the September number (the last he edited) contained many contributions from his pen.

His natural kindness added materially to his labour and correspondence, and although in this he had the constant help of Mrs. Myles, the burden was considerable. Communications which most editors would have cast at once into the waste-paper basket were put aside by him for consideration and acknowledgment. Every number of NATURE NOTES bears evidence of his careful supervision.

In the autumn of last year Mr. Myles was attacked by a complication of diseases, first manifested by a paralytic seizure, and although he partially rallied, his health has ever since been a cause of anxiety to his friends, who were, however, unable to induce him to take that rest which would have conduced to his recovery. After this he received an illuminated address, presented to him, with £150, by his friends at Ealing, as some help towards defraying the expenses which a serious illness always entails. Mr. Myles was deeply touched by this mark of esteem, and he greatly appreciated the kindness which, up to his death, he received from every one of his neighbours, especially from the clergy, and from Mr. F. N. Williams, of Brentford, who attended him in his last illness.

In the summer of the present year Mr. Myles was well enough to undertake a journey to Belgium. He returned with what he at first regarded as an attack of influenza. He was very weak, but it was not until the middle of September that he could be induced to visit a London physician, who confirmed the worst fears that had been formed as to the illness—Bright's

isease—from which he was suffering, and stated that the end could not be far off. From this time he grew gradually worse until he passed away on the morning of Wednesday, October 7th.

At a largely attended meeting of the Council of the Selborne Society, held on the afternoon of the same day (October 7th), Mr. G. A. Musgrave, who occupied the chair, having spoken of the great loss the Society has sustained, proposed the following resolution, which was seconded by Mr. Edward King, and carried unanimously :—

" This meeting of the Council of the Selborne Society, having heard with deep regret of the death of the Rev. Percy Myles, one of its most valued members, and the editor and originator of NATURE NOTES, desires to convey to Mrs. Myles its heartfelt sympathy with her in her grievous loss, and at the same time records its grateful appreciation of the noble services he rendered to the Society by the constant devotion of his time and energy to its extension and the increase of its influence through the aid of the many valuable members introduced by him thereto, and by the able manner in which, under all circumstances, he has raised NATURE NOTES, the Society's magazine, to the position which it now holds amongst scientific publications. The Council desires to further place on record its high appreciation of the active part taken by Mrs. Myles with their late friend and colleague, Mr. Myles, in promoting the objects of the Society."

Those who knew Mr. Myles only as an ordinary acquaintance could not fail to recognise his brightness and geniality. His earnest outspokenness on any matter, social or political, which excited his enthusiasm, sometimes led to misunderstandings, which, however, were in most cases easily removed. But there was a tenderer side to his character, which revealed itself to those who were more intimate with him. He was affectionate to animals, especially cats, of whom several formed part of the Ealing household.

As a lecturer, a preacher, and a writer, Mr. Myles was always interesting. The lecture on " Contemporary English Literature," which he delivered in January, 1890, before the Rudy Institute in Paris, only occupies twenty-four octavo pages, but it would be difficult to find elsewhere a more comprehensive and critical summary of the subject, and those who would see Mr. Myles at his best should procure this pamphlet.

We have reason to believe that his reviews in the *Academy* were highly appreciated, not only by the editor but by many readers. He also contributed to the *Journal of Botany* and other scientific publications. The work, however, with which his name will be most enduringly associated in science is Nicholson's *Dictionary of Gardening*, to which he contributed the " Pronouncing Dictionary of the Ordinal, Generic and Specific Names." This contains many thousands of names carefully accentuated, &c., and is now recognised as the standard work on the subject on which it treats.

SHALL WE DESTROY WIMBLEDON PARK?

AMONG objects familiar in the suburban landscape to the eyes of those who travel up and down the main line of the South Western Railway must be reckoned the new districts of Earlsfield and Summerstown, that appear in view soon after passing the cutting beyond Clapham Junction. There is nothing singular in the sight of these fast-growing suburbs of small houses; they only form one out of many instances of the phenomenal growth of population which the late census has revealed as taking place in the outer circle of London. Hard by flows the little river Wandle, its banks still willow-bordered, but now fast becoming lined with houses, though old travellers on the railway tell us that fifteen years ago, or less, this scene was one of rural solitude, in no whit differing from what it was in the days when the "father of British angling," Izaak Walton, lingered by the stream, perchance at this very spot.

Much as we may regret the certain and rapid disappearance here of whatever is dear to the memory of lovers of nature, it is of little avail to raise an outcry against the apparently inevitable. There is everything to favour a quick growth of population; the cheap rents of the houses, and the intention of the South-Western Railway Company to render access to the centre of the metropolis for daily work far easier than at present, by the issue of third-class season tickets, combine to make it highly probable that this district will one day become as densely populated as Battersea or Kennington further up the line.

But here, as in many places elsewhere on the borders of the metropolis, something must be done, and can be done, to supply the ever-increasing number of inhabitants with an open space that shall be a perennial source of fresh air, a means of recreation, and a change of scene as near their homes as possible.

Quite close at hand to the district just described, lies one of the fairest pieces of scenery that can be found near London, and yet, strange to say, till quite latterly, all but unknown to dwellers outside the neighbourhood. Shut out from view on the Thames side by a ridge of low hills that sweeps round from Wandsworth, by way of Putney, to the west and south, and forms the edge of the plateau of Wimbledon Common and Putney Heath, Wimbledon Park lies in a secluded hollow, with gentle undulations. Clumps of noble oaks, and here and there a Scotch fir, mingle among the many acres of meadow land, all golden and white in early summer with buttercup and ox-eye daisy. Right across the park stretches a beautiful sheet of water, while on a steep green hill to the south rises, embowered in trees, the spire of Wimbledon Church.

On the score of its great loveliness alone such a scene as this is worthy of continued preservation in its present state of

nature, but the fact that it seems purposely designed to be a means of health and enjoyment to the crowded suburbs that are advancing towards its eastern side, ought to silence for ever any objections against its rescue from the danger that threatens every beautiful but unprotected open space round London—its absorption by land speculators, and their dupes, the builders. It is almost needless to say that the whole of the park is for sale for building purposes alone, and has been for many years past. It is true that hitherto the residences erected upon it have been nothing worse than mansions surrounded by gardens, in which the beautiful trees have been left standing: but that was long before it was invaded by the District Railway, and those who took up their abode in it doubtless regarded it as none other but a quiet retreat in which to spend the remainder of their lives after the years of business were over. All that is at an end now; there are two railway stations in the park, each of them ready to form a focus for crowds of small villas, which, when once started, spring up with a rapidity that is almost inconceivable. Unquestionably the present inhabitants of the park would be the last to desire the destruction (for such indeed it would be) of their beautiful surroundings; and to them, as well as to all local members of the Selborne Society, is this appeal especially directed, to urge them to take steps for the preservation of what is happily the greater remainder of one of the noblest gifts of nature in the southern suburbs of London.

Only to show that in by-gone days its beauty was not unappreciated by those who knew it, one testimony shall be given from a letter written by Hannah More, upwards of a hundred years ago; and her utterances, couched in the quaint, old-fashioned style of the age, breathe a spirit that rejoiced in every sound and sight of this quiet green hollow, with its lawns and trees:—"The Bishop of St. Asaph and his lady invited me to come to Wimbledon Park, Lord Spencer's charming villa. I did not think there could have been such a beautiful place within seven miles of London. The park has so much variety of ground, and is as un-London-like as if it were a hundred miles out, and I enjoyed the violets and the birds more than all the mareschal powder and music of this foolish town."* Those words of praise, closing with an expression of weariness, almost of disgust, at the thought of the hollow pleasures of town life when contrasted with the calm beauties of nature, so far from losing their force, have acquired it tenfold since they were written. None who set eyes on the park for the first time, can fail to wonder, with surprise and delight, that such scenes of loveliness are still to be found so near London, and not a few will recoil from the thought that the verdant greensward, over which the fine old trees cast their shadows, must give way to the flaring

* Bartlett's *History of Wimbledon*, pp.69-70.

gin-palace at the corner of the road, the tawdry row of three-storied shop-buildings, and the formal rows of red-brick villas, all mingled with the jarring noise and discord of the "foolish town." Gloomy as this forecast may seem, its reality is only proved by what now exists in those neighbouring suburbs on behalf of the inhabitants of which no effort should be spared to save the park from such a mournful fate.

Though there ought to be no need for so doing, it would be well to make the argument for the preservation of the park more complete, by anticipating an objection that may possibly arise, namely, that Wimbledon Common and Putney Heath are quite near enough to supply all present and future needs of recreation on the part of the inhabitants of Earlsfield, Summerstown, and Southfields. If such a view had always been taken, the whole of Primrose Hill, adjacent to Regent's Park, would have long ago been covered with houses, and that perfect type of pastoral scenery, Parliament Hill and fields, which, as everyone in London knows, borders on Hampstead Heath, would have been lost for ever at the present moment. And, again, on the plea that Richmond Park was more than enough for the pleasure of the town that bears its name, the Lower Thames Valley Branch of the Selborne Society would have never been at the pains they have for some time past, to protest against the intention of the Commissioners of Woods and Forests to develop the adjoining Sudbrook Park into a building estate.

The fact, too, that the neighbourhood dealt with in this paper has not been free from encroachment on common land serves to strengthen the case for saving Wimbledon Park more than ever. The main lines of two great railways, those of the South-Western and Brighton Companies, have played sad havoc with Wandsworth Common; they have literally mangled it.* The mischief was done in days when it was all open country round Wandsworth and Clapham. Now it is otherwise, and the evil is but too apparent, yet a splendid opportunity now opens for redressing the loss. The manner in which the neighbouring Barnes Common has been utterly destroyed by the South-Western Railway is well known to all.†

It is possible that some readers of this article, while granting the force of the arguments adduced, may deprecate the proposal as unpractical. They may playfully remind the writer of Mrs. Partington's experience, and assure him that his humble broom is powerless to withstand the gradually rising tide of bricks and mortar (if such a metaphor is not too *mixed*) which threatens to overwhelm all rural beauty around London. But, at any rate, it is infinitely better that a protest should be raised against the destroyer than that his inroads should be regarded with indiffer-

* See NATURE NOTES, Nov., 1890, p. 173.

† This subject is fully dealt with by Mr. Robert Hunter, in an able article which appeared in NATURE NOTES, vol. i., p. 173.—[ED. N. N.]

ence as part of the inevitable course of things. How often has it been the case that some scene of beauty or some memorial of antiquity has been destroyed simply from want of public attention being called to it! How often have we been reminded of the need of preservation too late, when the work of destruction was half done.

In the first number of NATURE NOTES the Editor mentioned such warning protests against threatened destruction as one of the means by which he hoped to effect the Selborne Society's work. He has always been most willing to allot much of the space at his disposal to such topics, sometimes with the result of bringing the matters dealt with before a much wider public than that of the members of the Selborne Society. As long as such an opportunity is afforded to the present writer, he would infinitely prefer to be regarded by pre-eminently practical people as a vain *vox clamantis in deserto*, than to have to reproach himself with having knowingly allowed one of the lovely haunts of nature still existing close to our great city to be desecrated without an indignant protest on his part, and an earnest appeal to those who share with him the enjoyment of such priceless, and alas, fast vanishing treasures.

There can never be too many open spaces, either in the centre or what are now the borders of the metropolis; indeed, as it is, there are far too few. Though one of the Selborne Society's vice-presidents, Mr. William Morris, in his beautiful day-dream of *News from Nowhere*, anticipates a London of the twentieth century, shrunken to one quarter or less of its present size, with its suburbs, near and far, transformed into what they once were—fruit-laden orchards, fertile gardens and smiling meadows—harsh common sense, alas, seems to tell us that this consummation—desirable indeed—is impossible, to judge by the past history of the human race. Cornfields did not wave over the ruins of Troy and Carthage through a love of nature, or a zeal against populations massing in towns, on the part of their destroyers. But what lies in our power, and in the power of those after us, is to rescue these beautiful spots that still remain near London from that which has lately been described in one of our leading daily papers as "rural beauty's canker-worm, its peculiar curse of decay,"* the suburban villa. At no small expense can it be done, but if brought about, many most surely will live to bless the day when Wimbledon Park was enrolled among those places dedicated for ever to public use and enjoyment.

ARCHIBALD CLARKE.

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* *Daily News* (leading article), Aug. 19, 1891.

MY WILD GARDEN.

I HAVE been asked to give a few particulars of the way in which I have grown for some years many of the rarer species of our flora. I do so with pleasure, as if I can help any one to go and do the same I shall be amply repaid. The object with which this may be done is two-fold—either as flowers, regarded for their beauty and rural associations, or with the aim of ascertaining whether certain species change by cultivation, keep their characters, or diverge towards others. For myself, I must admit I wished to combine the two.

As to beauty, anyone who has seen a mass of *Potentilla rupestris* in full flower will not readily forget it, or of *Echium plantagineum* (Channel Islands), the latter flowering from June to September. Then even with the soberer-coloured sedges, what a beautiful object is a waving mass of *Cyperus longus* (Isle of Wight)!

Of course space is a great factor, but with even a garden in the centre of a town I have had between two and three hundred of our rarer and critical species growing, and mostly doing well.

I began by leaving one part just as it was with the ordinary garden soil; a second piece I mixed with Redhill sand (that known as No. 2), in the proportion of one half; a smaller portion with two-thirds of this sand, for the Norfolk and Suffolk plants of the sandy "breck-lands" of those counties, such as *Artemisia campestris*, *Medicago falcata*, *M. sylvestris*, &c. Another portion with powered and broken chalk, for such plants as *Lathyrus hirsutus*, *Oxytropis uralensis*, *Thalictrum*, *Veronica spicata*, &c.

Then I dug out a small pond, lined it with rough bricks and cemented them over, working in round the edge flower pots with the bottoms left open, but the top parts concealed by the cement. Into these pots I put such plants as *Caltha radicans*, *Carex Buxbaumii*, *C. salina*, *C. Ehrhartiana*, *Hierochloe borealis*, &c.; around this very small pond I dug out the ground one foot deep, filling it in again with one-third lumps of plastic clay, one-third sharp sand, and one ordinary soil. The overflow of the pond found its way into this swamp, and here *Cyperus longus*, *Sonchus palustris*, *Carex tomentosa*, *Sisyrinchium angustifolium*, *Mentha pubescens* and *alopecuroides*, *Selinum Carvifolia*, &c., grew well.

In the pond itself *Potamogeton lanceolatus* grew so well that in one year I dried two hundred examples off one plant of it, and distributed them. *P. fluitans* and others also found a home here.

In the drier parts of the swamp the remarkable differences between the first leaves of *Œnanthe pimpinelloides* and *Œ.* "*silaifolia*" could be well seen; those of the first named prostrate, and growing like the spokes of a wheel, with their apexes all following the circumference; the latter when emerging from the ground quite upright, straight, and falling over in a week or so.

On the drier parts of the ordinary soil I planted Hiera-

ciums, *Carduus tuberosus*, *Hypochæris maculata*, &c.; on the lower, Violas. *Ranunculus chærophyllus*, and under the shade of an apple tree, *Carex depauperata*, *C. strigosa*, *Allium Babingtonii*, *A. carinatum*, *&c.*

Some plants will grow anywhere, such as *Peucedanum officinale*, *Lepidium latifolium*, *Alchemilla conjuncta*, and many others. Then there are some of the grasses that are really ornamental, such as *Briza maxima* (Channel Isles), *Poa nemoralis glaucantha* (Snowdon), and these will grow and seed freely. In some cases it is necessary to put the specimens in pots (first cementing the hole over) before planting, as unless the roots of such plants as *Carex humilis*, *Equisetum litorale*, and others, are so restricted they do not flower.

Although most of those I have mentioned are rare or uncommon, there is no reason this should be so. Mr. Beeby has shown by cultivation that a good deal more has yet to be learned about our commoner species. When once established the rapidity with which some species will spread is astonishing: a *single* head bulb of *Allium carinatum* filled my garden in three years, it had literally to be pulled up by hundreds. Epilobiums (such as *roseum* and *lanceolatum*) will require very frequent weeding out. Sedges (*depauperata* especially) will come up self sown by dozens, and Hawkweeds will come up in such a mixed medley that a quick eye is needed to separate them at first, though some can be easily named by their first real leaves, such as *H. Gibsoni* and *H. cæsium cambricum*.

ARTHUR BENNETT.

A FEW WORDS ON MR. BURROUGHS'S BOOKS.

MR. H. SEEBOHM complained the other day, and very justly, in his Presidential Address to the Norfolk and Norwich Natural History Society, that Englishmen do not sufficiently interest themselves in the birds of other countries. They often know a little of the natural history of their own village or estate, but their ardour goes no further, though they are constantly travelling.

As I do not remember to have seen any allusion in NATURE NOTES to the writings of Mr. John Burroughs on American natural history and scenery, let me heartily recommend them to English readers, in the hope that they may induce someone who has the time and means to go and explore for himself the birds or plants of New England, or of some other part of the United States. They are most delightful little books; they are the work, not indeed of a scientific naturalist, but of a man whose whole heart is with the animals and the plants of his native fields and woods. They are written in good strong

English, well adapted to its purpose, with a vein of humour running through it which occasionally reminds one of Charles Lamb. They come straight out of the man's fresh and healthy mind, and are obviously written just because he could not help writing them. They have the pleasant American flavour, with which we are all now so familiar, and they have the spice of a native wit, but no artificial seasoning. And Mr. Burroughs has the rare faculty of taking us with him in all his rambles, and making us see with his eyes; and by the time we have read *Pepacton* and *Wake-Robin* and the rest, we feel as if we could almost find our way for ourselves among the forests of the Upper Delaware, or at least in the country around Washington, so rich in bird-life in April and May. As for the trout-fishing, it makes one's mouth water; and Mr. Burroughs is an old fisherman and comes of a fishing family. As he piquantly says, trout-streams have curled for generations round the roots of his family tree. Campings-out, long searches for hidden trout-lakes, expeditions on rafts, thunderstorms—all add an interest to the main theme, which is nearly always natural history, with the birds as prime favourites.

These charming books are to be had for a shilling each on our book-stalls, and as they are, doubtless, sold in large numbers, I have no right to assume that they are not well known among us; still, as I have met with many who never heard of them (nay, I should acknowledge that I have only lately made acquaintance with them myself), I may be excused for thus drawing attention to them. But what I wish more especially to note is the impression left on Mr. Burroughs's mind by two visits to England, and by two or three months' careful observation of English birds, their songs and habits. So many tears have been shed of late over the decay of bird-life in England, that it is as well to see whether our despondency is confirmed by the unprejudiced judgment of a foreigner. We shall find Mr. Burroughs's British experiences partly in *Winter Sunshine*, but chiefly in *Fresh Fields*.

We British, who in spite of our insular pride, take a strange delight in depreciating ourselves, may think Mr. Burroughs's judgment of us too fanciful; but who can resist the charm when he tells us that we are "a sweet and mellow people"—a people younger, more vigorous, better walkers, larger footed, more easy-going than his countrymen? With his kind words about us, however (not unmixed indeed with most excellent criticism), I am not now concerned, nor even with his delightful paragraph about our rich fields, our cosy homesteads, our footpaths (in which he revelled), our grass and moss growing in every nook and cranny, the repose and softness which mark all our landscapes, and made England seem to him "like a seat by the chimney-corner." Nor can I dwell on the sharpness of eye and ear which so quickly taught him the look and the voices of our birds, or the acuteness with which he hit off the blackbird as one

who is always *practising* his song, or the indefatigable ardour with which he hunted for the nightingale in Surrey, too late in June to hear more than a single utterance of one belated singer. But I do wish to ask readers of NATURE NOTES to read the chapter on "British Fertility" in *Fresh Fields*, and to mark how an observant American sees in England such extraordinary abundance of all animal life as he never dreamt of at home.

One thing that strikes him (p. 266) is the great number of eggs which our birds lay, and their comparative immunity from danger (!). "One can easily see," he says, "why the British birds so thrive and abound. There is a chaffinch for every tree, and a crow (*i.e.*, rook), and a starling for every square rod of ground." It is true, every word of it. Our opulence in birds is amazing; it struck me more than ever this summer when I returned from the Alps. And this in spite of the fact that for centuries our village boys have taken every nest they could find. A hard winter like the last comes and kills all our kingfishers; they are already beginning to appear again, and in three or four years will be as common as ever. People say that swallows and martins are diminishing in number; but I counted fifty on my house-roof yesterday morning, and to my eyes the air has often been alive with them during this summer of flies and moisture. Though I deprecate with all my heart all cruelty, all needless bird-nesting and above all, the senseless fashion of bird-wearing (now, I think, happily dying out), nothing will make me believe that we have not as many birds as we can well do with, or that there is any fear of their depopulation, unless it be from social reforms and the disappearance of landed estates. The list of birds which really need protection from human ignorance or selfishness is small, and is pretty well known. For the rest let us take Mr. Burroughs's word for it that the land is simply teeming with them. And while thanking him for his sensible and friendly witness on a point like this, I will thank him also for the great pleasure his volumes have given me. If it were only possible, I would take the next steamer to New York, go a-hunting for Mr. Burroughs in his native haunts, and ask him to introduce me to some of his own favourites before October has driven them southwards.

W. WARDE FOWLER.

[We cordially endorse Mr. Warde Fowler's recommendation of Mr. Burroughs's books, one of which, *Winter Sunshine*, was briefly commended in NATURE NOTES for May, 1890. Not only are their contents admirable in literary style and thoroughly Selbornian in spirit, but their publisher, Mr. David Douglas, of Edinburgh, has done his part of the work in a most attractive fashion, and the little volumes, both in typography and size, are models of what books for the pocket should be. The complete list of them is as follows: *Winter Sunshine*, *Locusts and Wild Honey*, *Wake-Robin*, *Fresh Fields*, *Birds and Poets*, *Pepacton*. Our space will not allow us to enter upon a detailed notice of these volumes, and, indeed, Mr. Fowler's appreciative article renders this unnecessary; but we entirely concur in the following sentence from the *Spectator*, published in a review of one of Mr. Burroughs's books:—"Mr. Burroughs says, in speaking of his various

walks among the Virginia Hills—'But whichever way I go, I am glad I came;' and the reader of his charming little volumes may say, in a similar phrase, 'Whichever essay I read, I am glad I read it,' for pleasanter reading, to those who love the country with all its enchanting sights and sounds, cannot be imagined."—ED. *N. Y.*]

SUPERSTITIONS REGARDING WILD FLOWERS IN THE SELBORNE COUNTRY.

HAVE been much interested in noting the many curious traditions and superstitions with regard to wild flowers, which are passed from one to another by the villagers in this neighbourhood. There is hardly a well-known plant that has not some story connected with it, some cure to be derived from it, or some lesson to teach with regard to weather, time or place. The school children, when gathering daisies, loudly point out to one another the red-tipped blossoms which represent the "blushing young girls," or the paler flowers personating "the white-haired old women." Nurse-maids will warn their little charges "not to pick them black-man-flowers" (*Prunella vulgaris*), telling that the plant belongs to the devil, who is exceedingly annoyed when it is gathered, and will certainly appear in the night to carry off the child who has so angered him.

Most of us have heard how unlucky it is to burn evergreens before the New Year, but few know the origin of the superstition. In the days of our forefathers, holly, ivy, and mistletoe, were brought into the houses—not to decorate them for Christmas, but to tempt the wood nymphs and spirits out of the cold and leafless country into the warmth and light. Those who succeeded were in return helped and watched over through the coming year, while those who, on the contrary, burnt and destroyed what little green and refuge was left, were tormented, and became unlucky in consequence.

Wild flowers are not employed by our villagers as medicines to the same extent that they were a few years ago, but the other day I heard of a "tea" now in use, which is composed of eighty-three different herbs—among others, scarlet poppy and dockweed. The cures for warts are many, yellow spit (*Chelidonum majus*), wartwort (*Euphorbia Helioscopia*) and chickweed (*Stellaria media*), being the favourites. As far as I can make out the last mentioned is used in the following way: Take some tallow candle and melt it down in an old saucepan, then add a handful of *S. media* and boil all together for some time, strain and pour into a shallow vessel to cool, and when cold cut into narrow strips and tie it over the "werts."

The prolific manner in which the gorse or furze bushes blossom has not passed unnoticed, and in some parts of England one of the most common sayings is "Courtin' 'ill cease

when t' goärse is oot o' flower." Some flowers are "bad" and unlucky; foxgloves kill all other plants; poppies will give a headache; misfortune will follow those who bring trembling grass into the house, or whose apple and pear trees bear fruit and flowers at the same time. An old woman should gather silver weed whenever the opportunity presents itself, as it will bring her joy and riches in the coming year. There are many superstitions connected with parsley and parsley seed, and it is most unwise to allow a stranger to plant it in your garden. Watercress, like oysters, ought not to be eaten unless there is an R in the name of the month, but onions, on the other hand, should be put into everything because—

"An onion a day
'Ill keep t' doctor away."

There is nothing like a potato for curing the rheumatism. A small one must be kept in the pocket, and as long as it remains soft and moist, so long will it continue to draw the rheumatics from the system. These are only a few of the many superstitions connected with our wild flowers—superstitions which have been handed down through successive generations, and which even now are firmly believed in and acted upon in many of our villages.

W. M. E. Fowler.

CHILDREN'S COLUMN.

Flying Squirrels.—I should like to say a few words about the most amusing little animals we have ever kept for pets. These are some flying squirrels, which our brothers caught in Florida about five years ago, and which were brought to England after being kept in captivity in America for some months. They are extremely graceful, pretty little creatures; and, considering the heat of their native country, are hardy, and not very susceptible of cold. Their small bodies are covered above with soft brown fur, while the under parts are all pure white. Their tails are broad and flat, and their large, prominent eyes are jetty black. Between the fore and hind legs the skin is loose, enabling them to leap long distances by forming a supporting membrane, which has earned for them the title of "Flying Squirrels." Ours became perfectly tame and happy, and one of them had four young ones—two at a time—which, however, all died, apparently of a kind of paralysis. They are bright, clean, intelligent little animals, with a provident habit of storing their food, which consists of nuts, corn, and fruit, while a live moth is an especial dainty. While loose in a room I have known one of them put nuts in a single boot to the number of dozens, running to and fro with untiring industry, while at other

times he would hide his treasures in the oddest, cleverest corners imaginable. These squirrels are nocturnal in their habits, but do not hybernate during the winter, and certainly form the tamest, prettiest, and most interesting pets it is possible to have.

ETHEL K. GREEN.

FEEDING THE BIRDS.—Selbornians in this neighbourhood during last winter were mindful of the claims of the birds upon their beneficence. One of our members (who keeps a quantity of poultry and pigeons) told me that it was a most interesting sight to see her daily collection of bird visitors. This kindly disposed lady made a point of having a quantity of hot poultry food served out to these waifs and strays of the bird world daily during the severe weather. Sometimes, she believes she has had as many as a thousand visitors. She said it was very amusing to watch their movements whilst the repast was cooling. Some would go away and presently return with a number of friends, taking care to be in good time for a fair share of the meal. One day, when I was getting some seed for the birds in the park, I happened to ask the seedsman whether he had sold much bird seed during the winter. His reply was that he had never sold so much in small quantities (a few pounds), and he was convinced the seed was used for feeding the wild birds.

Bath. W. G. W.

A TAME ROBIN.—I send you an account of a tame robin who gave us much pleasure at the time, thinking it may be interesting to your readers.

One summer one of these beautiful little birds came to our window. We fed him with crumbs, and as he repeated his visits we prepared for him a saucer of bread and cheese cut in very small pieces. After a time he became so tame that he was to be seen at the window whenever we opened it, taking the opportunity when the gardener came in the morning for orders to the usual window, to fly eagerly in. At luncheon and dinner he came on the table, helped himself to the different dishes, and on Christmas Day he made a good meal of plum pudding, which he seemed to enjoy, picking at it vigorously. In the winter he often came to my mother's bedroom window, tapping to come in; and if very cold he would stay all night—one night looking so ridiculous roosting on the cork of a medicine bottle! I have even known him stay two whole days and nights (in bad weather), never leaving the house. In the spring, when he had a family to feed, he came early in the morning to the bedroom window, pecking at it till I opened it, when he would fly in for the crumbs of bread and cheese which we always had ready for him.

One morning I had forgotten his usual repast and was obliged to go downstairs to the dining room for it, when to my surprise I found the robin was following me through the house.

I had to go down a long passage and staircase, across the hall to the dining room, and he flew after me the whole way. All this he continued to do for two whole summers and winters, and every day he came would sing beautifully, often sitting on my lap to give us his little song. After the two years, to our great regret, we did not see him again.

A. J. KENRICK.

A BOOK FOR NATURE LOVERS.

On Surrey Hills, by a Son of the Marshes. London: Blackwood, 1891. [8vo, pp. vi. 301. Price 6s.]

Those who regretted the early death of Richard Jefferies and who felt that his place would never be adequately filled, will turn with delight to the work of this new writer, on whom the mantle of the earlier observer seems to have fallen. "Nearer sixty than fifty years of age," as he tells us—a life-long student of Nature, though but a recent writer—this "Son of the Marshes" was a contemporary of Jefferies, whom he rightly styles "one of the most minute and truthful observers that England has ever known."

But, admirer as he is, no one will accuse him of plagiarism. He is no servile copyist, and his style differs in many respects from that of the naturalist whose loss we mourned four years ago. His observations are to the full as accurate, but he presents them in a broader aspect. Jefferies's work was as minutely accurate as a photograph; the Marsh-son is more of an artist—or of an impressionist—and his pictures are larger. Jefferies wrote as the early Pre-Raphaelites painted: his successor employs the pen as the later artists influenced by the work of the P. R. B. wield the brush. This is no dispraise of either. There are some who still cherish an affection for the early work of Millais, and Dante Rossetti, and of Matthew Lawless—the two last too soon taken from us—which they have never felt for their successors; while many who bow at a more recent shrine recognise how much of its beauty is due to the earlier men. It is among those who appreciate Jefferies that the "Son of the Marshes" will find his warmest admirers.

In his choice of situation, the writer now under consideration—why does he not give us a name which he can have no reason for concealing?—also recalls Jefferies to us. *Nature Near London* was, from its subject, one of the most interesting to us of all Jefferies's books; and in the present volume we do not stray beyond a home county, lingering about spots so easily accessible as Leith Hill. In the Surrey hills and valleys the writer, happy man! has "spent the greater portion of his daily life in the open air," during the forty years since he left his home in the North Kent marshes. Mr. Fowler says that Mr. Burroughs's books impel him to take the next steamer to New York; may it not be hoped that many will be stimulated, by the perusal of the volume now under consideration, to ramble among the easily-accessible woods of Surrey. "They are over-run in the summer months," he says regretfully, "by men and women who enjoy themselves in various fashions, some of these by no means rural. The majority of these pleasure-seekers are like those who gaze at the exterior of a beautiful casket in total ignorance of the jewels within."

There are certainly wonderful and strange sights to be seen by any one who has eyes to see them and patience to watch them. Such was the parliament of starlings which I was privileged to see at Holmwood on a bright June morning, three years ago—a parliament conducted apparently with at least as much order as that which meets at Westminster. Such are the traits of character in bird and beast and fish, which are scattered all through the Surrey Hills—both in Nature and in the book so-called.

One noteworthy difference between the Marsh-son and his prototype is in the human interest which is as apparent in the former as it was absent from the latter. Jefferies liked to stroll out by himself and note quietly all that he saw. The

later writer does this too, frequently; but he likes human society of the right sort —that of "the robust and kind-hearted people, the woodmen of the forest-lands" —of gamekeepers and other country folk. With some of the gamekeepers, by the way, he is hardly in sympathy; as with the "authority in the velveteen jacket," who told him that goat-suckers* "sucked cows when they was asleep." "I did not contradict him," he says, "his case was hopeless." The description of "the gable-end of a dog-kennel covered with beautiful creatures, the ornaments of the woodlands," reminds me of the "gamekeeper's museum," described by the Rev. F. O. Morris many years ago in one of the most useful of his books.

It would be easy to extend—indeed, the difficulty lies in curtailing—the notice of this delightful book. But it is before all things desirable that readers of NATURE NOTES should procure it for themselves, and I have tried in this short notice to make it incumbent on them to do so.

J. B.

SHORT NOTICES OF BOOKS.

Our Country's Flowers, and how to Know Them, by W. J. Gordon, with an Introduction by the Rev. George Henslow, M.A., &c. Illustrated by John Allan with over one thousand examples in colour and outline, 8vo, pp. vi., 154; thirty-three plates. London: Day and Son, 6s.

This handy little volume is crammed with information regarding our English Flora, and has been well received by the press. The author deserves all credit for his conscientious and painstaking compilation, and the artist has shown much skill and ingenuity in crowding 510 coloured figures into thirty-two plates. The book holds a position midway between the chatty little volumes of which we have already an abundance—some good, some bad, most indifferent—and the scientific handbooks of which also there are several, each good in its way. Mr. Gordon's book is in the main accurate, but we fear it will be considered "dry" by many of those for whom it is intended, and it is not only in their colouring that the plates leave much to be desired.

The "Index to the Species" is, we think, likely to entangle the unwary, for the order followed in both genera and species is alphabetical, and the particulars given are hardly sufficient to "distinguish one from another," in accordance with the aim of the author. But it is only fair to say that Mr. Gordon only claims to help his readers to "a nodding acquaintance with the wild flowers;" and Mr. Henslow in his introduction, points out to the beginner the need of some recognised "Flora," if he wishes to advance further.

The list of what Mr. Gordon calls "local," or "ordinary English names" is mainly derived, directly or indirectly, from the English Dialect Society's *Dictionary of English Plant Names*, or Dr. Prior's book, and stands in need of much revision. As it stands it contains obsolete words, others which are of doubtful application, some which have never been in actual use, and at least one ("Yevering Bells") which is not a plant-name at all. There are more misprints than there should be, and the spelling of names like *Buxbaumii* with a small initial, although not absolutely unknown in botanical books, is contrary to custom. Mr. Gordon has shown praiseworthy industry in his compilation, but we doubt whether Selbornians will find his book one after their own hearts.

An Introduction to the Study of Flowerless Plants, by Alfred W. Bennett, M.A., B.Sc. London: Gurney and Jackson, 8vo, pp. 86, thirty-six cuts. Price 1s. 6d.

This selection from Henfrey's *Elementary Course of Botany* has been made at the request of the National Home Reading Union for the use of their reading circles. It is somewhat advanced for the ordinary reader, but Mr. George Murray will write for the Union Journal a series of papers which, it is hoped, will prove a valuable introduction to this branch of study.

* "Heave-jar" is given as one of the names of this bird; Mr. Swainson has "Eve-churr," but I have not seen the former version elsewhere.

The approach of winter suggests that many who are not already acquainted with it will be glad to have their attention called to Mr. J. E. Bagnall's *Handbook of Mosses* (Sonnenschein and Co., 1s.) This is a popular and yet accurate introduction to the study of the group, written by one who is recognised as an authority on the subject, and may be confidently recommended to all who wish to begin a more intimate acquaintance with these small but beautiful plants. The more advanced students will find the *Key to the Genera and Species of British Mosses*, by the Rev. H. G. Jameson (West Newman and Co., 54, Hatton Garden, 1s. 6d.), a simple and handy arrangement of the species, with the characteristic features of each indicated; the plate, which contains sixty-seven figures, illustrating the terms employed, is a useful adjunct to the enumeration.

Lady Lindsay contributes to *The New Review*, for September, an interesting article on the Folk-lore of the swallow and sparrow. She will thank us for bringing to her notice Mr. Swainson's *Folk-lore of British Birds* (Folk-lore Society), with which she does not seem to be acquainted, and which contains a treasury of tradition about our British birds. We would also call attention to a beautifully illustrated article on "The Birds of London," by Mr. Benjamin Kidd, in the *English Illustrated Magazine* for October.

SELBORNIANA.

A Desideratum in Gardens for the People.—GARDENS ONCE AGAIN. Mr. W. F. Kirby, F.L.S., of the British Museum, writes as follows:—"Much has been done in the way of providing gardens for the people, and even in distributing plants from time to time: but yet it appears to me that one thing is wanting. In the main, it is necessary, perhaps, to put up notices that 'Flowers must not be gathered, nor trees injured.' And notwithstanding the temptation, these notices are for the most part respected. But could not gardens or parts of gardens be set aside in which flowers, or quick-growing flowering shrubs could be reared in quantities, and where the visitors, especially children, might be allowed, under suitable regulations, to gather and take away flowers for themselves? I am certain that such a privilege would be greatly appreciated by many of the poorer classes, and I feel sure that it would not be abused."

The House Sparrow in Somerset.—I have been much struck by the apparently considerable increase in the numbers of house sparrows in a country district in the north-west corner of Somerset, with which I am very familiar. At one time they were almost scarce, but during the last year or two they have multiplied to such an extent that the chaffinches and yellow-hammers seem to have been almost ousted to make room for these lusty ruffians. I think it is an understatement of the truth to say that for every sparrow one used to see there are now six. I make these assertions with great diffidence, as my observations have been made during short occasional visits only, and they may therefore be true of certain seasons only, but I fear this is not the case. I know that London sparrows are said to migrate into the country when the "season" is over because their ordinary supply of food runs short, and they like to change it for what they can get in the harvest fields; but I cannot imagine that any similar reason should send their Bristol relatives out into the bare country during the Easter holidays of this wintry spring, and it was this Easter that their increase has seemed to me so particularly marked. The country people about attribute it to the severity of the winter, which has killed off many of the birds through starvation, whereas the sparrows, so they say, have flown down to the docks at the mouth of the Avon—a distance of about two miles in a direct line—and have subsisted on the refuse which is thrown out by ships unlading. I confess this does not seem to me a very satisfactory or sufficient solution of the problem, especially as the increase has not been merely proportional to the number of other birds, but actual.

I should be much interested to know whether a similar increase has been noticed in other parts of the country, and if so to what cause the increase in those

districts seems ascribable. If the house sparrow—our ugliest, least interesting, and most destructive of birds—is really spreading its dominion over our island, to the extermination of our other birds, we shall owe it a grudge which its undeniable usefulness in towns will do little to clear it from.

ISABEL FRY.

Another side of the Wild Garden.—Perhaps not many generations hence the old-fashioned spontaneous life of Nature in forest, marsh or mountain will be no more seen in England. The children of that coming age will indeed "study" beasts, birds and flowers in Museums, Zoological and Botanical Gardens, as useful illustrations to their Natural History primers—that and nothing more.

So far as wild flowers are concerned, it is within the power of each one of us to defer this gloomy state of things simply by leaving wild flowers where they grow, enjoying them unselfishly, and not yielding to the plausible argument "If I do not take them some one else will, who will not value them as I do." Many plants, especially of our rarer kinds, will not flourish when transplanted to a garden—indeed their rarity may be due to the fact that the conditions they require of soil, moisture, &c., are met with in but few cases, so that there is a very poor chance that they will be obtained in a garden. Most of us are familiar with the appearance of a rare species in a "natural order" bed; the poor starveling is almost hidden by the label which bears its name and will, probably before long, mark its grave.

But even if transplanted wild flowers invariably flourished, it would not affect the main arguments for leaving them unappropriated, that (1) the practice hastens the extinction of species, making the British flora so much the poorer, and also removing the landmarks of changes which took place in prehistoric times; and further (2), wild flowers of special interest and beauty are lost to the nature-loving public, and become merely the monopoly of their owners.

People dig up roots with an easy conscience, thinking that what they take can make no difference, for wild flowers seem so abundant and so ready of growth; but this belief is not borne out by facts. The primrose is receding fast to secluded country, unable to stand the annual raids made upon it. Ferns and orchids seem especially easy to exterminate. That the mountain flora cannot hold its ground may be seen by anyone who climbs Helvellyn by the safe and frequented path, and contrasts its state as regards flowers with the dangerous and almost untrodden path; along the first there is hardly anything but grass, the other presents a rich alpine flora. The acquisitive tourist must be responsible for the difference, for both paths are on the same mountain slope.

Moss campion has been taken, to the last root, from Grisedale; it still keeps a precarious foothold in the Lake District, but its loss from that special spot is a grievous one, for there the sight of it checked Wordsworth's mourning for his brother. It grew, as he tells us,* on the spot where they had parted for the last time. What can make up for such losses as this? Certainly not an introduced flora, however showy; most emphatically not a Botanic Garden, divided into plots for the respective Orders.

C. GARLICK.

Martins and Sparrows.—A few years ago a pair of house martins, which had built just over my bedroom window, were attacked by a number of house sparrows, who evidently wished to turn out the martins and take possession themselves. After skirmishing for some time the martins appeared to have beaten and the sparrows flew off. But after some time, as the owners of the nest were foraging over the adjacent meadows, the sparrows appeared again. One went to the nest, and entering, was seen to come out again with an egg in his beak. Then he flew over a gravel path and there dropped the egg, smashing it to pieces. I cannot say whether this was repeated with the other eggs, but can vouch for the above.

H. R. V.

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* "Elegiac verses in Memory of my Brother."—Wm. Wordsworth, 1805.

Threatened Extermination of Elephants.—This well-known and sagacious animal is fast becoming extinct, owing to the ruthless slaughter which is carried on for the sake of its ivory. The elephant possesses almost every attribute that can render it useful to mankind. It is strong, persevering, and so docile that it may be trained to almost any service; and except during one part of the year is not, if unattacked, dangerous. Indeed to enumerate the services of these animals would be impossible; one single elephant performs more work than six horses. They are employed in carrying burdens on their bodies, round their necks, and even by the means of a rope in their mouths; they load a boat with amazing dexterity, drag beams, remove obstacles, and even may be seen to propel wheels. Notwithstanding all the uses to which this animal may be put, terrible cruelties are committed in hunting it. They are taken alive in pit falls and then cruelly slaughtered; pursued individually by two hunters, one of whom disables him by dividing the tendons of his foot with a blow whilst his companion attracts the animal's attention; sugar-canes are impregnated with poison—in fact no device is too cruel to use against them. These cruelties are committed in order to meet the constant demand we make for ivory. The demand is fast exceeding the supply, and before many years are over the elephant will be as extinct as the mammoth. Is not the elephant an animal that ought to come under the protection of the Selborne Society? And could we not, by each individually refusing to purchase its ivory, do some little to decrease the demand for it?

M. V. M.

Retribution.—Many of the sheep runs on the hills of Dumfriesshire have been invaded by hordes of mice. The hills have been in many places riddled by the vermin, and large stretches are literally swarming with them. They are much larger than ordinary field mice, approaching almost to the size of fairly grown rats. To the grass the mice have done almost incalculable injury. They tear the plants up from the roots, thus rendering further growth impossible. The plague is attributed to the destruction of the wild birds which prey on such vermin, these birds being mercilessly shot and trapped by the keepers on the ground that they destroy the eggs and young of grouse and other game birds.—*Pall Mall Gazette*, July 3rd.

Protection of Commons.—The Committee of the Bromley District Common and Footpaths Preservation Society are strongly endeavouring to stop the absorption for private use of the portion of West Wickham Common which still remains unbuilt upon. West Wickham Common, which adjoins Hayes Common, contained originally seventy-three acres, and is one of the most beautiful commons in West Kent. Ten years ago the greater portion was converted to building purposes, and attempts have been made at various times to enclose the remaining portion—now only about twenty-five acres—by low fences, which, however, have been no practical impediment to persons who wished to use the common. But last year a strong unclimbable spiked iron fence was erected, preventing easy access to a large portion of the common as set out on the ordnance and tithe maps, and the committee having taken legal opinion are advised that the proper way to secure the preservation of the common to the public is to apply to the Board of Agriculture for the land to be put under a Board of Conservators, whose duty it would be to preserve the common in its natural state for the public benefit in perpetuity. This course has been adopted, and the committee have authorized their solicitors to make the necessary deposit of about £50 with the Board of Agriculture to meet the Board's expenditure, but before the matter can be completed it is requisite to raise about £500, and an appeal is being made to obtain this sum.—*Daily News.*

Birds in Bonnets.—The fight against birds in bonnets is not confined to England. A number of German ladies, notwithstanding the failure of an earlier society with the same object, have started a new league under the title of the "Deutscher Bund gegen den Vogel-Massenmord für Modezwecke." The German society, like the English, has a Duchess as president—the Duchess of Mecklenburg. For all we know, womanly tenderness and good sense may be starting a similar crusade in other countries, so that in these days of international congresses for all

sorts of good things we shall probably soon have an œcumenical synod of ladies to protect the birds from "slaughter in masses for purpose of fashion." They may have a section for dealing with the slaughter of pigeons in masses by their husbands, lovers, brothers, and cousins, which is as much done in the service of "fashion" as the slaughter of birds for bonnets.—*Pall Mall Gazette*, September 30th.

The Great Skua.—There is now on view in a shop window in Kirkwall four eggs of the great skua, a bird of peculiar habits and now almost extinct in Britain. Indeed its only known nesting place is the remote Island of Foula, Shetland. So ruthlessly is the bird pursued for its now valuable eggs that last year out of about twelve nesting pairs only two eggs were hatched. A tourist when visiting Foula Island this year paid £40 for one egg.—*Pall Mall Gazette*.

NATURAL HISTORY NOTES AND QUERIES.

Date of Departure of Swifts.—Mr. John R. Eldridge, Epsom, writes: Th is year the swifts are staying with us much later than usual, as I observed seven or eight flying high overhead here this morning, the usual date of their departure, as I have hitherto noticed, being about the 22nd August; and the date given by White, in his 'Natural History of Selborne,' being the 20th. Several pairs have nested under the tiles of two of the houses in this road. It would be interesting to know whether any of your other correspondents have noted and can explain the reason of their prolonged stay. Is it possible that the boisterous weather has caused them to delay their journey across the Channel, or has their insect food been more abundant than usual and they are staying to devour it, although the coldness of the atmosphere would seem to be against this theory?"

Having sent this query to Mr. Aubrey Edwards, of Orleton, probably the highest authority on the subject, we received the following reply:—

"The explanation is simple enough. The swifts come over here solely for the purpose of breeding, and as soon as the young are ready to fly they return to Africa. The weather and the food question have only an indirect influence on their movements. A fine season means early departure, because nidification goes on quickly and without interruption. Bad weather means a late departure, because it may mean a late arrival, late nesting, scarcity of food, and consequent slow growth of the young ones. The better the young ones are fed the sooner are they able to fly, and it must be remembered that as soon as they *can* fly they fly away. The swifts have been staying late this year simply because the young ones have not been ready at the usual time. Here their usual time of departure is August 11th, but ten days later there were still a dozen or more, and on August 30th I saw one. The swallows and martins have two broods, and therefore have to stay later. They are not in such a hurry to be off as the swifts. The first broods have to wait for the old ones to show them the way, and they all go away together except a few belated ones. But when a family of swifts is ready it goes whether others are ready or not. My three-egg swift again laid her full number this year, but only one was fertile. Last year she only laid two, but had three in 1888 and 1889."

Alpine Plants from Seed.—The Rev. Wm. B. Moyes, The Manse, Strathblane, near Glasgow, writes:—"I am trying to raise a collection of the above, and have to some extent succeeded. But there are many specimens mentioned in Robinson's *Alpine Plants* which I cannot obtain seed of from the ordinary growers, such as Sutton and Sons. I write in the hope that you may be able to give the name of some seedsman or collectors from whom I might obtain seed of those of the above which can be raised in that way."

[Perhaps some of our readers can, from their own experience, answer Mr. Moyes's question. If so, will they kindly write to him direct?—Ed. *N.N.*]

Moles and Farmers.—A discussion on the subject of the mutual relations of moles and farmers would be of great interest and might be of much service. I have just returned from a farm in Yorkshire, where the professional mole-catcher came round this week for his yearly dues, which were claimed with as little hesitation as rent or rates. These dues are calculated on the acreage of each farm, and the office of mole-catcher appears to be hereditary, as this man, and his father before him, have spent their lives in catching moles. Now one knows the immense good done by a mole; one appreciates his steady voracity and his valuable incapacity for fasting, and one may calculate the number of harmful larvæ devoured by him per diem. One may feel leniently towards his rough attempts at surface-draining and top-dressing, and one may say that the slight untidiness of his earthworks is soon done away with by levelling and scattering them with a fork. But this does not exhaust the question. The mole-catcher will listen to these pleas unmoved. He will tell you that various farmers in the neighbourhood, after giving up mole-catching for a few years, were obliged in self-defence to recommence the practice; that not only the harm done to growing crops by the disturbance of sprouting seeds made the moles intolerable, but that on grass-land the injury done to the cutting edges of mowing machines by the fine pebbles of the mole-heaps made the preservation of the moles too heavy a price to pay for the benefits gained by their insect-eating habits. How is the mole-catcher to be answered? E. H.

Migratory Birds.—Can you tell me of any one who watches the movement of the migratory birds? I am very anxious to obtain information as soon as possible as to which of them have been seen already *this year* in England.

Harrow, Middlesex. F. A. Fulcher.

[Perhaps some of our readers can answer Mr. Fulcher.—Ed. *N. N.*]

R. M. W.—Probably *Hydrachna geographica.*

Natural History Pictures.—Would not the Selborne Society help on its work if they would recommend some large pictures of English birds, insects, &c., suitable for the walls of village schools and clubs, especially pictures with a short but accurate description of the subject?

A. Hussey.

[A large number of such pictures exist, and can be obtained from any school publisher; we shall be glad to notice any which may be sent to us. Some of the existing ones, however, are by no means satisfactory. One of the most important is the sheet containing coloured figures by Mr. W. G. Smith, illustrating the potato disease, with accompanying letterpress by Mr. Carruthers. This was prepared for the Irish Land Commissioners, and can be obtained from the Royal Agricultural Society, 12, Hanover Square, for a shilling. The Society for Promoting Christian Knowledge is issuing a series of botanical diagrams at the same price, which will be found useful for schools. Twelve have already been published.—Ed. *N. N.*]

Matfelon.—Can any reader give the derivation of this word as applied to the Knapweed, or "Hardhead"? Webster makes it Welsh, and meaning good yellow, which may suit when the term designates a basilisk, but is quite inappropriate to a troublesome weed.

H. J. Slack.

[Dr. Prior (*Popular Names of British Plants*, p. 149) tells us that this is a corruption of the Latin *Maratriphyllon*—fennel-leaf—a name which seems in the first place to have been given to the water-violet (*Hottonia*) and was subsequently transferred to other plants, including the Knapweed.—Ed. *N. N.*]

J. M. W. (Co. Longford) sends a bird for identification which arrived in such an advanced state of decomposition that it was immediately thrown away. We must ask our correspondents to spare us the disagreeable task of saying that we are unable to help them—and of smelling such birds!

Plants Named (Miss Agnes Martelli).—(1) *Artemisia vulgaris;* (2 *Artemisia maritima.* (Miss Kate Child, Slimfold, Horsham).—(1) *Ononis spinosa* (Spiny Rest Harrow) : (2) *Ononis repens* (Creeping Rest Harrow), two specimens sent. ("Lover of Flowers," Largo, Fifeshire).—(1) *Parnassia palustris* (Grass of Parnassus) ; (2) *Gentiana Amarella* (Felwort) ; (3) *Euphrasia officinalis* (Eyebright) ; (4) *Polygonum Convolvulus* (Black Bindweed) ; (5) *Campanula glomerata?* (Tufted Bellflower), very poor specimen ; (6) *Bartsia Odontites ;* (7) *Polygonum aviculare* (Knotgrass) ; (8) *Chenopodium album* (White goosefoot) ; (9) *Cakile maritima* (Sea-rocket) ; (10) *Arenaria peploides* (Sea Purslane) ; (11) *Achillea Ptarmica* (Sneeze-wort) ; (12) *Malva sylvestris* (Mallow) ; (13) *Euphorbia Peplus* (Spurge) ; (14) too poor a specimen for identification ; (15) Shrubby plant without flowers. The pressed specimen is *Asperula taurina,* not a native plant. ("Rusticus," Ferns, Co. Wexford).—(1) *Stachys arvensis* (Field Woundwort) ; (2) *Lamium amplexicaule* (Henbit Dead-nettle) ; (3) *Solidago Virgaurea* (Golden rod) ; (4) *Æthusa Cynapium* (Fool's parsley) ; (5) *Conopodium denudatum* (Earthnut, Pignut) ; (6) *Polygonum Convolvulus* (Black Bindweed) ; (7) *Linaria Elatine* (Small Toad-flax) ; (8) *Linum catharticum* (Purging Flax) ; (9) *Sherardia arvensis* (Field madder) ; (10) *Valerianella dentata* (Lamb's Lettuce) ; (11) no specimen forwarded ; (12) *Geaster limbatus* (Earth star).

[We are always glad to help our readers by naming their plants, but we must ask their attention to the three following points :—(1.) The specimens sent must be sufficient on which to form an opinion, and they must be in good condition. (2.) Not more than six specimens will be named at any one time. (3.) The plants should not be such as any one could name by consulting any of the popular or scientific handbooks to British Botany, of which a large number exist : most of the plants in the two preceding lists are *extremely* common. Our object is to induce folk to study Nature for themselves, and this object will not be promoted by the naming offhand any specimens which may be sent.—Ed. *N.N.*]

OFFICIAL NOTICES ; WORK OF BRANCHES, &c.

The object of the Selborne Society is to unite lovers of Nature for the following purposes :—

The Prevention from unnecessary destruction of Wild Birds, Animals and Plants ;

The Protection of places and objects of Antiquarian Interest or Natural Beauty ;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

At a special meeting of the Council on October 7th, the resolution of regret at the loss of the Rev. Percy Myles, which will be found on p. 184, was passed.

The formation of a new Branch at Cambridge was authorised, Mr. F. A. Hort, Emmanuel College, acting as Hon. Secretary.

At a meeting of the Council on October 15th, the resolution establishing the Myles' Memorial Fund (see below) was carried.

Mr. James Britten was appointed editor of Nature Notes, all business arrangements as to the magazine being undertaken by the Council.

A new Branch of the Society for Littlehampton and the neighbourhood was authorised, of which Miss Hilda Urlin will act as Hon. Sec.

THE MYLES MEMORIAL FUND.

A RESOLUTION was passed at the last meeting of the Selborne Society that an appeal should be made to members of the Society and subscribers to NATURE NOTES, under the belief that they would be willing to contribute to the above Fund on behalf of Mrs. Myles, in consideration of the services which her late husband rendered to the Society, especially as a most painstaking and efficient editor of the Journal.

Though a small sum was allowed by the Society to meet the current expenses in conducting the Journal, it was often exceeded, although such extra expenses were never mentioned.

Unfortunately, his professional duties left no margin, so it is hoped that a substantial sum may be secured for his widow, and any contributions will be gladly received and at once acknowledged by the secretaries of the several branches of the Selborne Society, and by the Rev. Prof. G. Henslow, Drayton House, Ealing, London, W.

It may be also added here that Mrs. Myles would be glad to undertake the duties of a secretaryship, if any such post can be found for her: she has had a long experience in such work, having been for upwards of ten years Hon. Secretary and Treasurer to the London Diocesan Associates of the Girls' Friendly Society.

SPECIAL NOTICE TO CORRESPONDENTS.

The next issue of NATURE NOTES will be a double number, and will be issued on December 1st. It will contain title-page and index for the present volume, as well as some indication of arrangements made or in progress for 1892. In future, NATURE NOTES will appear on the 1st of each month, with the other magazines.

Contributions for the December number should be forwarded to the Editor, JAMES BRITTEN, F.L.S., 18, West Square, London, S.E., not later than Nov. 15th, and in future by the 15th of each month.

Correspondence intended for insertion in the Magazine should be carefully distinguished from private correspondence, should be as *brief* as possible, *legible*, and written on *one side of the paper only*.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with Botany or Zoology will be answered if possible, and advice will be given as to the best books for students in any department of Natural Science; but all questions must be accompanied by the names and addresses of the writers, not for publication, if this is not desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to Mr. Britten, as above.

Nature Notes:

The Selborne Society's Magazine.

Nos. 23-24. NOVEMBER—DECEMBER, 1891. Vol. II.

A MEDIÆVAL SELBORNIAN.

(See Frontispiece.)

"Sweet St. Francis of Assisi, would that he were here again!
He that, in his catholic wholeness, used to call the very flowers
Sisters, brothers; and the beasts, whose pains are scarcely less than ours."
—*Tennyson.*

IF these were the days when men placed themselves and their causes under the protection of some saint, we should have no difficulty in choosing the patron of the Selborne Society. Even as it is, we cannot but feel the interest and attraction which the humble friar, whose feet trod the Umbrian hills and plains some six hundred years ago, exercises to-day upon the more spiritual of this nineteenth century; and the lines of our Laureate do but echo the feelings of those who have made themselves acquainted, in one form or other, with the life of love which found a responsive echo throughout the Christian world in the thirteenth century.

That life, writes Mrs. Oliphant, in her sympathetic biography, "is but a record of journeys, long silent walks from one place to another, walks which are enlivened by the tender love of nature which is always manifest in his visionary eyes, and during the course of which he spies the lamb among the flock, and steps aside now and then to say his Hours among the singing birds, or make his gentle exhortation to them, dismissing his little sisters with a blessing. There is always an out-of-door sensation about the picture—the woods rustling, the soft air blowing, the light striking on tower and tree." Is it not this "out-of-door sensation" which gives their charm to the writings of Jefferies and his school? is it not, in fact, what we mean when we speak of the Selbornian spirit, and may we not claim the gray-robed Friar of Assisi as a Selbornian in advance of his time?

The preaching to the birds, which we need not too readily dismiss as a parable, became at once a popular episode in the life of St. Francis. Even before Giotto depicted it on the walls of the Great Church at Assisi, it had been painted by earlier

artists. Its record, as it stands in the *Fioretti**—that charming collection of traditions brought together in the first half of the fourteenth century—brought the occurrence into literature. Here it is, in all its simplicity:—

"And going without taking thought of the way or the road he came to a village called Savurniano. And St. Francis began to preach; and first of all he commanded the swallows who were singing that they should keep silence, until he had done preaching; and the swallows obeyed him, and he preached with so much fervour, that all the men and women in that village were minded to go forth and abandon the village; but St. Francis suffered them not . . . And he left them much comforted; and he departed thence, and went by Cannaio and Bevagno.

"And passing along in fervour of soul, he lifted up his eyes and saw many trees standing by the way, and filled with a countless multitude of little birds, at which St. Francis wondered, and said to his companions: 'Wait a little for me in the road, and I will go and preach to my sisters the birds.' And he entered into the field, and began to preach to the birds that were on the ground. And suddenly those that were in the trees came around him, and together they all remained silent, so long as it pleased St. Francis to speak; and even after he had finished they would not depart until he had given them his blessing. And, according as Brother Masseo afterwards related to Brother James of Masso, St. Francis went among them and touched them with his cloak, and none of them moved.

"The substance of the sermon was this: 'My little sisters, the birds, you are much beholden to God your Creator, and in all places you ought to praise Him, because He has given you liberty to fly about in all places, and has given you double and triple raiment. Know also, that He preserved your race in the ark of Noe that your species might not perish. And again, you are beholden to Him for the element of air, which He has appointed for you; and for this also, that you neither sow nor reap, but God feeds you, and gives you the brooks and fountains for your drink, the mountains and valleys also for your refuge, and the tall trees wherein to make your nests. And since you know neither how to sew nor to spin, God clothes you, you and your young ones. Wherefore your Creator loves you much, since He has bestowed on you so many benefits. And therefore beware, my little sisters, of the sin of ingratitude, and study always to please God.'

"As St. Francis spoke thus to them, all the multitude of these birds opened their beaks, and stretched out their necks; and opening their wings, and reverently bowing their heads to the earth, by their acts and by their songs they shewed that the words of the holy father gave them the greatest delight. And

* The selection of the *Fioretti* from which these legends are taken, may be obtained from the Editor, 18, West Square, S.E., price 7d., post free.

St. Francis rejoiced, and was glad with them, and marvelled much at such a multitude of birds, and at their beautiful variety, and their attention and familiarity; for all which he devoutly praised their Creator in them. Finally, having finished his sermon, St. Francis made the sign of the cross over them, and gave them leave to depart; and thereupon all those birds arose in the air, with wonderful singing. And after the fashion of the sign of the cross which St. Francis had made over them, they divided themselves into four parts; and one part flew towards the East, and another to the West, another to the South, and another to the North, and all departing went their way singing wonderful songs; signifying by this, that as St. Francis, standard-bearer of the Cross of Christ, had preached to them, and made on them the sign of the cross, after which they had divided themselves, going to the four parts of the world; so the preaching of the cross of Christ, renewed by St. Francis, should be carried by him and by his Brothers to the whole world: and that these Brothers, after the fashion of the birds, should possess nothing of their own in this world, but commit their lives solely to the providence of God."

Treat this as a legend if you will, it is surely a very beautiful one; but those who know how "wild nature" can be "tamed by kindness" may be pardoned for accepting its main features as fact. If we go back much earlier, indeed, we shall find a somewhat similar occurrence in the life of St. Guthlac, the hermit of Crowland, which dates at the latest from 749. "It happened on a time"—we quote Mr. Goodwin's translation—"that there came a venerable brother to him whose name was Wilfrith, who had of old been united with him in spiritual fellowship. Whilst they discussed in many discourses their spiritual life, there came suddenly two swallows flying in, and behold they raised their song rejoicing; and after that they sat fearlessly on the shoulders of the holy man Guthlac, and then lifted up their song; and afterwards they sat on his bosom and on his arms and knees. When Wilfrith had long wondering beheld the birds, he asked him wherefore the wild birds of the wide waste so submissively sat upon him. The holy man Guthlac answered him and said: 'Hast thou never learnt, brother Wilfrith, in holy writ, that he who hath led his life after God's will, the wild beasts and wild birds have become the more intimate with him. And the man who would pass his life apart from worldly men, to him the angels approach nearer.'"

Here is Miss Katherine Tynan's rendering of St. Francis's sermon, in which much of the simplicity of the original is preserved:—

ST. FRANCIS TO THE BIRDS.

Little sisters, the birds,
We must praise God, you and I—
You with songs that fill the sky,
I with halting words.

All things tell His praise,
Words and waters thereof sing,
Summer, Winter, Autumn, Spring,
And the nights and days.

Yea, the cold and heat,
And the sun and stars and moon,
Sea with her monotonous tune,
Rain and hail and sleet,

And the winds of heaven,
And the solemn hills of blue,
And the brown earth and the dew,
And the thunder even,

And the flowers' sweet breath,
All things make one glorious voice;
Life, with fleeting pains and joys,
And our brother, Death.*

Little flowers of air,
With your feathers soft and sleek,
And your bright brown eyes and meek,
He hath made you fair.

He hath taught to you
Skill to weave in tree and thatch
Nests where happy mothers hatch
Speckled eggs of blue.

And hath children given;
When the soft heads overtwine
The brown nests, then thank yet Him
In the clouds of heaven.

Also in your lives
Live His laws who loveth you.
Husbands, be ye kind and true;
Be home-keeping, wives—

Love not gossiping;
Stay at home and keep the nest:
Fly not here and there in quest
Of the newest thing.

Live as brethren live,
Love be in each heart and mouth,
Be not envious, be not wrath,
Be not slow to give.

When ye build the nest
Quarrel not o'er straw or wool,
He who hath, be bountiful
To the neediest.

Be not puffed or vain
Of your beauty or your worth,
Of your children or your birth,
Or the praise you gain.

Eat not greedily;
Sometimes, for sweet mercy's sake,
Worm or insect spare to take—
Let it crawl or fly.

* St. Francis, however, called Death his sister—"*Suor* nostra morte corporale."

See ye sing not near
To our church on holy day,
Lest the human folk should stray
From their prayers to hear.

Now, depart in peace;
In God's name I bless each one;
May your days be long i' the sun
And your joys increase.

And remember me,
Your poor brother Francis, who
Loveth you and thanketh you
For this courtesy.

Sometimes when ye sing
Name my name, that He may take
Pity for the dear song's sake
On my shortcoming.

Here is another of the *Fioretti*:—

"How St. Francis made the wild turtle-dove tame.

"A certain youth had caught one day a great number of turtle-doves; and as he was taking them to market he met St. Francis, who, having a singular compassion for these gentle creatures, looked at the doves with eyes of pity, and said to the youth:—'O good youth, I pray thee give me these gentle birds, to which, in the Holy Scriptures, chaste and humble and faithful souls are compared; and do not let them fall into the hands of cruel men who would kill them.' And immediately the young man, being inspired by God, gave them all to St. Francis, and he received them into his bosom and said to them tenderly:—'O my little sisters, simple, innocent and chaste doves, why have you let yourselves be snared? See, I will snatch you from death and make nests for you, wherein you may increase and multiply according to the commandment of our Creator.'

"And St. Francis went and made nests for them all; and they took to their nests, and began to lay eggs, and hatched them without fear before the eyes of the Brothers, and they were as tame and familiar with St. Francis and all the other Brothers as if they had been domestic fowls always accustomed to be fed by them; and they would not depart until St. Francis with his blessing gave them leave to go."

This is no place to enter into further particulars as to the life of Francis. We are tempted to quote his wonderful "Song of the Creatures," but that must await another opportunity. For the present, it is enough to call the attention of Selbornians to this Apostle of their Society—this mediæval illustration of the lines dear to us all—

He prayeth well who loveth well
Both man and bird and beast;
He prayeth best who loveth best
All things both great and small
For the dear God Who loveth us,
He made and loveth all.

TAME MONGOOSES.

I.

THE mongoose is an animal something like a ferret, only prettier. It has a large bushy tail and blue eyes, and is a sort of grey-brown colour. When angry the tail swells almost to the size of a fox's brush; it has a pointed nose and tiny paws, and can be easily tamed by constant handling and petting, but their bite is fearful, as they have long, sharp, pointed teeth, and are very tenacious in their hold. They are most useful in India for killing snakes or rats, and it is quite curious to watch them. I have seen a mongoose lie in wait watching a snake, when he will make a sudden pounce and catch it in a certain part of the neck, give it a vigorous shaking, and never loose its hold till the snake is dead. The snakes know that this little creature is their natural enemy, and will sometimes remain perfectly rigid, as though dead; all the while the mongoose never takes his eyes off the snake, watching from a distance; should the unwary reptile make the slightest movement, his enemy, with a single bound, siezes him in a most dexterous manner, and never releases him till he is dead.

Some years ago when I was in India, I bought two of these little creatures—one only a baby mongoose, the other older. Having a number of pets at the time I let them play together, so as to grow up good friends. We named the larger mongoose "Tiny." By constant petting he grew so tame as to come at a whistle, and on that account was allowed a great deal of liberty and the free run of the garden, and to go in and out as he pleased. At that time I had a large bull terrier puppy—a nice affectionate creature—also a lovely Blenheim spaniel with long silky ears, beautiful large eyes—brown, and most expressive—and his coat was white, with red patches; and from his most amiable gentle disposition he was a universal favourite. "Smut," the bull terrier, was somewhat impetuous, and like all puppies rough in his play. He had beautiful white teeth, something like the wolf in Red Riding Hood. There was also a little monkey, quite young, but very bad-tempered; he seldom interfered with the other animals. Tiny was in the habit of flying on his back, and with his little paws playing with Dot's lovely silk ears, conveniently near the ground. On this unlucky occasion, Dot, with his usual equanimity, dozed, or half closing his eyes, allowing Tiny to jump and frisk about, then frequently giving his ears rather too energetic tweaks. The amiable Dot, however, bore it so patiently that Tiny, finding no notice taken of his frolicsome tricks, bounded off with his back arched like pussy when she spies an enemy in the distance, and seeking for more new mischief, caught sight of his old friend "Smut" basking in the sun. For a time they had fine games, Smut fairly tolerant of Tiny's

antics, as much as to say, "You are such a very small creature I will allow you to take liberties up to a certain point." But, alas! Tiny becoming bolder, gave an unlucky tweak to poor Smut's ears, which proved too much for his dignity and forbearance. Thoroughly roused, he seized poor Tiny, planting one of the beautiful teeth in his side. In rage and suffering Tiny flew round the various large flower pots in the verandah, his tail swollen to three times its original size, and it was a long time before he allowed himself to be caught, and the wound carefully bathed and dressed. But it taught Tiny the lesson, which perhaps we may all learn—to "let sleeping dogs lie."

Mongoose No. 2 we used to call "the small creature," as she never grew any bigger; she was my special pet, and used to do the oddest things possible. In their wild state the mongooses live underground, burying themselves by digging a hole with their paws. But these two, being allowed to go where they liked in the daytime, and having the run of house and garden, were only shut up in their boxes at night. The pastime of this small creature was somewhat quaint; she knew my husband's dressing room quite well, and used to climb up by the window and get hold of his shaving pot of soap, push off the cover and commence burying both her small paws in it, scratching and digging it out as she would her own native earth had she been in her wild state; then she would take the shaving brush in her mouth and rush off with it, hiding it in all sorts of impossible places—in the garden, sometimes the stables, or behind flower pots and bushes, as you may imagine, driving the master wild with this trick. The hunt for this shaving brush used to last for hours sometimes, the whole household being called to assist in searching for the missing treasure. Nor could we ever discover her object in carrying it off. Sometimes she would dabble her paws in the inkstand and carry off the pen. However, when we left Bolarine, to my great grief I had to part with her, and gave her to a friend who used to write a great deal, and I trust she got over her delinquencies, for I do not think she would assist him much in his literary compositions. She was of a more tractable and gentle disposition than Tiny; and since then I have never heard one word of her.

The end of Tiny was very peculiar. He was very fond of going into the room where the native servants washed up plates and dishes—a locality forbidden, as they find scraps of meat, which make them very savage. If they get hold of a piece they growl over it and never let it go, like a dog with a bone, holding it between their paws. Quite suddenly a soda water bottle exploded with a loud report and bang, which so frightened Tiny that never from that day could we find out where he went or what became of him, which we greatly regretted, as he was a most amusing pet. He would frequently sit up and beg like a dog. Sometimes we found him curled up like a ball on the sofa, or he would sleep on our laps, and after a long, long chase in

search of him he would be found snugly ensconced in the piano or under a cushion. He had also chases on his own account after rats, and it was curious to see them scuttling along and Tiny simply flying, with his tail erect, in hot pursuit. The rat had no chance. Tiny quickly pounced upon him, and with one grip pinned him as he had the snakes, and the rat had to yield to his swifter little enemy. At other times the unlucky fowls would be the victims. We used to hear a general commotion amongst the servants and much shouting, and see disordered turbans and flowing garments vainly in pursuit of the little wretch, who was equally diligent in hunting the fowls. My little daughter had to be appealed to for help, and many a whistle sent forth before he would give up the chase. Sometimes a saucer of milk coaxed him back, and then he was taken by the tail, but he was very sharp and eluded every effort of the native servants to catch him. But he greatly attached himself to us, and the law of kindness was the only one to which he was amenable.

Guildford. C. M. H.

II.

Towards the end of last summer I was informed that my garden was haunted by a strange animal who could be heard any evening among the shrubs, but hardly ever seen, though a chance glimpse had revealed something like a large rat. One day, however, the mysterious visitor ventured into the open, and having with some difficulty been made a prisoner, proved to be a fine specimen of the Indian Mongoose (*Herpestes griseus*). At first he was kept in rigorous confinement, but after a few days established such friendly relations with his captors that he was left to ramble about as he pleased, and before long "Billy" was the pet of every one who had to do with him. His favourite nestling place was among the hot water pipes of the greenhouse and vinery, but on fine sunny days he would run over the garden beds, and a favourite amusement was to get into a round garden basket and trundle it along by working it as a squirrel does his cage. His food was principally meat, with an occasional mouse or sparrow supplied him by the gardener. A common snake had made the garden his winter quarters, and one day, Billy, who had managed to get into the neighbourhood of the snake's hole behind the pipes, was heard "swearing" a good deal, and shortly afterwards emerged looking plump and self-conscious, like the dog in the nursery rhymes. The snake has never been seen since.

Billy's especial friend was the gardener's young son—but he was on the most amicable terms with all the men, and if he wanted more attention than he was receiving at the moment, would come and nibble at their boots till they spoke to him. With myself he was more shy, but I have no doubt he associated me with my large St. Bernard dog, who one day nearly

nearly made an end of him, and turning the old maxim of "Love me, love my dog" into "Hate my dog, hate me," he would have little to say to me till the last week of his short life, when he again made friendly advances.

Poor Billy! About three weeks ago he was missed one day when he was called to dinner, and after a night of suspense, during which the gardener "could hardly sleep," and his boy tasted his first sorrow, Billy was discovered wedged in among the pipes in their underground passage, where, apparently, he had found the heat too great, had been unable to return, and had been suffocated. He lived beloved and died lamented, and rests in a primrose-strewn grave beneath the garden wall, at the head of which his virtues are writ, not in water but in lead pencil, by the loving hand of his mourning playfellow.

Two reflections arise: First, that if Billy accommodated himself so easily in the open garden in summer and even in winter in the moderate heat of a vinery, mongooses might be easily domesticated in our kitchen, where they would do excellent service as mousers, and where their cleanly and tameable and affectionate habits would make them almost rivals of the harmless necessary cat; and, secondly, that if Billy had been a little less unmistakably foreign, his appearance might have been taken as proof of the existence of an animal in our farms which would have no right to a place there. As, however, the most patriotic of naturalists has never included the mongoose among our British quadrupeds, there is no doubt he must have escaped from confinement somewhere, though we never could find where.

Hampstead. B. W. S.

THE SELBORNIAN ABROAD.

TRAVELLING has become so ordinary an event in the lives of many of us in these days of swift steamers, that the time has almost come for the organisation of a bureau of advice to those who prefer natural history interests to art and antiquities, which are well enough described in the ordinary guide books. Voyages to remote and semi-civilised lands are undertaken for health, for sport, for sightseeing, and for "mere cussedness;" and it cannot be widely enough made known to such travellers that though the vertebrata and the flowering plants and ferns of these lands may be thoroughly worked out, there yet remain the great fields of many groups of invertebrata and of cellular cryptogams waiting exploration. The mosses, algæ, fungi and lichens of many readily accessible places are known to us after the most imperfect fashion. Collections of such from the West Indian Islands, from almost any

part of South America, from Africa except the north and the Cape region, from great part of India, from China especially, from the East Indian, Malayan and Pacific Islands would be a welcome addition to any herbarium in Europe. Expert collectors have travelled through such regions, but mostly have had quite enough on their hands with the flowering plants and ferns, or with some special group of cryptogams. Mr. Spruce, for example, has dealt with the mosses and hepaticæ of the Amazons and Rio Negro most thoroughly, but the fungi of these regions are in need of like exploration. The Natural History Museum fulfils most of the functions of such a bureau of advice, and travellers who have the opportunity of collecting would do well to make use of it, that they may serve natural history instead of wasting time and pains in making pitiful collections of rubbish as many well-meaning travellers do. Such collectors are frequently by no means aimless people, but merely ignorant of what is desirable. They have the true love of nature in them, and the making of naturalists under proper guidance.

There is, on the other hand, the type of man who is too well equipped for his work, so well that he ends by a contemplation of his equipment. He is more familiar to us at home, with his splendid microscope under a glass shade in his study window. This type goes abroad at times, after preparations befitting a new *Challenger* expedition. Nothing need be expected from him. "The sea was too rough for dredging," he tells us, "and I forgot my front-steering, double-gearing, vacuum-substage condenser, which put my microscope out of action, and the new patent catch-em-alive tow-net was burst by the current so soon as it was put astern."

Nearly akin to him is the over-educated young naturalist fresh from the University. He is like that dynasty which "forgot nothing and remembered nothing." Among the things he does not forget are the "self-acting freezing microtome," which will cut up any animal after the fashion of a sausage machine and lay out the sections double stained in rows, on turning a handle. He goes forth with it and with the newest thing for staining nuclei to investigate the development of the seven hairy embryos; and among the things he does not remember are the names of the "common objects" in the land he visits, well enough known to the general public though they be. He reaches his destination, discovers the expected embryos are all well-grown beasts "and still growing" at this season; and then sets gaily to work to make observations on Nature generally which read like a base parody of Darwin's *Voyage of the Beagle* or Wallace's *Malay Archipelago*. He then calmly ranks himself alongside Mr. Forbes or Mr. Hickson, unless indeed he place himself among the immortals just named.

I expect considerably greater additions to Natural History from the steward of a certain cargo-steamer who has a pocket magnifier and the command of empty pickle-bottles and an

allowance of rum—for pickling, of course. He is an ingenious youth, born and bred in London, who has yet developed a taste for natural history with so keen an edge that he has seized upon this original method of seeing other lands and seas. He "knows a hawk from a handsaw," though some of his friends think him "mad" at all points of the compass.

Among other good types of unenrolled Selbornian abroad is the captain of a certain mail steamer, to whom it is gall and wormwood and all sorts of bitterness to have to keep "contract time" with his steamer through the Sargasso Sea and other delightful places. He never fails to utilise his refrigerator to bring home animals as fresh as when newly taken. Strangely enough he believes in the sea serpent, though I fear he has too sane a mind ever to see it. Should he ever foregather with such a beast, as it is his dearest ambition to do, the odds are much in favour of our seeing it uncoiled from his freezing apparatus and transferred to Cromwell Road.

Perhaps the most enthusiastic boy naturalist on record is a young friend of mine, a pure negro, and the happy possessor of a cap, shirt, and pair of smalls—anyhow I never saw more than this among his "visible means of subsistence." He and a few other sympathetic friends made a four days' expedition into a West Indian forest in search of an animal called *Peripatus*, for which I had advertised a reward of five shillings. He did not find it, but he thought he had made sure by bringing with him a wild assortment of creeping things lodged in bamboo joints, which make excellent collecting boxes. I shall never forget that boy's delight when he first saw a dredge "brought home" and its contents displayed. But his tastes were incurably miscellaneous.

A mutual friend of this boy's and mine, who dived successfully for me, learned to distinguish, when beneath several fathoms of water, certain algæ which an eminent phycologist failed to recognise with a microscope. Possibly the position quickened his faculties. He knew these algæ and had his own names for them, some of the names being amusing enough.

Such are a few of our brethren by whom we may take example, both for imitation and warning. They are all of them capable of good work for science when guided into the right groove. There are lights enough shining bravely to guide us safely past the Scylla of ignorance and the Charybdis of conceit.

GEORGE MURRAY.

PICTURES FOR SCHOOLS.

IT is open to question whether Selbornian principles are making as much way as they ought to do in a quarter where their promulgation would be attended with the happiest results. We are aware that certain high and middle-class schools are fortunate in possessing on their staff members of the Selborne Society, and that, in some cases at least, the Society's objects are known and appreciated by the pupils. But in elementary schools especially, where the Selborne teachings are perhaps most needed and would bear most fruit, we fear that little is done. In towns, it may be said, the study of nature is difficult, if not impossible, and in country places it is not easy to arouse any special interest in the sights and sounds of every day.

There is, however, one means by which even dwellers in towns can be familiarised with Nature and her teachings, and that is by the use of pictures. As a rule, there is no dearth of pictures in our elementary schools, although it can hardly be said that the selection is in all cases such as commends itself to those who rightly think it of great importance that the surroundings of the young should be as far as possible beautiful. But there is a too little known Society which takes upon itself the work of selecting and publishing good pictures for schools, and we think that some of the readers of NATURE NOTES may like to know something about it and its work.

The Art for Schools Association, of which Mr. Ruskin is the President, was founded in 1883 with the object of supplying an educational basis for the good work already being done by Loan Exhibitions of Pictures in poor districts of London and other large towns. Such exhibitions, and the teaching of which they become centres, impart much pleasure of a refining and elevating kind, but they appeal for the most part to persons who have passed the years especially given up to education; and many who might benefit by them, had their artistic instincts been awakened at school, miss their influence because they have never been taught to find pleasure in pictorial art, and have therefore no motive for visiting an exhibition of pictures. The idea of the founders of the Art for Schools Association was that much might be done to educate and feed the taste of children by simply placing in the class-rooms of elementary schools a few good prints and photographs of beautiful and interesting works of art, such as most people of taste take care to have in their own houses. With this view they put themselves in correspondence with the principal art publishers of London, and obtained permission to sell to elementary school ssuch of their publications as seemed most likely to interest the young, at rates much below the market prices. The catalogue of the works supplied in this way through the agency of the Art for Schools Association comprises upwards of 300 photographs,

engravings, etchings, and chromo-lithographs from the works of old masters and living artists, as well as studies from nature, of birds, and beasts, and flowers.

It is the last subjects which appeal especially to Selbornians, and the Association's work with regard to them is what we wish to bring before our readers. According to the last Report no fewer than 1,399 out of the 3,711 pictures sold by the Association during 1890 were of Natural History subjects. Of these 355 were plates from Lord Lilford's *Birds of the British Islands*, and 351 from Mr. Hulme's *Familiar Wild Flowers*—these having been placed at the disposal of the Association by the publishers of these works. They are somewhat small for school use, but several are usually placed in one frame. Of Mr. Dixon's photographs of animals 174 were sold.

But the special object we have in view in bringing the Association before the readers of NATURE NOTES is to call attention to the "Studies of Natural Objects," published by the Association. These are large enough to be effective in a schoolroom, and in design and colouring leave little to be desired; while the price brings them within the reach of even the poorest schools. The flower pictures can be suitably mounted and framed for four shillings each, or they may be simply mounted on canvas and varnished and so hung on the walls. The following is a list of the pictures issued in this class, with size and price; all save the last (an autotype) are chromo-lithographs:—

Sunflower, 22in. by 30in. Price to subscribers, 1s. 3d.; non-subscribers, 2s. 6d.

Foxglove, 22in. by 30in. Prices, 1s. 3d. and 2s. 6d.

A Flight of Fieldfares, by R. Caldecott, 30in. by 22in. Prices, 1s. and 2s.

Peaches, 17in. by 22in. Prices, 1s. 6d. and 3s.

Lily, 22in. by 30in. Prices, 2s. and 3s.

Iris, 22in. by 30in. Prices, 2s. and 3s.

Rabbits, after George Morland. *Autotype*. 19in. by 15in. Prices 2s. and 3s.

We have spoken elsewhere of the need which exists for Selbornian literature in schools, and we would here urge upon the members of our Society the desirability of their encouraging as far as possible the use of such pictures as those mentioned above. The rooms of the Art for Schools Association, where these and other pictures can be seen every day, except Saturday, between 11 and 5, are at 29, Queen Square, Bloomsbury, W.C.

It would probably be more difficult to introduce living plants and birds into schools, but it is not impossible. At Mount Melleray, near Cappoquin, in County Cork, where the Carthusians have literally succeeded in making the desert to blossom as the rose, there is a large free school, established for the children of the scattered farms and cottages, who come long distances for their daily instruction, and are furnished with food for the body

as well as for the mind. In this most unconventional educational establishment not only are the windows filled with flowers and climbing plants, but birds of various kinds are hanging in spacious cages; and when we were there two or three parrots were walking about—quite as much at home as the pupils themselves. Probably this development of Selbornian views would not be practicable in many places; but we can at least make our school-rooms bright with pictures of birds and beasts and flowers, and by these means, if properly employed, awaken sympathy and interest in the objects these represent.

ARRIVAL AND DEPARTURE OF BIRDS IN 1791.

HAVING lately been occupied in looking through the early volumes of the *Linnean Transactions*, I have found in vol. iv. (1798) an interesting table contributed by Mr. Markwick, recording for a series of years the result of his observations on our British migratory birds. Thinking it of interest, I have copied out his remarks for the year 1791, exactly a century ago; and I cannot help thinking that a similar table for the present year might be made out by contributions from some of your readers who live in the South of England and have made notes of the arrival and departure of the birds mentioned. Mr. Wm. Markwick, F.L.S., made his catalogue in the county of Sussex. It is noticeable that he does not allude to either the wood wren (*Motacilla sibilatrix*) or to the chiff chaff. In a paper read to the Linnean Society in November, 1792, Mr. Lamb gives a description of "a new species of warbler called the wood wren, observed in May, 1792." He speaks of it as undoubtedly a new species in England, and adds that it is larger than the *Motacilla Trochilus*. Evidently, therefore, Mr. Markwick was, at any rate in 1791, unacquainted with this graceful little bird. In order to ascertain whether the season of 1791 was in any way remarkable as to weather, which might influence the movements of the birds, I have searched Horace Walpole's letters, and from the subjoined remarks it may, I think, be gathered that there was no great dissimilarity from our present climate.

On February 26th he says, "I went out yesterday to take the air, but was soon driven back by rain and sleet, which soon ripened to a tempest of rain and snow, and continued all night." On the 28th: "We have scarce had one day without every variety of bad weather, with a momentary leaf-gold of sun." A sharp winter must have merged into a fine spring, for on April 18th he writes, "England never saw such a spring since it was fifteen years old. The warmth, blossoms and verdure are unparalleled." But on June 14th his tone is changed, when in his letter to Miss Berry he reproaches her with having been "the death of our

summer, and we are in close mourning for it in coals and ashes. It froze last night; I went out for a moment to look at my hay-makers, and was starved. The contents of an English June are hay and ice, orange flowers and rheumatisms! I am now cowering over the fire." Matters improved later on, for on September 16th he says, "Yesterday the sun shone all day and the moon at night, and all Nature for three miles round looked gay. Indeed we have had nine or ten days of such warmth and serenity (here called *heat*) as I scarce remember when the year begins to have grey—or rather yellow—hairs."

1791.	First seen.	Not seen after.
Swallow	April 13 ...	November 1
Martin	May 4 ...	November 1
Sand Martin	May 10 ...	September 23
Swift	April 28 ...	August 12
Goat Sucker	August 30 ...	September 4
Wryneck	May 12	
Cuckoo	May 9	
Nightingale	April 13	
Whitethroat	April 21 ...	August 30
Wheatear	June 1 ...	September 22
Whinchat	April 21 ...	September 23
Redstart	April 12 ...	September 15
Willow Wren (M. Trochilus)	May 16 ...	September 20
Flycatcher	May 8 ...	August 22
Redbacked Shrike	May 30	
Fieldfare	October 24...	March 12
Redwing	October 1	
Woodcock	October 1 ...	March 14
Snipe	November 30	March 11

For the following birds his dates in previous years, and unrecorded in 1791, are as follows:—

	First seen.	Not seen after.
Turtle Dove	June 1 ...	August 2
Black Cap	April 24 ...	September 17

My own few observations in Dorsetshire for 1891 are as follows:—

	First seen.
Flycatcher	May 31
Nightingale	May 6
Cuckoo	April 21
Swallow	April 18
Swift	May 31
Redbacked Shrike	June 2
Redstart	May 6

THEODORA GUEST.

[As most of our readers know, a summary of Markwick's observations is appended to many editions of the *Natural History of Selborne*, where they are compared with the similar calendar

kept by White. The "comparative view" will be found in the excellent reissue of Jardine's edition of Selborne, lately published by Messrs. Routledge in their Popular Library.—Ed. *N. N.*]

A WILD GARDEN AT TWICKENHAM.

MY wild garden is at present, I fear, in a very neglected state, owing to my frequent absence from home during the last few months, but in the five years it has been in existence it has contained upwards of a hundred species of wild plants, mostly collected by myself from all parts of England. Of course I am careful never to take rare plants, or many of the same kind unless growing in great abundance. Several specimens that have grown and flowered here are of interest, as having been brought from places of such very different soil; especially is this the case with the sea-side plants. I have had the Yellow Horned Poppy (*Glaucium luteum*) brought from the cliffs at Swanage, thrive and flower for three years. Sea Holly (*Eryngium maritimum*), which I found growing in loose sea sand on the shore between Penzance and Marazion, lived for two years in my garden. Sea convolvulus (*Convolvulus Soldanella*) from North Devon for several months; this also was taken from the sea-sand. Some Southernwood from the salt marshes of Herne Bay has grown very much in the five years it has been here. The Sea Michaelmas Daisy (*Aster Tripolium*) is another plant which comes up every year, but it has not flowered the last two, as I cannot keep it free from the snails.

Other plants which I take a pride in, and which are now well established are Evergreen Alkanet (*Anchusa sempervirens*) from Falmouth; Columbine (*Aquilegia vulgaris*), also from Falmouth; Lesser Periwinkle (*Vinca minor*) from Tynemouth; Butterfly Orchids (*Habenaria bifolia*) from Dursley; Vernal Squill (*Scilla verna*) from cliffs near the Lizard, Cornwall; Thrift (*Armeria maritima*), from the Land's End; Mealy Guelder-rose (*Viburnum Lantana*) from Swanage; Snowflake (*Leucojum æstivum*) from an island near Henley; Cornish Money-wort (*Sibthorpia europæa*) which came up among some ferns I had brought from Cornwall. The Money-wort I put in the greenhouse during the winter, and it grows so fast, that from one small piece I have about forty pots, besides often using it as an edging to baskets, etc. Cornish Heath (*Erica vagans*) I have tried several times to grow, but have never yet succeeded in doing so, nor have I been successful with the common varieties of heather, though a clump of pure white heather (*Erica cinerea*), brought lately from North Wales, gives promise of living, but I have it at present under glass.

Among plants found in this neighbourhood, I have Kingcup (*Caltha palustris*) and Meadow Saxifrage (*Saxifraga granulata*),

both from the river side near Kew; Tansy (*Tanacetum vulgare*) and Autumnal Squill (*Scilla autumnalis*) from the river side near Petersham meadows; Meadowsweet (*Spiræa Ulmaria*), Great Celandine (*Chelidonium majus*), etc., etc.

C. Rosa Little.

THE SPARROW: AN INDICTMENT.

I WOULD bring to the notice of all true Selbornians the duty and necessity of destroying the sparrow. I have just been reading that excellent little book, *The House Sparrow*, by Messrs. H. Gurney, J. Elliott Coues, and C. Russell, and am very sure that it is not a bit too hard on the bird.

I wish to bear independent witness against the wretch, and therefore send you the following remarks, which were written before I had seen the book just mentioned. There is, however, one point in the sparrow's favour which I had overlooked, and that is the fact that he eats the seeds of noxious weeds sometimes. This service does not amount to much here, where the sparrow can get grain all the year round. I hope he has the Board of Agriculture as well as Miss Ormerod against him; but at present he is, sad to say, strong enough to defy the Government.

I wish to be just to the sparrow, for he has his good points, though they are few. The thing that will tell most in his favour is that while they are still in the nest he feeds his young ones to a large extent upon caterpillars. The old birds do not swallow these, but carry them in their beaks as tomtits do. I have found the young sparrows in the nest full to the beak with caterpillars, and I have many a time seen the old ones carefully searching the bushes and cabbages. But when the young ones leave the nest they are fed like pigeons, and the peas in the gardens suffer. Point No. 2 is that the sparrow kills and eats cock-chafers, even catching them in the air. But this is a very small point in his favour, because he kills very few, as they seldom move by day, and because they are so good to eat and so many things like them. Fowls go wild over them, and one of our setter dogs ate a hundred and twenty-eight at a sitting, and did not take two minutes over it either. These were cooked by having boiling water poured into the bottle in which they were collected (the quickest way of killing them), but he was just as eager for them alive—they are such beautiful, fat, tasty beetles. The third point in favour of the sparrow—but perhaps he would not urge it—is that he is very good to eat.

And now for his sins. Except when the young ones are in the nest, and that is not long, the sparrows live entirely at the expense of man. They take the tender shoots of the peas as soon as they appear above ground, and the first lesson which

the young ones are taught is to eat peas; for as soon as they leave the nest they are fed principally upon the half-digested leaves and tender young fruit of the pea. And in some places, where they are not abundantly supplied with other green food, they attack some of the bulbs and other flowers. When not robbing the gardens they are robbing the chickens, and when not doing that they are robbing the pigs, and when not doing that they are robbing the cattle and sheep of their meal and corn, and when not doing that they are robbing the cornfields, and when not doing that they are robbing the corn-ricks and barns. And this goes on from one year's end to another, except for a few weeks when they would do better to leave the caterpillars to the more skilful grub-hunters—the tom-tits and the soft-billed summer birds. And it must be remembered that though they get caterpillars for their young they go on stealing for themselves all the time. So in the matter of feeding they rob us all the year round.

Selbornians may say—That is a farmer's question, and does not concern our Society. But it concerns our pockets and prosperity as well as others; for the sparrow is increasing to such an extent as to cause great loss all over the country.

But to come to *our* indictment against the sparrow. He is the most adaptive bird in existence, as he is hardy, strong and nearly omnivorous, and lives at our expense. He breeds at a fearful rate, and drives away every other bird with whom he enters into competition. There is no bird of his size that dares to attack him, for he is bold and has a strong beak. The flycatcher will snap its beak at him, it is true, but does not actually touch him. He is driving out of the land one of the nicest, gentlest and most trustful of our birds—a bird whose soft, liquid language speaks of nothing but of gentleness and peace. Years ago there were five times as many house-martins as there are now, and their decrease, I believe, is owing to the sparrows. A pair of sparrows will sit near complacently watching the martins building their nest, and when they have almost done the masonry the sparrows coolly take possession. And they take very good care never to be both absent at once until the martins have given up all thoughts of enjoying their own again. The martins go and build another nest elsewhere, and the same thing happens over again. Well, no bird can stand this sort of thing for long, and the martins are decreasing. The sparrows serve the sand-martins in the same way, when the latter nest near houses or farm-buildings, as anyone may see at many of the railway stations in Surrey. There is a good illustration of this at Gomshall station. The sparrows find that the green-sand is warm and dry and comfortable, and they get the holes dug for them. I have not watched them take the newly-made holes, but I have no manner of doubt that they do so, or, at all events, that they take the holes which the martins would have used; for a sparrow is far too 'cute to take the dis-

used nest hole, which the accumulated refuse of several years has rendered untenable for the martin.

The cry of the house martins when the sparrows have turned them out is piteous to hear. And the exasperating part of it is that one can do nothing to help them. To shoot both sparrows at once while the martins are still flying about the nest would be the only way of setting matters right. But the sparrows are far too wide awake to permit this. I have often killed the one, but never the pair, on the same day. You may frighten them away for a few minutes, but it is useless; the martins are not clever enough to arrange that one of them shall always be at home; and so being both absent together they cannot prevent the entrance of the sparrows. There is only one course to be taken, and it seems a pity, too, but there is no hope of restoring the nest to the martins—it must be knocked down. The persistence with which the sparrows occupy a martin's nest when once in is fiendish. I shot the hen once, and in a couple of days there was another: then I shot the cock, but the hen got another. We might have gone on like that all the summer, but I lost patience and destroyed the nest. In another nest—not a martin's—I shot the cock twice, but it did not make the slightest difference, a third was at once started; and I had to fill the hole up with stones and mortar before I could stop them. I once put some bird lime in at the entrance of a house-martin's nest which contained young sparrows, thinking to catch the old ones. But no, they pulled out all the materials which the lime had touched before they went inside. It is a difficult matter to shoot the old birds, because they are so cautious and cunning; and here, at least, they are not to be caught in a trap.

The incessant *chirrup* of the cock as he sits beside his nest calling for a mate is extremely tiresome, especially at five o'clock in the morning. And the grating alarm note, *chet, chet, chet*, very quickly repeated, is especially annoying when one is watching some other bird and wishes to remain hidden and unsuspected. One of the objects of the Society is "to preserve from unnecessary destruction such wild birds, animals and plants as are harmless, beautiful, or rare." The sparrow is neither. But the house-martin is harmless and beautiful, and will soon be rare if the sparrows are not proceeded against.

To sum up the case against them. The sparrows don't sing and are not pretty; they are untidy, impudent and cruel; they live by theft, and, worse than all, they drive good birds away. Let the sparrows be destroyed.

AUBREY EDWARDS.

THE SPARROW: A DEFENCE.

I WAS both surprised and sorry to see Miss Isabel Fry's article (p. 198) on the house sparrow in Somerset. If we have too many sparrows, the wisest and best plan would be to let the hawks alone. Our game preservers are much to blame for killing these birds. A few sparrow-hawks would be quite sufficient to reduce the large number of sparrows and other small birds. If farmers and gardeners knew how many insects these birds consume, especially in the breeding season—for the young birds feed almost exclusively on insects—I feel sure that they would encourage them instead of molesting them. Of course it cannot be denied that they consume a considerable quantity of seeds and grain, but considering this is only done three or four months out of the twelve, the number of destructive insects they destroy is quite sufficient to balance the account. I remember reading in the papers of Cheshire farmers giving so much a head for sparrows and so much a dozen for their eggs, one Association killing over 3,000 sparrows. They soon found, however, that the ground was so infested with insects that they paid so much a head for sparrows to be liberated on the same grounds where they had been so unmercifully slaughtered.

W. R. Riley.

CHILDREN'S COLUMN.

Do You Feed the Birds?—If not, the sooner you begin the better, and be sure you put the crumbs for them where you can see them. I will tell you how I manage. A bracket has been put on a balcony railing just outside the dining-room window, on which I put food for them twice a day, after breakfast and lunch.

At the beginning of winter my little friends remind me that it is time to begin, by coming at the usual hour and sitting on the railing, look into the room, generally one at a time, and this about eight months after they were last fed, so you see they have memories. Then I get my board out, and for a few days they are very shy, particularly if it has been repainted, as it was this year. They think it is a trap, but they soon become bold. The sparrows are always the first comers, and it is curious to see their different dispositions, some so timid, others bold and impudent.

Have you ever seen tomtits and how they dance? I think them quite patterns of good breeding. They bow and curtsey, and waltz round, and hold their heads up and begin it all over again. The chaffinch, too, is a refined gentlemanly bird, and has elegant manners, but not quite as graceful as dear little Tom. A long-tailed tit once came and looked at us too. He

is a queer fellow, trained at a circus, I should think, as he is quite an acrobat, creeps up the rails, and seems to stand on his head sometimes. Robins rarely come—I wonder why!—but they generally make us a bow, too, before turning tail. Then the starlings are so greedy and eat so fast, and won't let any of the little birds have any, that if it was not for their beautiful glossy coats I would chase them away. Every morning at nine o'clock all these birds are waiting and watching, and again at 1.30 they come and ask me not to forget them, and if I do and put out their food late, they won't eat it, but leave it till morning.

But those naughty boys with stones and catapults, how I would like to catch them by a foot! One of my little pensioners this year has a doubled-up foot, and for several years a poor starling came with half its leg gone. That must have been a trap, but the man that set it was once a boy, and probably began to be cruel long ago. It would be better to kill the poor little birds, rather than torture them.

I have forgotten to tell you about a very clever trick of a sparrow at the beginning of this winter. My board used to be brown, but was painted red, and, as I told you, the birds were afraid of it. One, however, after sitting and looking at it for some time, suddenly flew up and over it, fluttering its wings a few seconds and scattering the crumbs in all directions, proceeded to pick them up. This same sparrow did this several days, but I have never seen it done since. You will be surprised to hear we live in a town, but then that town is Bath, where, though you live in a street, your back windows may look out on the country. EURYDICE.

OUR LITTLE DICK SPARROW.—I have just joined the Selborne Society, and after reading some of your papers and thinking about it, I came to the conclusion that I had belonged to it before the Society was formed. (My father says this is a bull.) But with your permission I will tell you a little story that I think will illustrate what I mean. My sister (who is a little older than I am, but like me is very fond of animals, particularly birds) several years ago was walking in the garden, when she saw a little sparrow hopping about. He seemed so tame she thought there must be something the matter with him. He tumbled into a hole, and she picked him out and took him into the house, where he made himself quite at home. He did not try to fly away, but would hop about in the garden, follow us about the house, up and down stairs or anywhere. When we were at dinner, he would fly on to the table and help himself. It did not matter whether it was a tart or a joint of roast beef, he would always have his share of it; and from the first he was not afraid of strangers. Sometimes Dick would fly on to the top of my father's head and scratch his hair about till he had made a nice little nest, and lay himself comfortably

down and go off to sleep. He learned his name, and would come when we called him and perch on our fingers; and he seemed to love us as much as we had learned to love him. We hoped he would have stayed with us all the winter, but I am sorry to say we were doomed to disappointment. The house in which we then lived had two flights of stairs, one over the other. One morning he was playing on the top landing when he fluttered between the banisters and could not recover himself, and so tumbled into the hall below, where we found him partly stunned. After a time he revived a little, but we think he must have hurt himself internally, for I am sorry to say he got gradually worse and worse. My sister, to whom he specially belonged, used to take him up to her room when she went to bed. A few mornings after the sad accident she found him dead on her pillow. I need not tell you how sorry we were to lose our dear little bird, and although this happened several years ago we have never forgotten our bright loving little Dick, and we never shall do so. MILDRED HOLT.

BOOKS FOR YOUNG SELBORNIANS.

Too much importance cannot be attached to the imbuing of our young people with the true Selbornian spirit—a love and a reverence for all created things; and one of the best ways of encouraging the growth of that spirit is by interesting boys and girls in the various objects they meet with in their country walks and seaside rambles. Thanks to the development of the work undertaken by that excellent organisation, the Children's Country Holiday Fund, and to the increasing cheapness of locomotion, the number of opportunities for seeing Nature of which town children can avail themselves is yearly increasing, and it is thus ever more and more desirable that they should be intelligently interested in what they see.

There are, of course, plenty of books which to some extent supply what is needed—none of them better than the Rev. J. G. Wood's *Common Objects of the Country*, which was a pioneer of this class of literature. There is the half-crown series of *Natural History Rambles*, published by the Society for Promoting Christian Knowledge, of which we have lately received three examples—*Underground*, by Dr. J. E. Taylor, *The Seashore*, by Prof. Martin Duncan, and *Lane and Field*, by the Rev. J. G. Wood. The first is mainly though not wholly occupied with "our geological records," the second with the animals and plants of the seashore, and the last with those of inland districts; all are illustrated with figures which, as Calverley said of certain rhymes, "have done much duty," or "better to put it, of ancientry." For the boy or girl who is already interested, books of which these are types are very useful; but they will not inspire a liking for natural objects where this does not already exist. For this purpose Mr. Wood's is the best of the three.

But the best book of this kind which we have as yet seen comes to us from Messrs. S. W. Partridge. At the same price as the volumes just mentioned, we have this brightly bound, beautifully illustrated, and in every way attractive book, entitled *By Sea-shore, Wood and Moorland*. The author, Mr. Edward Step, tells us in his preface that the book in its present form is an amalgamation, with additions, of two small volumes, the first issued in 1886 having had a circulation of over 21,000 copies, and the second, which appeared in 1888, of which over 10,000 copies have been sold. Both are now out of print, and it is safe to predict for the book now before us a circulation at least as great as either, or both of the earlier works.

This is, of all others, the book for a Christmas present for young Selbornians—the volume to give to school libraries, or for Sunday-school prizes; one which cannot fail to attract and interest, and in which the eye is gratified by clear print and attractive pictures. The style varies—sometimes it is conversational, at others narrative; but it is never childish, and so far as we can judge, never inaccurate. Children hate to be *talked down to*, and Mr. Step has steered clear of this, while

SUNDEWS

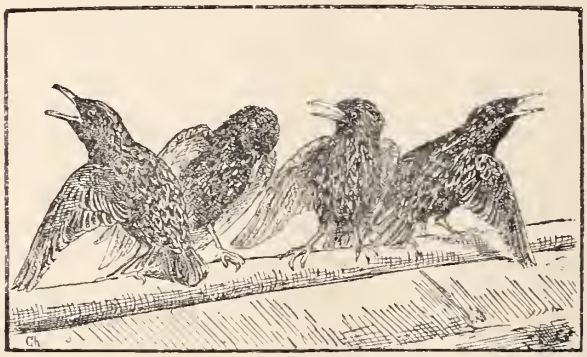
he has been equally successful in avoiding the opposite extreme. We pass from sea to land, "o'er moor and fell, o'er moss and torrent," and everywhere we meet with some plant or insect, some beast or bird, about which we learn something that we did not know before, or find some attractive picture which puts an old friend in a new and charming light. Mr. Step is "up to date," and has put into simple form some of the most interesting of more recent discoveries. His chapter on the sundews, for instance, gives just the account which an intelligent child will

appreciate of these insect-eating plants, and it is accompanied by an excellent illustration, which the kindness of the publishers enables us to reproduce.

On the same shelf in the school library should stand an old friend who comes to us in a new dress—Mrs. Brightwen's *Wild Nature Won by Kindness*. In this Magazine for 1890 (p. 159), we reviewed this work on its first appearance at some

THE ROBIN.

length, and recommended it as strongly as we could. It now appears in a cheaper form—in an elegant stiff paper wrapper at 1s.—and in a suitable cloth cover at 2s. In other respects the book is unaltered; it contains all the original illustrations, two of which we here reproduce, and is printed on good paper, forming a volume



STARLINGS.

of 230 pages. Mr. Fisher Unwin, the publisher, will, we trust, have a large demand for this re-issue in both its forms, and many homes, of poor as well as rich, will, we hope, be made the happier for it this coming Christmas.

Messrs. S. W. Partridge send us a re-issue, at 2s., of *Animals and their Young*, the chief value of which lies in the excellent illustrations, twenty-four in number, by Mr. Harrison Weir. The letterpress, by Harland Coultas, might be re-written with advantage: the pictures could hardly be better.

Chapters in Popular Natural History, by Sir John Lubbock (National Society), is a type of advanced reading-book for use in elementary and higher schools, of which we should be glad to see more examples. Sir John is at his best among

his favourites, the ants, bees and wasps; but the chapters on plants are also interesting. There are nearly a hundred figures—mostly good, but two or three (pp. 177, 181, 209) as bad as any we ever saw. The book would be the better for an index.

SHORT NOTICES OF BOOKS.

We are anxious to give as much prominence as our limited space will permit to notices of books likely to be useful to Selbornians, and we would urge upon our readers to promote the circulation of works likely to promote the love and knowledge of natural objects by every means in their power. This can be done through lending or reference libraries of various kinds, especially by presenting suitable books to free libraries, in which Natural History is often very inadequately represented; also by the selection of such volumes as prizes for schools or gift-books for children.

Literature of this class has assumed considerable proportions, and we shall be compelled—save in very exceptional cases—to confine our notices to books sent us for review. We would ask the publishers in every case to state the *price* of the book sent; this will always be quoted in the notice, which will thus be rendered more useful to our readers than would otherwise be the case.

The charming little green-covered volume of selections from the poems of our President, which Canon Ainger has edited under the title of *Tennyson for the Young* (Macmillan, 1s.), will, we hope, find its way into the hands of every one of our readers; those who do not require it for themselves will do well to make some one else happy by the gift of a copy. The selection is excellent—*almost* as good as could be, but not quite, for the *Morte d'Arthur* is omitted. We trust that in the succeeding issues, of which there will be many, this serious omission will be rectified. We could, if required, spare one of the dialect poems and one or two others—*Minnie and Winnie*, for instance; but the *Morte d'Arthur* is a necessity. Canon Ainger's preface is excellent, but some of the notes strike us as superfluous—at any rate for young Selbornians, who may be credited with knowing that a coot is "a water-bird, common on English streams," and that "hern" means "a heron."

Mr. Churton Collins, in his *Illustrations of Tennyson* (Chatto and Windus, 6s.) has produced a book which most admirers of the Laureate will read, but few will like. Mr. Collins has read much, and in the course of his reading has noted a large number of undoubted parallels between passages in Lord Tennyson's poems and others in classical as well as little-known authors. He also finds other parallels where, we fancy, most would deny their existence. Mr. Collins is not as well acquainted with Lord Tennyson's writings as might be expected; thus, speaking of *Dora* and its connection with Miss Mitford's story, he says, "the poet's indebtedness to the novel (!) has not been indicated"; but Canon Ainger tells us in one of his notes to the little volume just noticed, that "when this poem was first published, in 1842, Mr. Tennyson informed his readers that it was based upon" *Dora Cresswell*.

Studies in Evolution and Biology, by Alice Bodington. (London: Elliot Stock). The object of this book, as we gather from the prefatory address, is to vindicate the right of those who are not practical workers in the field of science to write upon scientific subjects. It would be as reasonable, we are told, to restrict the writing of history to those who have taken part in the events described, as to demand scientific achievement before we allow the claim of an author to be heard. But are the cases exactly parallel? Warriors and statesmen make history; scientific men are not expected to make the laws of nature, which they have but to record; and just as we expect of the historian an acquaintance with original documents, it seems not unreasonable to make a like demand of writers who undertake our instruction in this other department. The facts of nature are the original documents from which we have to draw. The need of such a training as

the handling of natural phenomena affords may perhaps be seen in the book itself. The following passage, taken almost at random, would hardly have been written by a practical naturalist :—"In plant-life we have the whole race of fungi, which instead of getting wholesome nourishment from the free air of heaven and the bosom of Mother Earth, are dependent upon organic material, animal and vegetable. Some, it is true, are useful, as the edible mushrooms ; some are beautifully coloured, but most fungi have something repulsive about them, and few approach either in use or beauty those plants which have taken a different course."

Science or Romance? by the Rev. John Gerard. 21, Westminster Bridge Road, S.E. [8vo, pp. 136. Price 1s.] We noticed Father Gerard's *Science and Scientists* at some length in NATURE NOTES for April, 1890, and the present volume may be considered as a continuation of that work. The present volume is composed of six essays. In the first, "A Tangled Tale," the author reviews the ideas promulgated by Dr. Oscar Schmidt, Mr. Grant Allen, and other extreme evolutionists ; and a feather, with its wonderful structure, is the text for an able discourse. Father Gerard aims at showing how improbable is the theory that such a marvellous structure should have come into existence by natural selection alone ; and that, reason how we may, we are compelled to fall back on a final cause. In "The Game of Speculation" we have a delightful essay—a true naturalist's paper—on the habits and structure of the water ousel, which serve as a peg on which to hang much that is instructive and interesting. "The New Genesis" deals with Mr. Edward Clodd's *Story of Creation*, which is somewhat severely criticised. The other essays are similar in style, and deal with kindred subjects. The evolutionist will find much material for thoughtful study in this little volume, and will allow that whilst the author unflinchingly asserts his own, he at the same time shows a kindly consideration for the opinions of those from whom he differs.

In *The Moral Teaching of Science* (London : E. Stanford, 3s. 6d.) Mrs. Fisher, who is better known under her maiden name of Arabella B. Buckley, maintains that in physical science properly understood we have a sure and intelligible basis of moral teaching on which we can take our stand in the work of life. Thus in the motion of the stars she finds the constancy and stability which are the foundation of all confidence. "As a child in moments of terror looks into its parents' face, and seeing their calm and courage, trusts confidently that all is well, so man, in moments of depression and helplessness, must surely find rest in the starry heavens—an earnest to him of the great truth that caprice and uncertainty have no place in the universe." The moral bearing of the evolution of the vegetable kingdom is treated at some length. Fungal parasites answer to the debased and criminal classes, and these humble plants "have their counterpart too among higher plants, just as dishonest and unscrupulous adventurers are found in good society." In these depredators of the plant world "the dark thread of evil appears as the converse of the healthy struggle out of which the higher forms arise ;" but among plants as with man, self-preservation and mutual help secure success. In the ever-progressing evolution the slightest spark of good must survive, since it is of value to all ; while evil must be eliminated as injurious to all, and thus the pessimism induced by contemplating the ills of this life is replaced by a patient optimism. With all her knowledge of nature, and her lucid style of exposition, we cannot discover in Mrs. Fisher's suggestions efficient causes for moral action to the mass of mankind, who know nothing of gravitation and natural selection. If men are to live moral lives and advance the welfare of their fellows, they must draw their inspiration from other sources than those propounded by our gifted author.

Just a year ago Mr. J. L. Otter contributed to NATURE NOTES an interesting article on H. D. Thoreau, the poet-naturalist of Concord, Massachusetts, the friend of Emerson and lover of nature. Mr. Walter Scott has issued in his admirable *Camelot Classics* three volumes of Thoreau's writings. The first, *Walden*, is that by which he is most generally known ; the second contains *A Week on the Concord and Merrimac Rivers*, while the third includes *Miscellaneous Essays*, with letters and poems. Mr. Otter's sketch will prepare readers un-

acquainted with Thoreau for the perusal of these volumes, of which the first, or at the most first and second, will probably suffice for all but his most enthusiastic admirers. The volumes are 1s. each.

Another *Camelot Classic* is *Our Village*, a selection from Miss Mitford's charming little essay collected under that name, which delighted a past generation and still retain favour in this more critical age. It is the country of the past that Miss Mitford depicts, when there were no railways, when her village—Three Mile Cross, near Reading—had been only "lately enlivened by a stage-coach," when hay-making was still a pastoral occupation, and farmers *were* farmers, not country gentlemen. Mr. Walter Scott gives us for a shilling almost twice as much as Messrs. Sampson, Low and Co. in their volume bearing the same title, provide for five times that sum, but the latter is full of excellent illustrations, and should be popular as a Christmas gift-book. Neither selection includes "Dora Cresswell," the simple tale on which, as we have said above, our President based his beautiful English idyll, *Dora*.

Messrs. Cassell send us a pretty little volume called *Buckinghamshire Sketches*, by E. J. Roscoe, with illustrations by H. R. Bloomer. It contains short descriptions of such well-known places as Stoke Poges, Olney, Jordans, Chenies, and Great Missenden, the home of John Hampden.

We have received from the S.P.C.K. some of the *Romance of Science Series*, from which we are glad to find that this venerable Society is pushing its work of providing good literature into the domains of science. It would be difficult to find anyone more capable of dealing with *Time and Tide* than Sir Robert Ball, the Royal Astronomer of Ireland, who has published in this form two lectures delivered at the London Institution in the winter of 1888. Mr. Raphael Meldola's *Coal, and what we Get from It*, is an expansion of another lecture delivered at the same place. Each has an excellent index, and is well worth the half-crown at which it is published. A third and smaller volume in the same series (price 1s.), on *The Birth and Growth of Worlds*, is by Professor A. H. Green.

The same Society issues a shilling series of *Manuals of Elementary Science*, of which we have received *Geology*, by Professor Bonney; *Physiology*, by Dr. Le Gros Clark; *Zoology*, by Professor Newton; and *Botany*, by Professor Bentley. Each of these would be improved by the addition of a glossary, or of an index, which might be made to supply its place, and it must be said that the style of the series is somewhat unattractive. Professor Newton's is the most readable of the four, and Professor Bentley's the least so.

The matter-of-fact side of country life sometimes escapes the consideration of those who admire the cottage whose "windows full of flowers look out across fields of waving corn, and pleasant meadows and dark green woods;" with doorways "sheltered by masses of sweet-smelling honeysuckle," and gardens "full of cloves and fuchsias, geraniums, and sweet peas." The shilling volume called *Life in our Villages* (Cassell) brings the reverse of the picture into prominence, and although not entirely pleasant reading, is full of information conveyed in an interesting manner.

Mr. G. T. Bettany contributes to Mr. Walter Scott's *Great Writers* a short *Life of Charles Darwin*, which gives in small compass a readable summary of the great naturalist's work and discoveries, and is supplemented by the excellent bibliography which is one of the most useful features of this series of books.

We have also received the following books, notices of which are unavoidably held over:—

Nature and Woodcraft, by John Watson. London: Walter Smith and Innes.

The Birds of Our Rambles, by Charles Dixon. London: Chapman and Hall, 7s. 6d.

Home Life on an Ostrich Farm, by Annie Martin. London: George Philip, 3s. 6d.

Our Common Birds and How to Know Them, by John B. Grant. London: Gay and Bird, 6s.

Delagoa Bay: its Natives and Natural History, by Rose Monteiro. London: George Philip, 9s.

Forty Years in a Moorland Parish, by the Rev. J. C. Atkinson. London: Macmillan, 8s. 6d. net. We hope to notice this admirable work at length in our next issue.

The Last of the Giant-Killers, or the Exploits of Sir Jack of Danby Dale, by the Rev. J. C. Atkinson. London: Macmillan, 4s. 6d.

Also specimens of Natural History wall-pictures from S.P.C.K., and Messrs. Cassell & Co.

SELBORNIANA.

Scottish Rights of Way.—There has been, as many of our readers know, an epidemic of rights of way raging during the past summer in the counties of Forfar, Aberdeen, and Perth, where the complaint might be better described as endemic. Forfarshire is, perhaps, the focus of such outbreaks. We are glad to be able to announce that the Reekie Linn case has been amicably settled; but an action is pending in regard to the right of way through Kelly Den, a beautiful spot near Arbroath. The tutors of the infant Earl of Dalhousie have maintained the action of their tenant (a Mr. Blakelock) in barring access to a path through Kelly Den, and a Committee numbering among its members the Provost (unofficially) and other influential burghers of Arbroath, has taken up the cause of the public right. Kelly Den is a place of botanical interest as well as a favourite resort of the inhabitants of the neighbouring town, and the issue of the action will be waited for with widespread interest. Perhaps, meanwhile, we may be permitted to express regret, whatever the legal right may be, that the name of Dalhousie should appear in an action of this kind, since the public spirit and generosity of the late Earl were widely known and even more widely exhibited.

Spreading the Light.—Mr. W. J. Franklin writes from Birmingham:—"Will you kindly allow me to inform my fellow members how I endeavour to spread the principles of our Society. Although, unfortunately, I have but recently heard of the Selborne Society, I have been from my boyhood a devoted lover of nature, and as a matter of course an equally enthusiastic rambler, and on Saturday afternoons I provide myself with a bottle of good paste and a brush, and paste our leaflets and notices on gate posts, telegraph poles, outhouses, or any convenient place; I also give them to children or any persons I meet. I feel sure that many persons who are destructive from want of thought may be led to reflect and act on our suggestions by this means, and I hope that others may be induced to do the same, so that our influence may be exercised in the haunts of the flowers and birds we wish to protect."

Mosses.—"Meek creatures—the first mercy of the earth, veiling with hushed softness its dintless rocks; creatures full of pity, covering with strange and tender honour the scarred disgrace of ruin, laying quiet finger on the trembling stones to teach them rest. No words, that I know of, will say what these mosses are. None are delicate enough, none perfect enough, none rich enough. How is one to tell of the rounded bosses of furred and beaming green, the starred divisions of rubied bloom, fine-filmed as if the rock spirits could spin porphyry as we do glass—the traceries of intricate silver and fringes of amber, lustrous, arborescent, burnished through every fibre into fitful brightness and glossy traverses of silken change, yet all subdued and pensive and framed for simplest, sweetest offices of grace. They will not be gathered, like the flowers, for chaplet or love-token; but of these the wild bird will make its nest, and the wearied child his pillow."—*Ruskin's Modern Painters.*

Brutal Urchins—and Others.—We have lately had one more illustration of the meeting of extremes, to which the following paragraphs refer. The wretched little boys, whose cruelties are recorded in the *Daily News* of October 22nd, do not seem to us to differ very materially, save in social position, from the titled persons whose names were associated with pigeon-shooting at Hurlingham, or from the noble lord whose performances in Mashonaland have been recorded at unnecessary length by the *Daily Graphic*:—

"BRUTAL URCHINS.—Two little boys, whose heads were no higher than the dock rails, were charged before Mr. Haden Corser with stealing white mice and pigeons, the respective property of Ada Wilson, Maria Braybrook, and Caroline Bell, all of Hackney. The prisoners were Henry Pont, eleven, of Oswald Street, and Arthur Ernest Hastings, nine, same address. Proof was given of the loss of the birds, and Detective Kemp said a third prisoner, William Alfred Childs, seventeen, also of Oswald Street, had been said to have urged the little ones to steal. But, added the officer, the little prisoners appeared to steal pigeons for mere brutality. They had, on their own admission, cut the legs off live pigeons and thrown them into the River Lea, and then stoned them to death. They had also cut the wings off pigeons and thrown them up in the air in order to see them drop on the ground. The elder prisoner denied all knowledge of the thefts, and said the pigeons produced in court were his own. Mr. Corser remanded all the prisoners for a week, the little ones going to the workhouse."

We are glad to see that Lord Randolph Churchill's repulsive account of his shooting exploits has brought *Truth* down upon him somewhat heavily. After a brief summary of the noble lord's prowess among lions, koodoo cows, antelopes and quaggas, *Truth* says: "The impression of which these Nimrodic achievements leave on my mind is that the Society for the Prevention of Cruelty to Animals would do well to send a missionary to Mashonaland without loss of time. Were some bloodthirsty cockney to describe a day's cat-hunting or sparrow-shooting in the same spirit, setting down with the same frankness the record of all the animals that escaped with broken limbs or bullets inside them, and leaving their bloodstains on the grass, no one would pretend to read it with any other sensation than horror. Where is the difference?"

Candlemas—A Correction.—In the article on "February" from the facile pen of Prof. Hulme, which appears in the February issue of NATURE NOTES, are two slight errors which with your permission I should like to correct. Candlemas day is not so called from the number of candles "burnt," but because the Roman Catholic clergy bless wax candles on that day for use in the services of their church, or to be lighted and placed in the hands of the dying. The correct reading of the old adage (in Ireland at least) is, "Candlemas [pronounced Candle*mes*] a candle less; on Patrick's Day (17th March) throw candle and candlestick away." This explanation will, I think, exonerate our ancestors from the charge of "sacrifice of principle." G. E. J. GREENE, M.D.

Scottish Selbornians.—Miss Isabel B. Waterston, hon. secretary of the Forth Branch, writes: "There are eight members now in Forfarshire, and a good many in the West of Scotland; I should be very glad if a notice could be inserted to say that secretaries are wanted to form a Branch in Forfarshire and one in the West of Scotland. Our membership is too much scattered and wants cohesion." The Forth Branch is at present the only Branch in the whole of Scotland. Cannot this state of things be improved upon?

The Protection of Birds.—We have received the Report (dated October, 1891) of the Society for the Protection of Birds, to which we referred in our April number (p. 76). We are glad to find from the list of local Hon. Secretaries that this Society, whose aims are in unison with, although more restricted than, our own, is very widely spread; and we hope that NATURE NOTES will meet with the support and approval of the influential ladies whose names appear on the list. With the Report comes an excellent little pamphlet by the Rev. H. Greene, entitled *As in a Mirror;* it is an earnest appeal to ladies against the use of birds in millinery, and is well calculated to promote its object. "Look at the birds you wear," says Mr. Greene; "they are out of place in any case, but see them

with their necks broken, their legs twisted into all sorts of impossible shapes, their feathers dyed with all sorts of flashy colours; nay, worse than that, the head of one sort of bird stuck on to the body of another sort, and the legs of another. Nothing could be more hideous, nothing more glaringly vulgar."

NATURAL HISTORY NOTES AND QUERIES.

Birds at Brighton.—A Brighton reader writes: "I hardly know whether the event I am about to record warrants me in taking up your valuable space, but the sudden appearance of some seventy missel-thrushes in a small grass field at the east end of Brighton, used by the boys of a neighbouring school for cricket and football, is, as far as my limited experience goes, very unusual. Last February a sharp frost set in after a stormy night, the ground was covered with snow, and when under the influence of the sun's rays the surface of the field again showed green, these birds appeared on the scene, and remained for several hours busily occupied in feeding upon the worms, that seemed to be very plentiful.

"A flock of starlings that frequent the place was also there, and I noticed several small birds, with light breasts like flycatchers, that the thrushes chased from the ground. The birds were finally driven away by some boys who got into the field by climbing the wall, and tried—I am glad to say unsuccessfully—to kill some of the visitors with stones.

"There is but little cover here for birds in the gardens of St. Mary Hall and Sussex Square, and the bird catchers give them no chance of undisturbed rest on the Downs."

A Wounded Snail.—This morning, as I walked along the street, I saw upon a cement wall a common snail. It was hideously ugly, even for a snail, yet I stopped to observe and even to admire it, for it revealed an episode of snail life of no small interest. It had evidently grown to maturity with a shell of dusky mottled brown; the strong lip surrounding the edge showed that its period of growth had finished, when it met with an accident so severe that probably few of its race would have survived. Apparently it had fallen from a considerable height on the hard path. At all events, with one blow nearly half its shell had been entirely detached and was gone; the mouth was uninjured, and with a large fragment of the last year's growth remained; but the whole had been forcibly dislocated and was thrown completely out of its proper spiral. Never was snail in more evil case, and yet lived to tell the tale.

Did you ever observe an injured snail, how it surveys the broken pieces of its shell, and does its best to get things in order again? There are snails and snails; some make a neat job, others patch up in a slovenly fashion; but seldom has a snail with anything like the same extent of injury repaired its covering so dexterously. From its back, it is true, there projects, like a frill, the sharp broken edge of the original fracture; but beneath, exactly in its true curve, is the new shell, no longer ornamented with the former colouring, but grey, rough, and scarlike, yet still a hard, serviceable covering, and so fairly carrying out the original design, that few passers by would have noticed anything amiss. The upper part of the new shell is fitted exactly to the old piece, so that it is difficult to tell which is old work and which new. But the most curious thing is that a perfectly new mouth has been formed in a most ingenious manner. The old mouth is left as in a murex, and the newly-formed shell is worked round in its proper curve, and an irregular but fairly constructed mouth has completed the animal's labours.

R. Hudson.

Bellicose Birds.—An encounter between a partridge and cock pheasant was new to me, and possibly may be to some of your many readers, so I venture to send you the following short account of what I witnessed last spring. My attention and interest were aroused by the persistent calling of a partridge within thirty yards of me in some long grass; it was so frequently repeated, without waiting for any reply, that I thought something unusual must be happening, when

suddenly a cock pheasant got up, followed instantly by the partridge. I was greatly surprised to see the latter fly up at the pheasant and then down again at it, crossing the line of the pheasant's flight several times before they both came to the ground about one hundred yards off, where the noise and disturbance were continued. I concluded that the pheasant was seeking to interfere in some domestic arrangement of the partridge family, which resulted in this disturbance, in which, as far as I could judge, the partridge was not content to act on the defensive, for the pursuit on the wing betokened active hostility. Perhaps such scenes are not unusual in the breeding season. COLLINGWOOD HOPE.

J. M. W.—The Great Tit (*Parus major*).

Swallows.—We have received two or three notes on the late stay of the swallow tribe with us this year, which we hold over until our January number, thinking that other correspondents may have something to communicate on the subject.

THE LATE REV. PERCY MYLES.

THE *Academy* of October 17th had a sympathetic notice of Mr. Myles, from which we extract the following:—"Ever ready to preach or lecture, he wore out a powerful frame by over exertion, and never found time to write any book by which his name should be preserved. But he will always be remembered by those who knew him, however slightly, as the warmest of friends, the most thorough of students, and the most modest of critics. A visit from him was as exhilarating as a draught of a sea-breeze."

Notices of Mr. Myles have also appeared in the *Journal of Botany*, *Nature*, the *Guardian*, the *Daily News*, and various local papers at Richmond, Ealing, Bristol, Birmingham, Cork, etc.; and a suitable tribute to his memory was pronounced by Prof. Henslow at the opening of the Autumn Session of the Ealing Natural History Society on October 31st.

At the meeting of the Linnean Society held on November 5th, the President, Prof. Stewart, referred from the chair to the loss the Society had sustained by the death of Mr. Myles. Several Fellows of the Society have promised contributions to the Myles Memorial Fund. We hope to publish a list of the contributors to the Fund in the January number, and in the meanwhile would urge upon the Secretaries of Branches to do all in their power to promote the undertaking. All subscriptions should be forwarded to the Rev. Prof. Henslow, Drayton Villa, Ealing, W.

THE SELBORNE SOCIETY.

THE object of the Selborne Society is to unite lovers of Nature for the following purposes:—

The Protection from unnecessary destruction of Wild Birds, Animals and Plants;

The Protection of places and objects of Antiquarian Interest or Natural Beauty;

The Promotion of the Study of Natural History.

The *minimum* Annual Subscription (which entitles the subscriber to a monthly copy of the Society's Magazine) is 2s. 6d.

All particulars as to membership may be obtained from the Secretary of the Selborne Society, 9, Adam Street, Adelphi.

OUR VOLUMES.

We desire to call the special attention of our readers to the volumes of Nature Notes for 1890 and 1891, which may be obtained at the offices of the Society, 9, Adam Street, Adelphi, W.C., at the cost of three shillings each, or by post, three shillings and fivepence.

No more acceptable Christmas-box or New Year's gift can be found for those whom we are anxious to train up in the principles and practices of the Selborne Society than one or both of these volumes. By the variety and interest of their contents they are admirably adapted for this purpose; and they are equally suited for the school or parish library. The sale of last year's volume was much smaller than might reasonably have been expected, and we would urge upon our readers not to neglect so excellent a means for advancing the interests which they have at heart.

Cases for binding the numbers for 1890 and 1891 may be obtained from the Secretary at the above address, price 1s. each; or the numbers will be bound and the case supplied by Messrs. Bale & Sons, 87, Great Titchfield Street, W., at the cost of 1s. 3d., or with gilt edges, 1s. 10d. The name and address of the sender, with stamps to the above amount, should be forwarded with the magazines in order to prevent mistakes or delay.

NOTICE TO CORRESPONDENTS.

In future, Nature Notes will appear on the 1st of each month, with the other magazines.

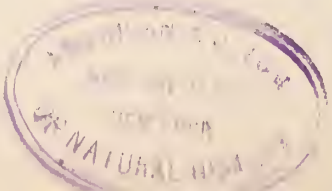
Contributions for any number should reach the Editor, James Britten, F.L.S., 18, West Square, London, S.E., not later than the 15th of the month.

When it is particularly requested, MSS. not accepted will be returned, if stamps sufficient to pay the postage are sent for that purpose.

Queries on any points connected with Botany or Zoology will be answered if possible, and advice will be given as to the best books for students in any department of Natural Science; but all questions must be accompanied by the names and addresses of the writers, not for publication, if this is not desired.

Specimens sent for identification will be named, if sent carefully packed and in good condition, but we cannot undertake to return any specimens.

It is particularly requested that subscriptions and letters connected with business should *not* be forwarded to the Editor, but to the Secretary of the Selborne Society, 9, Adam Street, Adelphi. Editorial communications should be addressed to Mr. Britten, as above.



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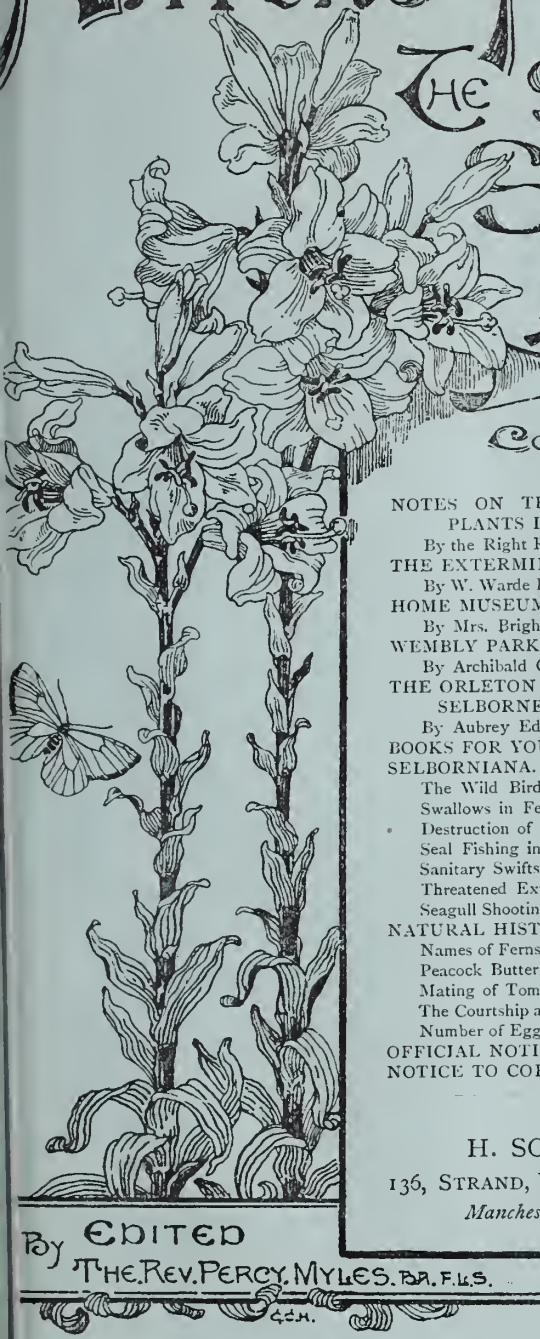

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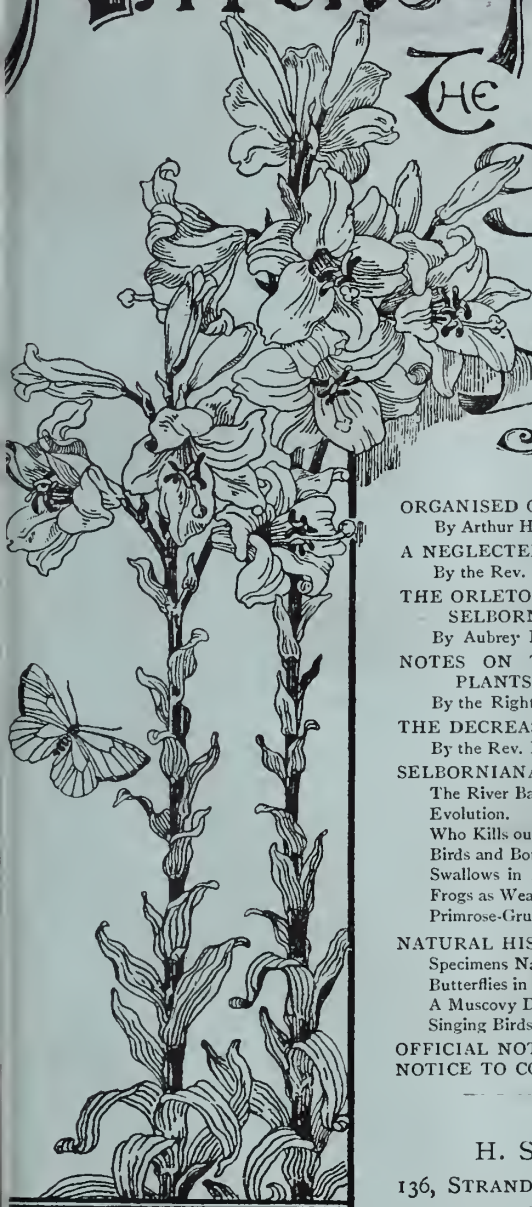

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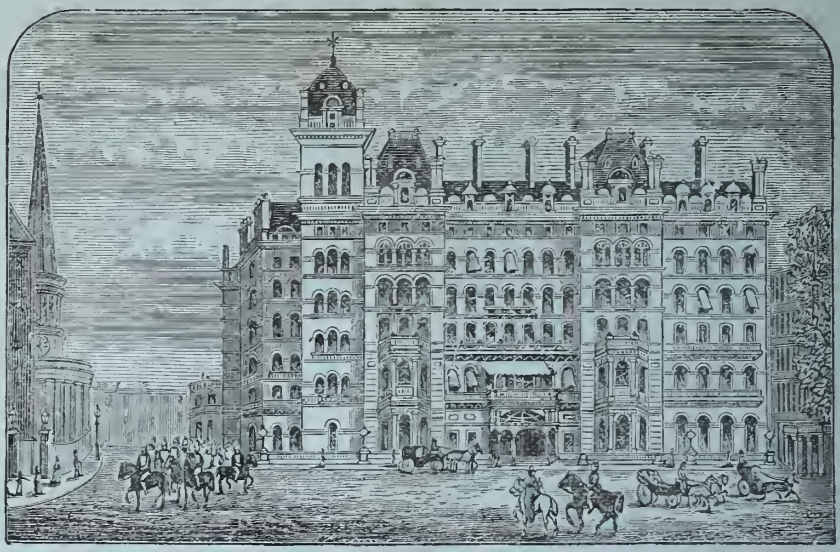

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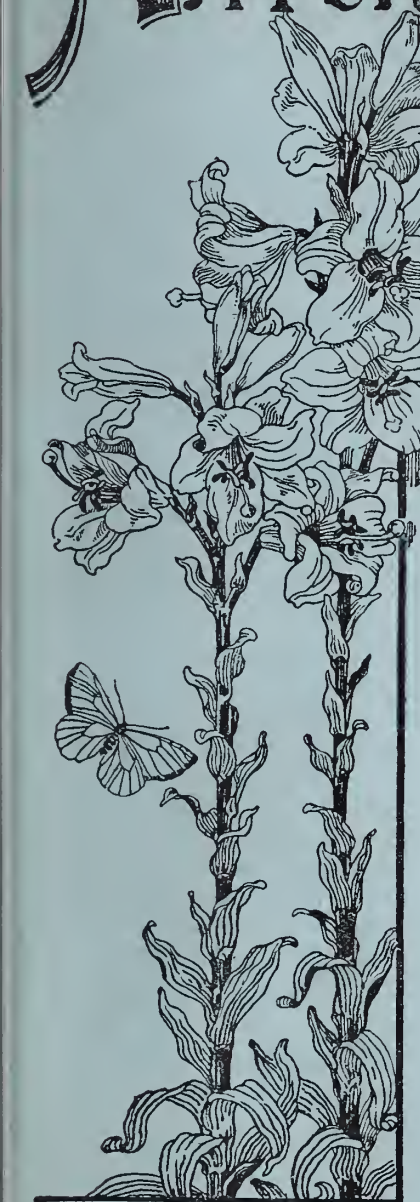

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