This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

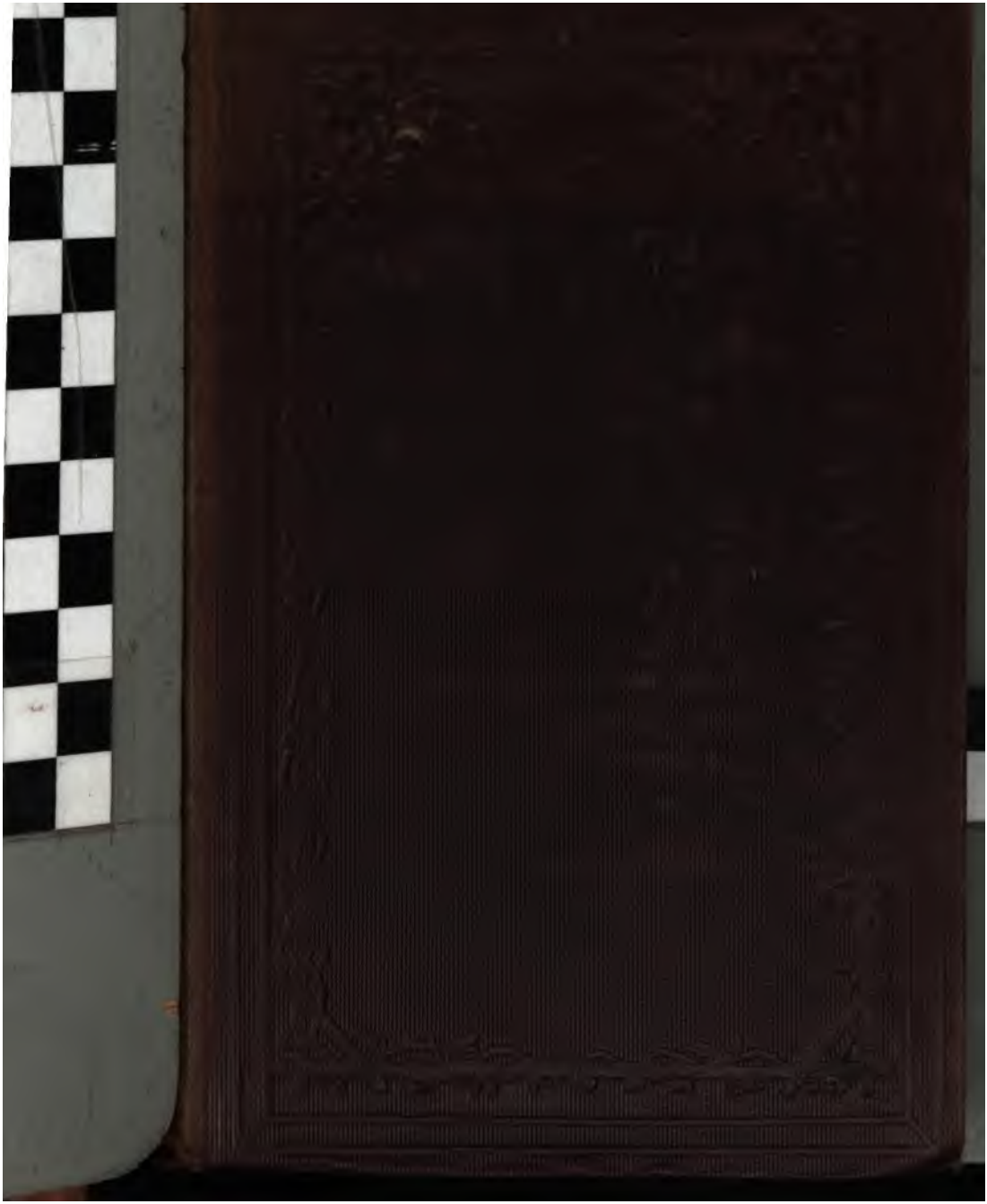
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`



18956 e. 442

MAUNDER's POPULAR TREASURIES.

I.

THE TREASURY OF KNOWLEDGE

AND LIBRARY OF REFERENCE: a comprehensive Dictionary of Universal Knowledge. New Edition, revised and greatly enlarged. Fcp. 8vo. 10s. cloth; bound in roan, 12s.

☞ Every Page surrounded by Moral Maxims and Proverbial Aphorisms.

II.

THE TREASURY OF NATURAL HISTORY;

Or, a Popular Dictionary of Animated Nature. With Frontispiece and 900 accurate Wood Engravings. New Edition. Fcp. 8vo. 10s. cloth; bound in roan, 12s.

III.

THE HISTORICAL TREASURY:

Comprising a compendious Outline of Universal History, and a separate History of every Nation. New Edition, corrected. Fcp. 8vo. 10s. cloth; bound in roan, 12s.

☞ Every Page surrounded by Historical and Chronological Facts and Notabilia.

IV.

THE BIOGRAPHICAL TREASURY:

A Dictionary of Modern and Ancient Universal Biography; comprising Twelve Thousand Memoirs. New Edition, enlarged. Fcp. 8vo. 10s. cloth; bound in roan, 12s.

☞ Every Page surrounded by Precepts and Maxims, original and selected.

V.

THE SCIENTIFIC & LITERARY TREASURY:

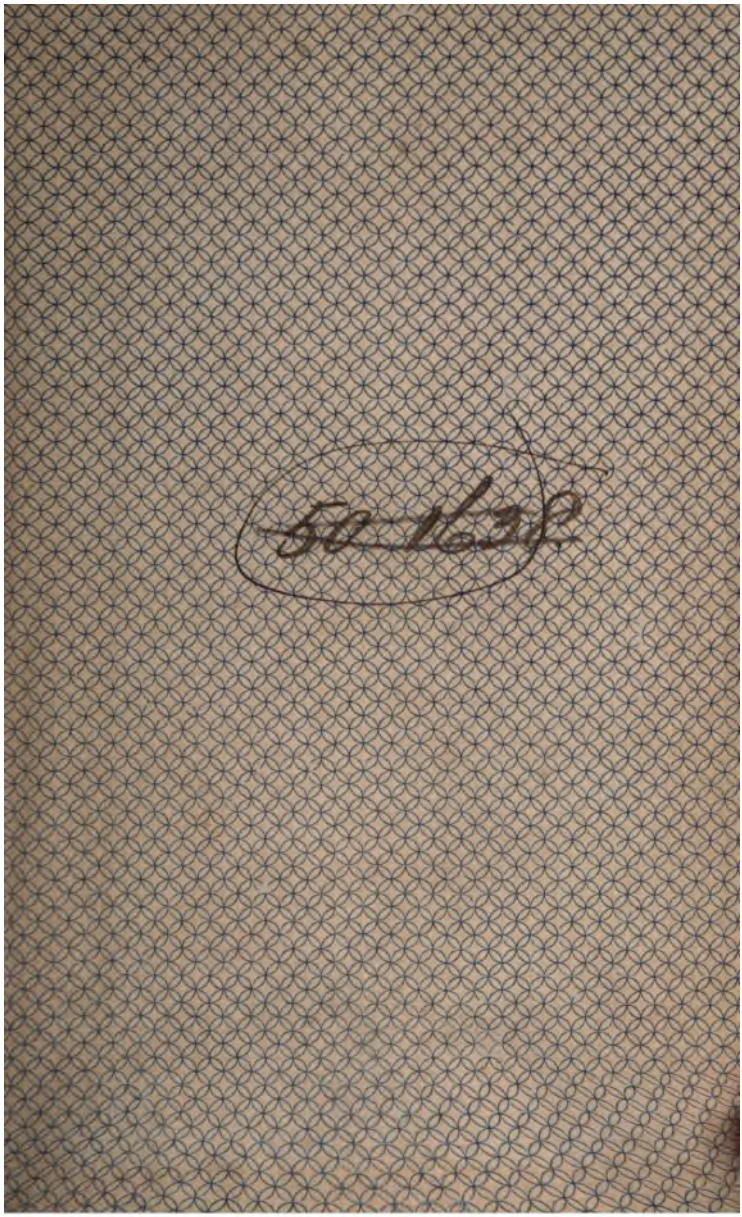
A copious Popular Encyclopædia of the Belles-Lettres and Fine Arts. New Edition, enlarged. Fcp. 8vo. 10s. cloth; bound in roan, 12s.

☞ Every Page surrounded by Marginal Notes, containing concise Facts in Science, or appropriate Observations.

*** *For Opinions of the Press, see the* end *of this Book.*

LONDON: LONGMAN, BROWN, GREEN, AND LONGMANS.

18955 e. 34



600040927S

THE GOLDFINCH

BRITANNIA

ERIN GO BRAGH

THE

BOOK OF THE SALMON:

IN TWO PARTS.

Part I.

THE THEORY, PRINCIPLES, AND PRACTICE OF FLY-FISHING FOR SALMON; WITH LISTS OF SALMON-FLIES FOR EVERY GOOD RIVER IN THE EMPIRE.

Part II.

THE NATURAL HISTORY OF THE SALMON, ALL ITS KNOWN HABITS DESCRIBED, AND THE BEST WAY OF ARTIFICIALLY BREEDING IT EXPLAINED.

Usefully illustrated with numerous Coloured Engravings of Salmon-flies, and Salmon-fry.

BY EPHEMERA,

AUTHOR OF "A HANDBOOK OF ANGLING;"

ASSISTED

BY ANDREW YOUNG,

OF INVERSHIN, MANAGER OF THE DUKE OF SUTHERLAND'S SALMON-FISHERIES.

LONDON:

LONGMAN, BROWN, GREEN, AND LONGMANS,

PATERNOSTER-ROW.

1850.

LONDON :
SPOTTISWOODES and SHAW,
New-street-Square.

THE FOLLOWING PAGES,

ESPECIALLY THOSE WHICH TREAT OF THE NATURAL HISTORY OF SALMON,

ARE,

BY PERMISSION, GRATEFULLY INSCRIBED TO

HIS GRACE THE DUKE OF SUTHERLAND, K.G.

IN TESTIMONY OF

THE ADMIRATION IN WHICH HE IS HELD,

FOR HIS ENLIGHTENED AND LIBERAL ADMINISTRATION

OF HIS PRINCELY LAND AND WATER

POSSESSIONS, —

BY

HIS OBLIGED AND DEVOTED SERVANT,

THE AUTHOR.

London, March 1850.

PREFACE.

I HAVE been for a long time exceedingly desirous of rendering fly-fishing for salmon more accessible to the public than it has hitherto been; and for some years past have been making advances, step by step, towards the consummation of my wishes. I do not think myself unknown to the majority of the angling community; perhaps I have a right to flatter myself that I am favourably known to them, for my zeal at least, if not for my actual services, in their cause; and, if they will consent to tax their memory a little, they will perceive that, both in my periodical writings and in my books, I have been steadily preparing the way for the more facile and general acquisition of the higher branches of angling. Heretofore my piscatorial prolusions may, in some sort, be

regarded as angling *analecta minora*; the present ones as *analecta majora*. After the *Delectus* comes the *Gradus ad Parnassum* — after prose composition come the Porson prize and Sapphics.

I like method, and on it I broke ground, in "A Handbook of Angling." I began with elements and concluded with principles and practice. I took my pupils to an angling academy, and fitted them for matriculation in any piscatory university. There I now have them; and if I have succeeded in initiating them into the mystery and craft of angling for the trout and carp tribes, and I assume that I have done so, I now deem it high time to endeavour to put the last polish on their "halieutics," by exercises on the "high art" capture of salmon, and by correct theses on the history and habits of that pride of our fluvial families.

I self-constitute myself, as it were, a regius piscatorial professor. I have been a public tutor in the art these fourteen years, and to enable me to obtain a higher degree, to fit myself for the professorial chair, I returned to college again last year, and passed a very studious term in the

famous piscatory university of Scotland. The term was mainly occupied in inquiry, observation, and practice — in conversations, consultations, and friendly disputations with the great masters and practical teachers of the North. I merely mention this to show, that although I am a self-elected teacher, I have tried hard not to deserve being called an idle, or an ignorant one. I shall state briefly the results of my studies.

The FIRST part of this book will be found to consist of a code of rules for the practice of pure fly-fishing for salmon. I presume the student to be already proficient in the art of fly-fishing for trout, and taking him at that point of progress, I place in his hands the salmon-rod. I tell him of what materials it is to be made; of what size and shape it is to be; and I describe the winch and lines best suited for it. I tell him then how to use it, whether for casting the fly, humouring the fly on the water, or striking, hooking, or playing a salmon. I show him how a salmon river is to be fished, and where and when to the best advantage.

Having done all this with elaborate minuteness, I proceed to describe the flies the salmon-fisher must use. To render the description more intelligible, fifteen model flies have been engraved and coloured. Thirteen are after patterns made by Mr. Blacker, of 54, Dean-Street, Soho, which I have myself successfully tested; and two are after favourite patterns kindly sent me, by a gentleman connected with the Foreign Office, and an excellent salmon fisher. These models will furnish a correct idea of what salmon-flies ought to be, generally speaking, in colour, shape, and size.

The list of flies described is the largest, and I think I may say the best, ever published. It embraces general flies of my own selection, and local flies, the patterns of which I have had from the best recognized authorities. For the Tweed, Mr. Forrest, of Kelso, has dressed for me the best standard flies; for the rivers of Sutherlandshire, and for nearly all the rivers of Scotland, Mr. Dunbar, of Loch-Inver, has made me the best patterns, and described the rivers for which they are suited, and the fit season for using them;

and Mr. Flinn, of Worcester, has dressed for me the local flies for Wales. The flies for the rivers of the south of Ireland, are after patterns by W. K. Rogers, Esq., of Cork, one of the most accomplished salmon anglers of my acquaintance; and those for the north of Ireland, are made by Mr. Blacker.

I have taken care to mention the materials that enter into the composition of salmon-flies, and given recipes for the dyeing of wools, furs, silk, and feathers of all those various colours required by the fly-dresser. I have had a plate of salmon-hooks engraved, to show their shapes and sizes, from the largest to the smallest, and have named the best maker of them.

THE SECOND part of the volume is occupied with the natural history of the Salmon, including a minute detail of its habits, with coloured plates, representing the growth of Salmon-fry, and with a chapter on the surest means of breeding that fish artificially. I can recommend, without the slightest assumption of vanity, this part of the book to the attention of the naturalist, as well as to the

study of the intelligent angler. It embraces by far the fullest and truest history of the *Salmo salar* as yet extant. It is the work, substantially, of Mr. Andrew Young of Invershin; in my opinion, the greatest living authority on the subject. The circumstances under which I have obtained from him the facts adduced are stated elsewhere; but I am responsible for the manner in which they are narrated, for a few trifling addenda to them, and for some arguments and deductions that naturally flowed from them.

Lest it may be supposed that I have formed an exclusively high opinion of the acquirements and abilities of my friendly coadjutor, I have permission to make known the estimation in which he is held by one of the foremost noblemen in the kingdom. In reply to a letter soliciting at the hands of his Grace the Duke of Sutherland the honour of inscribing this little work to him, his Grace, with characteristic kindness, wrote to me as follows:—

"Dunrobin, October 6. 1849.

"SIR,

"I HAVE to acknowledge the receipt of your letter, and to thank you for the obliging compliment you offer.

"I wish I were better entitled to it, by entering personally into the details which make the pursuits of the Angler so delightful to him, as I know to be the case in the instance of many of my friends and family, and have full reason to know is more generally so to others.

"I am persuaded that the work you propose will be highly interesting, as the subject is not confined to the sport; and the natural history, written by an intelligent observer, after much experience, and observation of the Salmon, cannot fail to deserve attention, and to be attractive for all readers.

"I am glad that Mr. A. Young's merits should be appreciated properly. I think highly of him, and hope that a change of arrangements, which I intend in regard to the future affairs of the Fishings, may secure the continuance of his care

of the Shin fishing, with a prospect of advantage to himself, which I should much desire.

"I am very glad that you should have had enjoyment on the Shin, and hope that you may continue to have good sport in Sutherland.

"I can have no hesitation in accepting your offer, made, as I consider it to be, in so friendly a manner.

"I am, Sir,
"Your obedient servant,
"SUTHERLAND."

I have to hope, and I have done all in my power to realise my aspirations, that the public will ratify the flattering anticipations of his Grace.

The errors of previous writers on the history and habits of the Salmon, satisfactorily, to my mind, corrected by Mr. Young, are too numerous and important for prefatorial enumeration. They must be read in the text, and afterwards carefully digested, to be appreciated.

CONTENTS.

PART I.

CHAPTER I.

In laud of Fly-fishing for Salmon — Pleasant Reminiscences and Anticipations of — The Salmon-fisher's Rod — Its Size, Make, and Material — Winches — Salmon-lines — Of what Material, and in what Way, they should be made — Their length — Gut Casting-lines — A model one — The Quality of Gut — Caution about Winch and Casting-lines - - - - - - - - Page 1

CHAPTER II.

Throwing the Line and Fly described — How the Rod is to be held and wielded in casting the Line — The back-handed Cast — The left and right Shoulder Cast — Straight Casting eulogised — Mr. Scrope's Way of Casting — Mr. Stoddart's Method — How to become ambidexter — The under-handed Cast — The "Welsh Throw" — The Metropolitan straight Cast — Under-handed Casting described and commended - - - - 20

CHAPTER III.

Working the Salmon-fly through the Water—Mischief of rapidly working it—Experiments recently made—A fascinating Manœuvre—Appearance of the Fly in the Water—Rendering a long Cast perfect—Hooking a Salmon—Reasons for striking gently—Effects of violent striking—Striking sideways recommended—A practical Angling Lesson—Success of gentle Striking—Grilse stronger than Salmon—Effects of Fresh Water on Salmon—Rules for playing a Salmon—Playing one under Difficulties—How to stop a fleeing Salmon—Salmon-somersets, how dealt with—How to fish a Salmon-river—Up-river Fishing recommended—What Spots should be fished—Angling-pilots—Favourite Haunts of Salmon—When Salmon rise best—Best Hours for Salmon-fishing - - - - - - - Page 39

CHAPTER IV.

On Salmon-flies—A piscatorial Puzzle—Nondescripts—An old Theory abandoned—Capriciousness of Salmon—Their unaccountable Predilections—General and local Flies—A great and general Rule—Feathers, Furs, Wools, and Silks for Flies—How to dye them various Colours—Valuable dyeing Recipes—Best Salmon-hooks—Plate of them—List of Salmon-flies—For the Shannon, Tweed, Shin, Laxford, Naver, Inver, Brora, Oikel, Carron, Carsely, Kirkaig—Sutherlandshire and Rosshire Rivers described—Flies for the Findhorn, Don, Dee, and Spey—For the Ballyshannon, Bann, Bush, Blackwater, Lee (Cork)—Killarney and Waterville—Welsh Flies—General Flies—The Three Graces—Sea-trout Flies. - - - - - - - - - - 67

PART II.

CHAPTER I.

Natural History of Salmon—Letter from Mr. Young—Mr. Shaw's Theory doubted—Salmon preparing to spawn—Length of Spawning Season—Salmon-fry always in Rivers—Early and late Spawning—Interesting Facts—Instinct of Salmon—Formation of the Spawning-bed—Deposition and Impregnation of Ova—Spawning-bed completed—Length of Ditto—Change of Ditto—Spawning-bed made piecemeal—Salmon Ova described—Growth of Fish *in ovo*—Interesting Spectacle—Moment of Anxiety—Satisfactory Experiments—Gravity of Spawn—Hatching Process—Destruction of Ova—By what destroyed—Where Salmon do not breed—Growth of Salmon-fry—Admeasurement of—Always in Rivers—Migratory Coat—Smolts ready for Sea—Growth of Salmon at Sea—Unequal Growth—Handsome and ugly Grilse—Grilse stronger than Salmon, and larger—Rapid Growth of Salmon—Fables about Ditto—How Salmon leap—Distance of Leaps—Salmon ascending Rapids—Migrating—Atrocious Contrivances—Travelling Pace of Salmon—Salmon a fresh-water Fish—Salmon-fry described—Plates of Ditto—The "Parr" a Trout—Size and age of the Smolt—Our and Mr. Shaw's Specimens - - - Page 157

CHAPTER II.

Artificial Breeding of Salmon—Artificial Ponds, Pond-beds, and Walls—Artificial Pond-water—Expression of Ova and Milt—A great Fact—Exportation of impregnated Ova—Artificial Spawning-trenches—Tending the Ponds—The Salmon-fry of artificial Ponds—Stocking with Salmon, Rivers that are devoid of them—Parting Aspirations - - - - - - - Page 230

LIST OF PLATES.

Plate 1. - - - Frontispiece.
„ 2. - - - to face page 88
„ 3. - - - „ 90
„ 4. - - - „ 92
„ 5. - - - „ 94
„ 6. - - - „ 220
„ 7. - - - „ 224
„ 8. - - - „ 226
The plate of Salmon-Hooks „ 84

PURE FLY-FISHING FOR SALMON.

PART THE FIRST.

CHAPTER I.

IN LAUD OF FLY-FISHING FOR SALMON. — ON SALMON FLY-RODS, WINCHES, LINES, AND ON THEIR MAKE, MATERIAL, AND MANUFACTURE.

I HAVE many times written about angling apologetically. I have frequently written in its defence, and very often in praise of it. I was chiefly induced to do so, because the art was defined as the occupation of a ninny by one great writer — Dr. Samuel Johnson; and as the amusement of a cruel disposition by another — the most popular of modern poets — Lord Byron. A host of imbecile babblers and ignorant witlings took up the cry, and ran, as they thought, this creature of their contempt to death. They should have recollected, and the doing so might have cooled

the scent, that one of the leaders of the pack was very purblind, and could not see a float or a fly upon the water, or a fish in it; and that the other, when he designated Izaak Walton a "quaint, old cruel coxcomb," was thinking of the minute and complacent manner in which the threading of a worm, or the impaling of a frog on the hook, is taught in "The Complete Angler, or Contemplative Man's Recreation." The poet made the *amende honorable* to Anglers, when the harmlessness and charms of fly-fishing were explained to him, and the great common-sense moralist would have done the same, if he had read with genial attention the poem of one he justly denominated "a soft and civil companion." I allude to the poet Gay's "Rural Sports," in which will be found a pretty description of fly-fishing. Now, I shall have no apology to make in behalf of the branch of the angling art in these pages attempted to be taught, for in the practice of it nothing is tortured as a bait—neither worm, insect, nor any other living thing, the lowest or least sensitive in the scale of creation.

In praise of fly-fishing I shall have to write—I cannot refrain from doing so. Fly-fishing for salmon I have, recently, very acutely and abundantly enjoyed; so much so, that when my mind

reverts to it, forthwith most pleasant recollections crowd in upon me. I see before me, almost in palpable form, the Sutherlandshire salmon streams I, the past season, fished—I see the rocky cliffs, so monotonous in appearance when not diversified by the colours and shapes of creeping plants, through which stony obstructions water has, after centuries of toil, cut a way of irregular and diverse width, and tortuous direction—I see impending mountains, in parts bristling with more than one species of fir, or shining from the brightness of the agitated birch leaves; and in the spots of the mountain flanks, where I do not see these, I behold the pale violet colour of the bluebell, or the pink blossom of the far-famed heather —I see the spring of the silver-sided salmon, whether made in wantonness, or to clear some impediment to its journey towards the spawning shallows, higher up the river; or, more exciting still, I see the fierce fish, with semi-opened mouth, either rush like the bull-dog, or steal like the cat, after the angler's fly, as he draws it inwards towards him—I see the fly seized, and the fish turn downwards in the water, to skulk with it, so I fancy, to its subaqueous lair, and there devour it in solitary greediness—I see frightful disappointment caused to its gluttinous instinct:

no sooner does the angler feel his fly arrested in its progress by a smart snap and pull, than he lifts the point of his rod with a gentle jerk, and lo! the unsuspecting fish is hooked.

A stimulating struggle is the next thing I see—a struggle between the art of the fisherman, and the innate wily resources and strength of the fish—disappointed, surprised, and, may be, maddened into instantaneous and furious effort, if it have been stricken—if the *lethalis arundo*, the deadly barb, have been driven into cartilage or flesh too roughly. I can perceive, by the loud and rapid ticking of the winch, sounding like the whirr of an alarum clock, how quickly line is unwound by the harpooned fish in its flight; or I see it repudiate flight, and sullenly, after a drag or two, sink nearly to the bottom of the water, and there, working to and fro with head and tail, endeavour to reject the hook, or break from it; or I see the hooked fish, still more impatient, throw somerset after somerset high above the water, in order to break from the bit and bridle that hamper the freedom of its motions. I see the lusty fish break away from the hook and escape, or I see it rush circularly round a rock, and cut, by means of a sharp stony edge, or against a rougher one wear away to breaking, the gut-rein, which, under other

circumstances, would have held in the mightiest Samson of the salmon race. If these mishaps and miscarriages recur pleasantly to my recollection, how much more pleasantly to it must come memories of success — remembrance of piscatorial prowess performed under difficulties — the powerful fish conquered amidst rushing, roaring waterfalls, amidst rocks on land and rocks in water, where trees impede the hand and nearly impassable cliff-paths impede the foot — and the weapons of conquest a frail rod, of fairy, wand-like joints, a casting line, and hook, of despicable fineness and size! Great and suggestive of good is the wonder in which we gaze at the silver-sided salmon — its strength wasted and its struggles o'er — lying there upon that gravelly or rocky shore, seduced by a feather-and-fur semblance of an insect, a winged one, the fanciful creation of some angling artist's brain, and slain by implements, which, if the power of leverage had not been called into action, would have been shivered by the first adverse plunge of the salmon, as easily as the reeds of the jungle are smashed by the rush of the wild boar! The contemplation of these things is very pleasant; the far-off, retrospective, and prospective contemplation of them, — for what has happened before, we fondly hope

may happen again. The performance of them is still more pleasant; they call forth strategy and strength—the one tone-restoring to the tissues of the brain, the other stimulating to the blood and invigorating to the muscles. Seek health—the greatest gift of heaven—where? Alongside the salmon-streams of England's isles—amidst the rural *toto penitus orbe divisos Britannos*, whether they be Saxon, Gael, Celt, or ancient Briton. I could say more in laud of fly-fishing for salmon; but the immortal admonition of "painting the lily and gilding refined gold," warns me to eschew superfluous embellishment.

THE SALMON-FISHER'S ROD.—Before I proceed to teach how this angling apparatus must be used, I shall state what it should be in shape, size, material, and so forth. No salmon fly-rod need ever be longer than seventeen and a half feet, and should never be shorter than sixteen. With two well-made rods of the above lengths, the widest and narrowest salmon-rivers may be properly fished, and salmon and salmonidæ of every size satisfactorily captured. I am fully aware of the advantages of very long and very powerful rods in wide rivers, and in strong hands; and I admit, *cæteris paribus*, that a strong man, six feet in height, with a rod twenty feet long,

and winch and line to match, will cover more water, and capture a greater number of salmon in less time, than a man of five feet six, with a seventeen or sixteen foot rod. In all other respects I suppose them equal; that the tall man is as expert an angler as the short one, that their flies and tackle are equally good, equally well made, and of equally good material. This equality being conceded, the only difference will be that which exists between the length, size, and strength of the men and their tackle. This difference is advantageous to the stronger man, particularly in large rivers, prolific of large fish.

I will detail some of the advantages. A long man with a long rod can throw a longer line than a short man with a short rod, admitting parity of skill. A long and powerful rod will carry a heavier line; and a heavy line, being as well made and of as good material as a lighter one, can be propelled to a greater distance. The upper joints of a short rod, especially the one that is technically called the "small-piece," will frequently break in the act of casting a long and heavy line — more frequently than during the act of playing a fish. With a long and powerful rod and line, the angler has much more power over a hooked fish, than if his tackle were shorter and slighter,

and consequently he will land his prey in a briefer space of time. If a horse will sooner yield to double bit and curb than to single, curbless snaffle, so will a salmon more readily feel the influence — the severer leverage — of the lengthy and strong rod. The consequence is inability — instinctively-felt inutility, if I may say so — on the part of quadruped or of fish, to struggle lastingly against palpably superior force. With a powerful rod one is more confident, and will boldly stop a fish when he sees it making for some dangerous part of the river; whereas, if he have a slight rod and the rest of his tackle to match, he will not dare to hazard the attempt, knowing that it will be sometimes useless and frequently dangerous to do so. Rapidity of execution is the chief attribute of a long and strong rod.

A man of the average height, weight, and strength of Englishmen (5 feet 8 inches, and 10½ stone), should never use a rod longer than 17 feet, or at the utmost 17½ feet. That is the average length I recommend for powerful rods. With it the largest salmon that ever swam can be safely played and securely captured. A winch that will carry one hundred or one hundred and twenty yards of stout line, will not destroy the

balance of such a rod. Twenty-five yards of line — perhaps, in the hands of a well-trained adept, thirty yards — may be thrown with it, without danger to its top-joint or small-pieces, and such a cast is sufficiently long for all useful intents and purposes, and the strongest salmon may be checked in its career — hook, gut, and winch-line, being of good material — by a rod not exceeding in length seventeen feet.

The sixteen foot rod is commonly called a grilse-rod, because it is better adapted for throwing a light line and small fly than a stouter rod, which a long one must be, if made in proper proportion. The rod that can successfully contend against the agile and enduring powers of grilse, will not eventually succumb to the brute, but yielding force, of large well-fed salmon. In wading, or fishing from a boat, a rod of sixteen feet is the most convenient and appropriate. No fish, not even a full-grown sea trout — I am speaking, of course, of the migratory salmon tribe — can be played into a helpless state of fatigue as quickly with a small rod as with a large one. Its pliancy yields to the struggles of the hooked fish, and consequently the fish's strength is not so rapidly exhausted, as when it meets with the stiff-necked resistance a large rod will present.

As there is more merit, so is there more amusement, in capturing salmon with a small rod and slight tackle, than with powerful rod and tackle. The one is fitter for rough, rapid work, — the other for gentler and pleasanter proceedings. With fishing gear almost irrefragable, the most awkward angler will kill large fish — to do so with delicate implements, demands the fine handling of a finished artist. If I were fishing for gain, the big rod should be the instrument I would use; — if for mere amusement — for trying pleasant conclusions with fish — a light rod and slight lines should be my play-things. If I were proceeding on a salmon-fishing tour throughout the empire, and limited to the use of a single rod, the one I would choose should not exceed sixteen feet in length; but, if I were not hampered in my choice, I should have one rod of that length, and another of seventeen feet four inches, leaving to the giants who delight in combating Spey and Shannon salmon, those piscatory poles, measuring six yards long and more. No angler should use a rod oppressive to his physical powers. The sword of the life-guardsman is longer and heavier than that of the hussar or light-dragoon; yet it does not follow, that in all encounters it shall do most execution. Still it

suits best, like the heavy and long rod, the strong arm, and in that case is to be recommended.

From size of rod, I now come to material, make, and manufacture. The butt of a salmon-rod should be made of the best, long-seasoned ash, fine in the grain, and straight and lengthy in fibre. There should not be the slightest flaw, or smallest knot in it. The old shafts of gigs, and vehicles of that sort, and the handles of old man-of-war boarding pikes, make excellent butts, because they are well-seasoned, and have had their elasticity often tested and called into action. Butts made from them, if they are without flaw, will be lighter, more springy or more lively, than those made of ash, that has never been used or worked in open air and at all seasons. The only objection that can be made to ash for butts, is its general heaviness; but such objection cannot apply to it when it is of good quality and sufficiently seasoned. On the whole, I prefer it for butts to any other sort of wood. The best substitute for it in large rods, is red Norway deal; and in small rods, hickory. All the middle pieces of salmon-rods should be invariably made of hickory. When this wood is of superior quality and efficiently seasoned, it is almost as hard and springy as hammered steel. Besides, its grain is beautiful,

and it can be stained and polished to any colour or brilliancy—to that of old oak or rose-wood, to which elbow-oil for years has been assiduously applied. It is vastly preferable to lance-wood. The top-joints of salmon-rods should be of the finest bamboo cane, and I see no objection to a short piece of lance-wood at their thick ends. Every salmon-rod should have two small-pieces and three tops, one of which, for strong work, should be made of rent and glued bamboo cane. These spare small-pieces and top-joints are precautionary, but by no means uselessly so. They are remedies for breakage in those joints where it is most likely to occur.

The best materials will avail little, if the rod-maker be not a good one. First-rate fly-rod makers are scarce. Generally speaking, they understand outward finish, and perform it well. Balance is what they know least about, and no wonder, since very few of them, in London at least, are fly-fishers. If a rod fail in due and equalised balance from butt to tip, it will be cumbersome, fatiguing, and of unsatisfactory and irregular action. There will be more play in one joint than in another; elasticity, weight, and strength, or their opposites, will be irregularly distributed, and all the advantages of equi-

poise — heaviness, lightness, strength, weakness, springiness, partitioned with graduated evenness — will be lost. The fly-fisher should test the balance of the rod before it is brazed and finished, and if it have defective pieces, or if it be improperly tapered or graduated, he can point out the defects to the artisan. One joint of fresh wood, or one with a flaw or flaws in it, will destroy the equilibrium of the whole fabric. Rod-makers are desirous of information. Show them the remedies, and they will use them. There are, however, some journeymen, so indolent and careless of their employers' reputation, that, although they discover, in the working, some flaw in the wood, they will hide it, if they can, by varnish or other means, rather than recommence the joint on flawless material, and thus the vendor and the purchaser are victimised. Such men ought never to be employed on fine work; as masters, unable to rely upon them, cannot guarantee their workmanship to the angler. Journeymen in the employ of some master tackle-makers, put in, for "scamping" — slurring hastily over — their work, the plea of low wages, and justly, in many instances, I have reason to know. A cheap salmon fly-rod is the dearest thing one can buy. The price should vary from three to five guineas,

according to finish, length, and number of pieces. Spare and rent tops and small-pieces materially add to the value, and, of course, to the price of the rod. I am not partial to spliced joints; they are troublesome, unsafe, and do not make amends by any extra pliancy or lightness. I prefer joints that are single brazed, and to them I prefer double-brazed ones. The brazing of the shoulders and tongues of joints is now done to such perfection, that no material additional weight is superinduced, whilst the fitting into the ferules is more exact, and, consequently, the shaking or loosening of joints is more effectually avoided. Single brazing is only fit for light rods, and if the wood be thoroughly seasoned, and the tongues accurately adjusted in the ferules, I should have no objection to it. I am decidedly opposed to what are called "whippy" rods. The line may be rolled on to the water with them, but they fail in straight or round shoulder casts. They also carry heavy lines and large flies badly. Some people, when they try London rods in the shops, deem them too stiff; but this is a fault on the right side, if the material is good and accurately worked up, because a day or two of successful salmon-fishing will do away with the superfluous stiffness, and reduce the rod to appropriate

pliancy. Many rods, the joints of which appear too thick, possess more general elasticity than rods made of thinner pieces. This is caused by good material and good workmanship, the latter producing the desirable balance I have already described. Very stiff rods are never required, except in rivers overhung by trees, when the hip, or under-handed cast, is necessary.

WINCHES are made perfectly in London. I have a great dislike to deep and narrow ones. They either diminish the true balance of the rod, or impede the comfortable action of the hands and arms in casting. They possess no intrinsic merit, not even the alleged advantage of taking in, or up line, with greater rapidity and regularity — without danger of one coil hitching in, or being caught, by the other, and so becoming entangled. The depth and width of a winch should be equal, or, if there be any difference made, the width may be less than the depth by half an inch, in reels that can carry from eighty to one hundred yards of line. Multipliers are properly repudiated by practical fishermen. The well-finished check-winch is the best of all. It must not be too free in its action, but just stiff enough to keep the line taut when the fish darts away with it, nor should it give out line when a fish

is struck, or rather in the striking of a fish; nor be so loose in play as to let out line when the fly is worked against the current, or lifted from the water for the repetition of a cast. I would rather have its action a little harsh at first, because I know that every salmon that runs out its line bravely, will add, infinitessimally no doubt, to its freedom of play. The scoop and cross-bar should be of one solid piece, and should be riveted to the plates by, at least, three strong rivets on each side. Winch fittings cannot be too strong. The shoulder of the handle of a winch should lie close to the plate, or be guarded by a raised rim running round the edge of the plate on the handle side. This will prevent the line from catching between the handle and the plate, and it will also prevent the handle from being bent or broken by a fall, or any other accidental collision. For the future, I shall have my winches bronzed, and the knobs of the handles, instead of being made of brittle bone or ivory, shall be made of horn, or some other substance hardy enough to withstand a good thump against a rock's side.

Salmon-Lines. — Winch salmon-lines should never be twisted. Twisted lines never uncoil perfectly straight. They invariably kink in a more or less degree, and attrition against the rod-

rings causes them to fray. A line that frays never runs freely through the rings, either in casting, or in playing a fish. Many a hooked fish is lost by the sudden hitching of a frayed line in one of the top rings, and many a rod is broken by a similar incident. Winch- or reel-lines should be always platted, because they have a greater tendency to lie at length than in coils, and they are not liable to fray. The materials of which they are made can, in the manufacture, be compressed into a slighter volume, so that a thin platted line shall be stronger than a thick twisted one. Platted lines should be made of silk and hair; the silk predominating, and being of good quality. The reason that many of the platted lines now made are too light is, that the silk used in the fabrication of them, is the worst quality of Chinese silk. If substantial, raw Italian, or Persian silk were used, lines would not only be stronger but heavier, and thin ones would suffice to carry out heavy casting-lines and flies. I have seen platted lines made of silk and fine gut, and I am of opinion that if they were made with care, and of materials carefully selected, they would be the best of all winch-lines. They could be thrown farther, would be less liable to kink, and would be more enduring than any other

species of line. Eighty yards of such a line, of the thickness of breeding-cage wire, would be sufficient to cope with the stoutest Tweed or Shannon salmon. I do not approve of lines that taper sharply. They are only fit to carry out fine casting-lines and small flies, and can never be thrown well with a large rod, or against an opposing wind. I am opposed to very thick lines. They may be useful in making the under-handed cast, but for the fair, free cast from the shoulder, they are unnecessary. They are, generally speaking, a cumbrous nuisance, requiring a large, unwieldy winch, and they imbibe too much water for light and graceful casting. No platted salmon-line need be thicker than the barrel of a partridge wing-feather.

I am greatly in favour of single gut casting-lines, and twisted treble gut ones I would not use except for spring-fishing. A model line should consist of three or four links of single gut at the extreme or fly-end, then a couple of double gut links, and, lastly, as many of treble gut, to meet the winch-line, and be looped on to it. The last treble gut-link should tally in thickness with the end of the reel-line to which it is joined. Provided the gut be fresh and good, I do not see the probability of any fish, under ordinary circumstances, snapping asunder a line made as just

stated. Treble gut lines are for the most part twisted. I should prefer them platted, for the same reasons that I prefer platted winch-lines to twisted ones. On the goodness of the gut depends the goodness of the line. If each link and knot be not honestly tested by the maker, the chances are, the line will be an unsafe one. Too much stress is laid on the importance of very thick and round gut. If fresh, transparent, and flawless, of course it is the best; but I have seen flat gut and thin gut stronger than thicker and rounder links. I prefer quality to rotundity or stoutness — tackle of fine and compact material, to that which is massive and porous. I have had slender grilse-lines with which I should not fear to lead the "wickedest" salmon within reach of the gaff or landing-net. Gut that has been long exposed in shop windows should never be purchased, and links that have light rusty-coloured spots on them should be rejected. In making a casting-line, the finest links should be those next the fly, and the thickest next the rod.

Both winch- and casting-lines soon rot if wound or coiled up in a wet state. At the termination of a day's fishing, all the wetted portions of lines should be uncoiled, and exposed to desiccating, atmospheric, or other action.

CHAPTER II.

ON THROWING THE LINE. — THE VARIOUS MODES OF DOING SO DESCRIBED AND EXPLAINED.

I CONFESS I find very great difficulty in showing by writing how a line should be best cast in fly-fishing for salmon. By the river side, with rod in hand, the thing could be easily taught. I should fear failure in the attempt I am now about to make, did I not take it for granted that the majority of my readers are already more or less practically versed in fly-fishing for trout. I beg it to be borne in mind that I am not now writing for the instruction of mere piscatorial tyros; that I am not composing a book solely for fishing freshmen, but rather for the finishing study of halieutic graduates. Encouraged by the conviction that the fly-fisher for trout will understand me, though, perhaps, I shall write too minutely to be very clear, I shall proceed to lay down new rules for throwing the salmon-line, and then have recourse to what I have written before, and what a few others, whom I consider citable authorities, have before and since written on the subject.

The salmon-rod is to be held with both hands, one above, and the other below the winch. In throwing from the right side, the right hand is to grasp the rod above the winch, the left below it. In casting from the left shoulder, the left hand is to be first and the right last; that is, it must clutch the rod between the winch and the extreme butt-end of the rod. In fishing down a river on its right side, the left-shoulder cast is to be used; in fishing from the left bank, the right-shoulder throw is the proper one. Stand at the head of a stream, looking down it as it runs from you, the bank on your right side is the right-hand bank; that on the left, the left-hand shore. In ascending a river, the left-hand bank is on your right side, and the right-hand bank on your left. This explanation may be deemed superfluous, but I fancy it will enable me hereinafter to be more perspicuous than if I had not given it.

I'll suppose the salmon-fisher coming down the right side of a river, and that above him, to his right, are cliffs or trees,—how can he bring back to that side over his right shoulder, rod and line, without causing them to come into collision with the impediments behind him on his right? He can do so in two ways — the first in greater part wrong, the other perfectly right. The first and imperfect

way, I call the back-handed cast. It is performed thus: — the point of the rod held nearly perpendicularly up before you — the forward and upward slanting direction being very slight indeed— the point of the rod is swept to the left, and with it the line, to its entire development; then the hands, —no, not both, but the right one, — wrist, and fore-arm, are turned over, backwards, to the right, and the rod brought round in the same direction; the line is turned over circularly, and propelled down or obliquely across the current. I frequently throw in this way, for the purpose merely of easing the arms, fatigued from the monotonous action of throwing over-hand from the right or left shoulder. It will be seen that the effect of this throw will be to carry the line clear from the bank behind, up and over the river, and then to bring it back over the current's course, and cause it to alight down stream to the right. Notwithstanding, the action of the arms must be cramped, for it is reversed in the over-handed throw, and the cast must be very limited in extent. Besides, when fishing from the right bank of a river, the fly can never be so neatly worked against the water with the right hand holding the rod above the winch, as when the left hand holds it there. The second method of casting

from the right bank, and which is the proper one, I will now explain.

You hold your rod, the left hand being above the winch, and the right one beneath it; left leg foremost, and left side towards the river. You bring your rod round, by, over, and beyond the point of your left shoulder, which motion will carry the line to its full extent upwards over the bed of the river, and feeling that the line is so extended, you bring back a little, in the direction you are going to cast, the point of the rod, and making use chiefly of the action of the left arm, you propel the line forward by a motion you give the rod, as if you were going to strike at something hovering in the air before you. The forward motion of the rod will be checked at a short distance, unless you bend forward with it, and the line will be sent straight out, the fly and gut-line, to which it is attached, coming first in contact with the water. Giving the arms and bending the body too much with the rod, in making the cast, is a very bad habit, as it brings the point of the rod too close to the surface of the water, deadens its elastic and propelling action, and causes the line to fall in a loose and slovenly manner on the water. This left-shoulder cast is only absolutely necessary when you are fishing from

beneath the right bank of a river, and have behind you impediments to a right-hand sweep of your rod and line. If the right bank be flat or shelving—if it be clear of obstructions—I can see no material objection to right-shoulder casting from off it.

The straight right-shoulder cast is done thus: the right hand holds the rod above the winch, the left below it; the right side is next the river, and, of course, the right foot is foremost. You bring your rod and line boldly and freely in a fine, easy, wide, semicircular sweep over your right shoulder, and then you send them forwards by communicating to the right fore-arm sharp action, as if you were going to hit something elevated before you with the soft part of your closed hand, on the little finger side. If all this compound action—bringing back the rod and line over the right shoulder, and then sharply sending them forward—be performed dashingly and energetically, without nervousness, stint of sweep, and strength, your fly will be sent straight away to its destination, similarly to, but not so swiftly as, an arrow shot from above at an object sitting beneath you on the water, at a distance of five-and-twenty or thirty yards. The straight casts, whether from the left or right shoulder, are, generally speaking, the best. At any rate, executed

by a proficient, they are always the neatest, and should by beginners be the first learnt, and then practised unto perfection. They can be performed with great accuracy, so as to enable the angler to determine, almost to an inch, the precise spot on which his fly is to fall. They cause the fly and casting-line to touch the water first, and enable you to commence working the fly, or showing it to the fish, sooner than you could do if much of the winch-line came in contact with the water simultaneously with the casting-line. The effect of the straight cast is less disturbance to the water than that of any other species of cast; the only defect that can be attached to it is, that, perhaps, you cannot by its means throw so far as by using the side, or rolling cast, of which I shall speedily speak.

Throwing the line well being of such importance in fly-fishing for salmon, I will quote from "A Handbook of Angling" what I wrote on the subject two years ago, making use at that time, as I shall now, of the observations of others:—

"'Casting the fly is a knack,'" says Mr. Scrope ("Days and Nights of Salmon-Fishing"), "'and cannot well be taught but by experience. The spring of the rod should do the chief work, and not the labour of your arm. To effect this, you

should lay the stress as near the hand as possible, and make the wood undulate from that point, which is done by keeping your elbow in advance, and doing something with your wrist, which is not very easy to explain. Thus the exertion should be chiefly from the elbows and wrists, and not from the shoulders. You should throw clear beyond the spot where the salmon lie, so that they may not see the fly light upon the water; then you should bring the said fly round the stream, describing the segment of a circle, taking one step in advance at every throw. In this manner the fish see your fly only, and not the line. It is customary to give short jerks with the fly as you bring it round, something in the manner of minnow-spinning, but in a more gentle and easy way, and I think this manner is the most seducing you can adopt; it sets the wings in a state of alternate expansion and contraction, that is extremely captivating.'

"I think I can make Mr. Scrope's directions touching casting the salmon-fly somewhat more easily understood. Hold your salmon-rod by grasping it with the right hand above the winch; with the left, beneath it. Grasp it firmly, and poise it backwards by the strength of your fore-arms, as you would a long-handled light axe, with

which you were meditating a smart blow on an object placed above and opposite to you. Lift your rod perpendicularly, and bring its point semicircularly round over your right shoulder, the fly and line sweeping round at the same time, but in a far larger semicircle. When, in bringing your rod and line round, your right hand has also come round over the right shoulder, and almost into contact with the right side of the head, propel your rod and line forwards with a strong, sharp fling, whose action is commenced by the hands and wrists, and terminated and completed by the muscular power from elbow-joints to finger-tips being called into forcible play. In making very free and long casts, recourse must be had to the propelling force of the upper as well as of the fore-arms; in fact, in these long casts you must throw clean from the shoulder. In throwing from the left bank, between trees, &c., do not elevate the rod over either shoulder; hold it out before you in a slightly elevated, horizontal position, and, bringing it back sharply to the right, turn it over towards the left, and you will be able to 'chuck' your line and pitch your fly downwards with the current. This is one of the ways I would recommend in fishing the left bank of a river, from which trees and rocks present

impediments to the straight, right-shoulder cast. By moving your rod before you several times from right to left, to get your line and fly into easy balancing swing, you can cast sideways backwardly from left to right, and so fish the obstructed part of a stream lying to the right of you. It would be better, however, to place the left hand above the winch and throw under-handed, performing what is called 'the hip cast.'"

I wrote, in "A Handbook of Angling," a passage which I now retract, as containing too stringent an admonition. It is this: — "Your fly and gut-line must *always* fall first upon the water, and not roll on to it by means of the winch-line first coming into contact with the liquid surface. The rolling descent of the line and fly should be avoided *totis viribus*, with mortal might and main." This is too strong. The winch-line may be rolled on to the water with advantage frequently. Sometimes you cannot cast without doing so, as, for instance, when you are fishing close below a bridge, or any other obstructing object, high rock projecting into the water, or tree on either side above you. You must then chuck or skew your line on to the water, which a portion of the winch-line will touch first, sending straight before it casting-line and fly. Although not a graceful

mode of casting, it has utility in its favour, and as salmon are not so easily scared as trout by a line's plash on the water, no harm can result from it. Recourse must be had to it, therefore, at all times when impediments would hinder the development of the line sent semicircularly backwards from the right hand or the left.

Let us now see how Mr. Stoddart teaches casting with the salmon-rod. That gentleman says: — "In fly-fishing for salmon, the casting of the line is generally managed, first of all, by raising the rod back over the left shoulder. This part of the operation requires to be done slowly and deliberately, with a slight increase of speed or force on the part of the performer as he proceeds. He will then, if managing properly, raise the slipping or employed portion of the line above and behind him, so that, by further elevating the rod and bringing it round over his head, both hands being employed in the exertion, he shall cause the tackle in question to describe, as it were, a sort of semicircle in the air. He must then, at the moment the sweep in question is completed, and the rod has attained its highest elevation, direct his fly forward by a rapid impulse towards the spot where he wishes it to alight; and this should be done without any ac-

companying jerk or violent movement, but solely by a firm continued exertion of strength, as in the 'putting' or launching of a large stone or cannon-ball. This is the left-shoulder method of throwing the salmon-line; and is commendable, not so much on account of its being more easily managed than the other, but chiefly because of the advantage it gives the angler when under a bank, or in advance of shrubby ground, when his hook, were it suffered to fly back instead of being kept aloof over his head, would frequently find its anchorage behind, and thus endanger the safety of rod and tackle, as well as try the patience of the thrower. But there is no reason why, under favourable circumstances, right-shoulder casting should not be resorted to. I think, for my own part, that the fly hove from the right shoulder generally alights on the stream's surface with greater lightness, and may be directed with more accuracy towards the desired spot." The trout fly-fisher, with very few exceptions, when he first begins to handle the salmon-rod, will find the right-shoulder cast the most easily accomplished. Unless a man be what is called left-handed, his right hand is the fittest for taking the lead in all brachial exertions. It has natural advantages, which would remain exclusive ones in many in-

stances, did not practice and exercise with the left hand and arm counteract the monopoly. In salmon-fishing, the powers of neither arm should be constantly and exclusively called into operation. They should be brought into play alternately, so that in changing hands no awkwardness or inconvenience may ensue. Alternately exercising each hand and arm, will render the salmon-fisher ambidexter — a most advantageous consummation.

In order that the reader may not lack any information on the various modes of throwing the salmon-line, I shall quote passages from two of the most recent writers on the subject. Mr. J. Colquhoun, in his new work *, says: — "Some anglers have an additional piece to screw on their rods for long casts; a very thin butt is required when this piece is not added, and it is more apt to twist the rod. If equal in other respects, a man who has the power of throwing a very long line has the same advantage over a less gifted friend, in this particular, that a far-killing gun has over an inferior one, both in the same skilful hands. I should therefore advise every aspirant to excellence in salmon-fishing, to attain this

* "Rocks and Rivers, &c." published last season, by Mr. Murray, Albemarle Street, London.

knack (the throwing of the line) in the greatest possible perfection. Some anglers who throw the longest line make it "swirl" out upon the water, the hook appearing to alight last. Others cause the fly to hover for a moment, and touch the water before any part of the line. These last appear the neater fishers, but the others command more water. In fishing a salmon-cast, throw a point down stream, bringing your hook gradually round by short jerks, but always keep it two points against the stream, and never bring it in so straight towards you as in trout-fishing.* In dead water, when a very long cast, you may throw straight out, bringing your fly round, by keeping the point of the rod up, instead of down stream. There is an under-handed throw much in use on the Spey, which prevents the line from circling behind. Of course this is a great advantage among trees or other obstacles. It is generally practised up stream†, and the line with its 'swish' upon the water goes over all the fish

* The advice embodied in this and the following sentence is not orthodox. By and by I shall show how the salmon-fly is to be properly worked in the water.

† If so, it is a very bad practice. All casts should be down stream, and the working of the fly must be up stream, or against it.

before they see the fly, which appears to me a great objection. These Spey fishers can throw this under-handed cast as far as an expert hand in the ordinary way. A peculiar rod is necessary, which must be very stiff. Indeed, a common salmon-rod would be apt to break in the hands of these fishers. The cast is easily learned, but must be seen to be thoroughly understood."

The second * of the two authorities I have just referred to, writes:—"We" (I fancy the author means salmon-anglers of Wales, the Wye, and rivers contiguous,) "have a mode of sending out the fly in quest of salmon, known, I believe, by the name of the 'Welsh throw.' The fly is brought as near you as the length of line will admit, by drawing the rod, almost perpendicularly or inclining a trifle, behind you, either on the right hand or the left, immediately delivering the line before, while the fly and several yards of line remain on the water. The line in this case sweeps along the water, and the fly reaches the surface *last*. To accomplish this throw the rod must be well proportioned to the line. If the rod be powerful, so must be the line. If the rod be lighter, the line must be proportionably so, else to succeed is

* "The Rod and Line, &c." just published by Longman & Co.

impossible; and without a line made for the express purpose, no man can accomplish the throw. The line must increase in thickness from the point for about twenty-five yards; nearly the last half of these twenty-five yards being very heavy. The object of this is, that the *weight* of the upper part shall be such as to force forward the lighter end, with the gut and fly. The greatest weight of line being at the point of the rod, sends out the lighter part with much less exertion to the angler than is required for the usual over-handed throw. And it possesses another material advantage: that you can fish those catches or casts from the bank, which you could not command, unless in a boat; for, as the line is never brought *behind you,* no rock, tree, or bank impedes the throw. The fly, too, can be pitched very much farther by this than by any other means. The economy of manual exertion, the being enabled to fish in any cramped place, and the sending out a greater length of line, surely form a triad well worthy the salmon-fisher's notice." I think one sentence in the above passage — on the whole a very useful one — somewhat obscure, and therefore requiring elucidation. The sentence I mean is this: — "The fly is brought as near you as the length of line will admit [that is,

in my interpretation, drawn in the water towards your feet as closely as the length of line out from the top of the rod will allow—you could draw it quite close if the length of the line out did not exceed the length of the rod], by drawing the rod, almost perpendicularly or inclining a trifle, behind you, either on the right hand or the left, immediately delivering the line before you, *while the fly and several yards of line remain on the water. The line in this case sweeps along the water,* and the fly reaches the surface last." The words in italics contain chiefly the obscurity I complain of. To my comprehension the author means that whilst the fly and some of the line are not as yet lifted from the water, the rod is moved back and then propelled sharply forwards. Now, by this double motion, the fly and line must be lifted from the water and brought in an upward direction towards you, but not behind you, else you could not force them forwards. When they are sharply driven forwards, the winch-line touches the water first, and the instant it touches it, the casting-line is shot on straight before it. This cast is the straightest from the shoulder of all; but unless it can be made in an oblique direction down stream, it is far more useful to the trout-fisher than to the salmon-angler, for this

reason, that the trout-fisher, having thrown across the water fairly opposite to him, can work his flies down with the current, whilst the salmon-fly cannot be so worked. If the attempt were made, the salmon-fly would either roll over as it went with the current, or it would float down irregularly on its side. At any rate, its feathers and fibres would be sometimes all of a heap, and sometimes spreading and sprawling in the water, terrifying rather than attracting fish.

The cast I have been just commenting on is practised, but somewhat differently, by London fly-fishers for trout. They do not — I mean those who have learnt the style recently in fashion on the metropolitan counties' rivers — bring the rod and line round over either shoulder, but straight backwards over the right clavicle, and balancing them over it by two or three bold movements of the rod and line backwards and forwards, they finally fling straight before them vigorously; and, though the winch-line touches the water first, the casting-line is driven forwards to a very considerable distance. I do not think this method should be contemned. By its means, fish rising far from one, can be reached; but it labours under a disadvantage, viz., that it cannot be well practised unless from the right shoulder, and that

obstructions in the rear of the angler are fatal to it.

Next to the casts already described, from either shoulder, right or left, by bringing the rod and line semicircularly round the point of the shoulder, and when the line has fully developed its length rearwards propelling it forwards, so that the casting-line shall fall first on the surface of the water, I like best under-handed casts from left or right side. In performing these, the rod is held forwards horizontally, with the hands and arms projecting in a line with the termination of the ribs. If the right hand is first, the rod is brought in a horizontal sweep to that side, and then urged sharply in an opposite direction, by which means the fly and line are pitched far to the left side, the latter touching the water first, the former alighting on it last. Pitching the rod, line, and fly in this way, is done by a motion not unlike the way a cricket-ball is pitched by a round, over-handed throw, or not very unlike the way a stone is "skewed" on the surface of the water to make what boys call "ducks and drakes." The winch-line falling first on the water makes the duck, and the casting-line and fly falling farther off make the drake. In casting under-handed, with the left hand grasping the rod above the winch, the rod

and line are brought backwards horizontally to the left side, and then propelled down stream to the right. I strongly recommend the practice of casting under-hand. It is the best substitute for over-hand, or any sort of casting from the shoulder; and an adept at it will be rarely nonplussed by natural or artificial obstructions obtruding themselves in any way or on any side. A short or a long line can be well thrown by these side-casts, and it is not always necessary to develope fully, in a backward direction, the line in making them. The line need only be brought partly back, and then turned over by a turn of the rod; and simultaneously with the turn, shot forwards over, and on to, the water.

I am afraid I have been tediously minute in this chapter. Should I be considered so, my defensive plea must be "the love I bear for salmon-fishing is in fault." That love renders the faintest features of the art interesting in my eyes, and so I could not refrain from elaborating them *usque ad unquem.*

CHAPTER III.

ON WORKING THE SALMON-FLY THROUGH THE WATER, AND ON HOOKING AND PLAYING SALMON.—HOW SALMON-RIVERS ARE TO BE FISHED.

THE composition of this chapter will afford me pleasure. I commence it cheerily because its subjects are pleasant ones. I have studied and practised them carefully, in right mood, I fancy, of mind, and with correct performance of hand. They are of immense importance. A man may be able to throw a line into a nut-shell floating on the water at a distance of thirty yards from him, but if he do not know how to humour his fly and hook his fish, his casting skill will be merely a parade acquirement, very seldom leading to conflict or victory. Tact in working the salmon-fly, and in striking and hooking a fish, is more valuable than any other species of angling tact, and happily there is no great difficulty in the way of its complete acquisition. If I possess any piscatorial tact, it is that in praise of which I have just spoken.

The error of the majority of salmon-fishers lies

in their working the fly through the water with too much force and rapidity. I am told, and I have reason to believe it from some personal observation, that the error is more frequently committed by Irish salmon-fishers than by Scotch. The latter, however, perpetrate it commonly enough to be adjudged sinners requiring earnest admonition. I advise gentle working of the fly through and against the water, with no more action than is required to display before the eyes of the fish the artificial bait attractively; with no more speedy power than can be easily compassed by a pursuing fish.

The salmon-fly is always to be worked or humoured against the current, never with it; to be worked up and down beneath the water's surface, head foremost and onwards towards the angler, or rather in the direction of the point of the rod. This is done by moving your hands and arms up and down, somewhat in the way you would work a light and free pump-handle. The up-and-down motion of your hands will communicate a similar motion to your rod, line, and fly, — similar in appearance, but not in degree. The casting-line and fly will be less influenced by the action of the hands and arms than the rod; and the winch-line—at least the portion of it in the

water—will feel the action less than the rod, but somewhat more than the casting-line and fly. In performing this up-and-down action, the line must be drawn in a little by directing the upward motion of the rod a little towards yourself.

I will explain the effect of this action, when properly performed. It is an upright zig-zag one, with oblique tendency towards the angler. The rod and line, when lifted up and down, will cut out empty spaces not unlike those between the teeth of a saw. When the rod and line are lifted up, so will be the fly, and the resistance it meets from the superincumbent water against which, in an upward direction, it is forced, will press down its wings on the body, compressing, of course, the fibres of the feathery or fur material of which wings, body, and legs, are made. When by the next motion, a sinking one, of the rod and line, the fly goes downwards against the water, the resistance it meets with from beneath opens all the fibres of the wing-feathers and of the hackles, displays the colours of each, discloses the body and the tinsel with which it is ribbed. When by the motion that occurs between the two others, the fly is drawn towards the angler, the water presses it from above and below—indeed on all sides—and all the materials of which it is made

are more compressed than they are by any other motion. The motion I have called the sinking one, is the most attractive of the three, because its effect is fuller development of the colours of the fly, and fuller action—I may almost say separate action—to each of the fly's component parts.

Now, if the up-and-down and drawing-in motions are performed roughly and rapidly, the effect, or rather one of the effects will be, constant compression of the fibres of the wing and hackle feathers, and of the hairs, be they of mohair, or pig's wool, or fur, of which the body is made. By this compression shades of colour are hidden, and nearly all the beauties of the most seductively mixed wing are obscured. The full wing and the full body are attenuated injuriously by water-pressure. Certainly, no matter how rapid the upward and downward motion of the fly may be, its fibres must open as they descend against the water; but their colours are displayed for so brief a period, that the fish has not had sufficient time to distinguish them. The rapid motion between the heaving and setting of the fly draws it so swiftly towards you, that few fish are fleet enough to overtake it, and if they are, they will be, I fancy, disinclined to make use of extraordinary effort to do so.

In order to convince myself completely of the demerits of the rapid working of the salmon-fly through the water, I used to frequently request, during an experimental excursion made last season, an excellent angling guide I had with me to take my rod, throw the fly downwards obliquely across the stream, bring it round rapidly into the current, and work it rapidly against it. Whilst this was going on, I was placed in such a position as to observe thoroughly the effect of the rapid working of the rod and line on the appearance of the fly in the water, and on its progress through it: I could see the substance of the fly compressed to disproportionate tenuity, and I could see it cleave the current by "spurts," so long and rapid as to be inconsistent with the ordinary progressive powers of natation or of flight. I have seen a salmon follow a fly worked thus rapidly into the current and up it, and I have seen the fish, unable to overtake the bait, give up the pursuit and drop back again to the spot from which it had risen. I would then request my angling assistant to rest for five or six minutes, and to throw as before, but to work the fly gently. I have seen the same salmon rise again, follow the fly with moderate haste and opened mouth, and as the bait descended, and as it was moving away with collapsing, not

collapsed, fibres, seize it securely within the jaws, and then turn off downwards with the intention evidently of swallowing it at leisure after having dived into its subaqueous lodging. This experiment I have caused others to perform, and I have performed it myself over and over again, and with results sufficiently invariable to make me condemn the rapid working of the fly through the water, and approve of moderately gentle working.

The following pretty manœuvre I have seen performed, and did it myself before I ever saw it done. I have seen a fish rise at something on the water, most probably a small insect, or some minute particle of some sort of food, or of something having the appearance of food, and I have seen the angler throw his fly beyond the fish, and then work it over him and before his eyes to the best of the angler's calculation. I have seen the fish sluggishly follow the fly, as if making "I dare not wait upon I would," and I have seen the angler, observing the motion of the fish as I did, stop the onward progress of the fly by lowering a little the point of the rod, and all the fibres of the fly being opened, and its progress onwards being arrested, and a very slight motion downwards towards the hesitating salmon having been given, by a momentary short relaxing of the line,

to the fly, I have seen the salmon seize the latter with a snap as sharp as that of my lady's Blenheim, disturbed from its fire-rug *siesta* by the buzzing beneath its nose of some reckless house-fly. When working the fly, my guide, perched above me on a rock, has given me notice of a fish following the fly, and trying to seize it. I would then gently lower the point of the rod, or give a little line off the winch with my hand, and I very often had the satisfaction of feeling a tug under water that induced me to make a successful little pull in an opposite direction.

There is nothing like observation. Let the learner place himself on an elevated spot, and overlook the actions of a brother salmon-fisher. He will see how the cast is performed; he will see the fly alight on the water, and sink a little into it; he will then see it worked through the water, he will see the exact form it assumes whilst being so worked, and the rate of speed communicated to it. He will see that if it be worked rapidly, its wings and fibres will be nearly always in a state of collapse, and will wonder at the contraction of its size, and he will be amazed at the darting rapidity of its onward progress. If he understand reasoning by induction, he will conclude at once that sharp working of the fly is wrong—unna-

tural, if I dare apply fully the meaning of that epithet to fly-fishing for salmon. If the brother angler work the fly gently, the observer will see that the fibres are alternately compressed and expanded—that its flits through the water are short and of moderate speed—that it rests and moves on by stops and starts, after the fashion of several living water insects—that it looks more life-like—that its colours and shape are more fully developed—that you yourself would be deceived by it did you not know the why and the wherefore of its coming and going—and, finally, you will conclude that so worked, and humoured, and manœuvred in the water, it is rendered so much the creature of art—of *ars celare artem*—as not to make it at all a matter of wonderment that the perception of fish should be led into fatal error by the imposture.

I have noticed, amongst salmon-fishers, a pretty general fault: they see a fish rise at a good distance; they throw over him, and the instant the fly touches the water they lift the rod, and begin working the fly. By this instantaneous lifting of the rod the fly is rapidly drawn towards you, and a yard or more of your long cast has been rendered useless, and very probably the fly has escaped the vision of the fish, and, at the time you

begin working, it is too far away to be followed, even if seen. In making a long cast beyond and over a salmon, just as your fly is alighting on the water, lower a little the point of your rod, and give two or three feet of line, if there be room, beyond the fish, and your fly will be carried further by that distance than if you lifted the rod and tightened the line as the fly was coming into descending contact with the water. Commence working the fly gently; and, if you have calculated rightly the position of the fish, you cannot fail to introduce the fly to his notice favourably. At any rate, by following what I have just here recommended, you will be able to command a greater extent of water, than by lifting the rod simultaneously with the completion of the cast.

HOOKING A SALMON. — Striking at and hooking a fish are nearly synonymous. To strike and hook a fish requires self-possession, and very little more; that little is, not to attempt it too quickly and too rudely. If you are fluttered at the rise of a fish, you will either strike too soon or too strongly, or not at all, like a fowler startled at the noise made by a pheasant, flushed from a hedge-row. My general rule is not to strike at a salmon until I feel him — until I feel "a bite" — if I may be allowed to apply to the royal sport

of salmon-fishing that ignoble word. When I feel the slight "tug," — aye, that's the right word, — I allow a second or so to elapse; and then, lifting the point of my rod, I make a short, smart, jerking motion backwards with the wrists, and I generally find that I have hooked my aquatic quarry. Every man almost, at the beginning of the season, is nervous; and I will ask the oldest salmon-fisher if he do not then lose many a fish by his precipitation in striking? He becomes steady in a day or two, his eye and hand become ready, and he manages the latter with veteran coolness and delicacy. The general rule for striking laid down by others is as follows: salmon do not jump at a fly like trout, but rise up at it and take it under water; in doing so, they cause a break in the surface; and, having taken the fly, they turn round to descend to the bottom with it, and this motion causes the break on the water's surface to contract. The moment the contraction takes place is the time for striking, for then the fish is supposed to have the fly fairly withinside its lips. I have no objection to this rule, except that it is not easy for the beginner to observe and practise it: as for myself, I confess that I frequently strike at and hook fish without, as far as I can conceive, any premedita-

tion or calculation, but almost by instinct. Something, I cannot say what, tells me that a fish is "at" me, and, consequently, I am promptly at him in the sly way he has come at me.

Let us inquire, why I recommend gentle and somewhat slow striking. I am of opinion, that in the majority of rises a salmon half hooks itself. Consider what a very sharp thing the point of a good hook is, and how easily it is inserted into moderately soft substances by very slight resistance. Now, consider the weight of a descending salmon with this sharply-pointed thing in its mouth, and consider, also, the resistance offered by a taut line, which the salmon's descent is tightening more and more, and you will not deem it at all surprising that the fish should half hook itself. If you concede me so much, you will then concede that nothing more than a gentle stroke, or short, sharpish pull on my part is necessary to insert in some part of the fish's mouth the hook beyond the barb. Again, another reason why I favour gentle striking. If I miss my fish, it is done with such gentleness that it causes no serious alarm, and you may, therefore, reasonably hope for a second rise. A third reason for gentle striking is, that by making use of it you give the fish full and fair time to close its mouth on the

fly, and you are not, consequently, liable to snatch it from jaws half open. A fourth reason: a fish gently struck and hooked scarcely feels the operation, and is less inclined to dart off in the water or out of it instantly, and give you furious battle with unimpaired vigour. On this point I find, in my "Handbook of Angling," the following words:—"The critical fish-stroke is made by a quick, but very gentle, wrist-motion, by which the hand is canted upwards, being displaced about two inches only. Such a stroke made instantly the fish actually reaches the fly, at the moment he has closed his mouth on it, and before he has time to throw it out again, is sure to secure the entrance of the hook within the substance of the mouth, without causing great alarm to the fish by any unnecessary violence; for it cannot have escaped the observant angler that, when a fish has been harshly tugged in striking, he commences at once a more determined resistance than when the stroke has been less violent, and his alarm less sudden. Neither can we wonder that his efforts should be extreme, when he is made sensible of his situation by a stab and a drag which have half pulled him out of the water." Though this was written respecting trout, it is perfectly applicable to salmon-fishing. Mr. Scrope, an ex-

cellent and experienced salmon-angler, writing on this subject, says: "It is best to strike a little sideways, that the hook may fasten in the fleshy part of the mouth; whereas, if you pull straight up, you are apt to encounter the upper or bony part; or, if the fish has not closed his jaws, and fairly turned off, you may pull the fly from him too soon, to the disappointment of both parties. Sometimes, however, when a salmon is clean run, and in high glee, you can scarcely miss him, strike which way you will. In low water you must be somewhat dilatory in striking; you often see the heave of the water and a break before the fish has actually seized your fly. Give him time to turn his head in his way back to his seat, to which a salmon returns after rising at the fly."

Having spoken in praise of gentle striking, I shall now speak in dispraise of striking rapidly and rudely. This is teaching by contrast, a favourite method of instruction with me. This very year ('49) I have witnessed several fish missed by quick striking, and, in one instance, saw a gut casting-line—which, if used fairly, would have killed a hundred fish—lost, by the bad method I am censuring. Some of the parties fishing being of elevated rank or strangers, I durst not offer corrective advice to them. To one party I

could, and he took it, but not before I convinced him by proof. The party I allude to was an adolescent, who accompanied me as a guide and angling assistant. He had the eye of a hawk, and, whilst I fished, he invariably watched the fly — the river was not wide — and when he was a little elevated above me, he could see the rising fish, and what it did, far better than I could do. The moment he saw a salmon or grilse take the fly, he would say, "She (he was a young Highlander) has it, sir; strike her." I would answer, "All right—wait a bit;" and, to his astonishment, I would wait a couple of seconds after those words were uttered, before I struck. He was still more surprised to observe that I rarely failed in my object. He was a better angler than myself — at least, he threw a straighter and longer line; but he had the bad habit of striking strongly, and it was he who lost for me, in the act of hooking a fish, the casting-line alluded to, and one of my most killing flies. When tired myself, I would give him the rod, and whether it was that my presence rendered him nervous or not, or that he had conceived a bad habit to be a good one, he was continually missing rises, or "scratching" fish by his "rough and ready" way of striking. I was determined to cure him. We came to a

pool where we always killed fish, and where, from an impending rock, I could plainly see the fly. I gave the young man my rod, and desired him not to strike until I gave him the word. He soon had a rise; I saw the fish and said, "Steady!" When I saw the fish take the fly — and he took it well — and turn with it to descend, I said, very quietly, "Now then; strike gently." He did as he was bade, and hooked the fish, saying, when he had done so, "If I kill her, I'll nae strike fiercely agen." I was confident, from the movements of the fish, that it was firmly hooked, and told him to play his prey boldly. He very easily killed it, though it was a "black" grilse, that is, not a fresh run one, of very large size, and, on examination, we found it hooked through and through beyond the hard cartilage at the angle of the mouth. He was then convinced, and that he might be thoroughly so, I allowed him, during the day, to kill a couple more salmon, which he did by gentle and somewhat slow striking. This lesson to the lad was of use to myself, for I saw demonstrated the folly of striking roughly, by the success in other hands attendant on adopting the contrary method.

Playing a Salmon. — Many a trout fly-fisher is deterred from fishing for salmon by the

accounts — the highly exaggerated accounts — he has heard of the agility and strength of that fish. That it is strong and agile, cannot be gainsayed: if it were not, angling for it would not be the exciting sport it is. But with all its strength and agility, it must succumb to the good rod and line. In my opinion it is as easy, and frequently more so, to catch, by fly-fishing, a salmon of fifteen pounds' weight, with a good rod of seventeen feet in length and other tackle to match, as it is to kill a three-pound trout with the ordinary trouting fly-tackle. The strength and enduring powers of salmon are not to be calculated by size. I have seen a four-pound grilse combat with the angler for twenty minutes, and a twelve-pound salmon yield to the same rod and line in less than ten minutes. I just now used the term "black" grilse. I'll explain why I did so. I hold that, generally speaking, a "black" grilse, of seven or eight pounds in weight, is stronger, and certainly more agile, than a fresh-run salmon of eighteen pounds. This seems strange, particularly when the salmon is not only by far the larger, but is the better conditioned fish of the two. Yes, in better condition for the table, but not for a struggle with the angler. The fatted calf, forced to extraordinary effort, will

soon pant and flag, whilst the lean one of the hill-side is almost as nimble as a hind, and strong and stout in proportion. When salmon first come from the sea, obesity impedes their muscular powers, and their fins are white and soft, just as if they had been parboiled. After a sojourn of a couple of weeks in fresh water, their fibres or muscles become nearly divested of fatty matter; the rays of their fins assume the colour and consistency of whalebone; in fine, they become a thin, black, ugly, but strong, active, and enduring, fish. They have left the rich pasture for the strengthening, but not fattening, food of the stable. I dare say the trout-fisher, seeing one of these small black gentlemen on a fishmonger's slab, would fancy it a thing easily landed with rod and line, whilst he would shudder at the thought of a tussel with the fat, silver-sided, eighteen-pounder, lying beside the black dwarf. Let him undeceive himself; but, at the same time, let him take courage by reflecting that what is possible for one man to execute is possible for another.

The first grand rule in playing a fish, is never, when it can be helped, to allow the line to slacken. An over slack line is worse than an over tight line, a fact always to be borne in mind. The moment a fish is hooked lift your rod's point, and,

if your fish rushes from you, follow him with your rod well up and your line taut, bearing upon him moderately. If your winch is loose in its play, you must hold the line in the fingers of your left hand to prevent it running slackly, that is, faster than the fish is going; but if your winch is a good check one, of somewhat stiffish play, the precaution of holding the line between the fingers will be unnecessary, as it will not run off without being borne upon by the fish, and, consequently, will remain taut as long as the fish keeps scudding away. At first, I would not bear heavily on a fish, unless he were making for dangerous quarters, and, in such event, I would stop him if I could. If he be in fair water, I would at first, and until his strength began to fail, play him with a long, tightish line, for the more of it he carries and drags after him, the sooner will he display symptoms of weakness. As soon as he does, bear upon him gently, winding up slowly at the same time, and bringing him towards you in the direction of some safe place. If he sink towards the bottom, wind up your line and prevent him from descending entirely, keeping him clear from any thing he can work his head or body against. Whilst he so remains, butt him—that is, present the butt-end of the rod towards him, which will cause him to feel

the power of the strongest parts of the rod, and the more he "jiggers," or shakes himself to and fro by working his head and tail this way and that, from side to side, in the water, the sooner will his strength and courage fail him. If he remain too long stationary and sulky, you must devise some means to make him take another race, for running with a restraining bit in his mouth soon ends in a fatal career. Pull him up after he has run a moderate course, and by this time you may, without danger, wind up tightly and force him within reach of gaff or landing-net. The latter I prefer for grilse or small salmon.

I have now shown how to play a fish under ordinary circumstances. Under extraordinary or difficult ones, there can be no fixed rule. Tact and judgment must be your guides. Whenever I saw danger of a fish fouling the line, I would try to make it project from the water as perpendicularly as possible, and would give the fish no more of it than I could help. This is the only way to guide the fish clear of any obstructions in the water — rocks, roots, and so forth. A fish hooked in a pool free of obstructions, will more probably at first struggle with you in it, and then finding he cannot beat you in open plain, he will be off, if you let him, for any aquatic fastness he may be

acquainted with. I am for stopping him in his retreat to such vantage ground, by butting him nervously — trying the very ultimate powers of my tackle. It is far better to lose the fish than it, and you may lose both, if he succeed in getting amongst large stones, rocks, or into some corner where neither gaff nor landing-net can reach him, and where, if he sulks, you will find much difficulty in so humouring him as to induce him to move into fair ground again. A fish rushing for dangerous quarters is, I think, more easily prevented from doing so by butting him with the rod projecting sideways, than by holding it back over the shoulder. I would hold it back almost horizontally over the upper-arm of the hand that grasps the rod above the winch, and that hand should firmly clench the butt as far up it as is conveniently possible. When a rod is so held, I think there is more power in it than when it is held over the shoulder, and that it is more easily manipulated and managed, eased or put to the strain with greater tact, because one can, not only feel, but see, the amount of pressure upon it.

Strict attention to what I am about to write should be paid. I have generally, indeed, almost invariably, found, that a fish firmly hooked descends *instanter* towards the bottom.

under water; whereas, on the other hand, a fish slightly hooked, forthwith commences his struggles on the surface, and very speedily takes it into his head to show you what a very clever voltigeur and tumbler he is, by throwing somersets out of the water. I like not these exhibitions. They are proofs of consciousness on the part of the salmon-*saltinbanque*, that he has the power of disappearing through some trap-door. I know but of one way to undeceive the silver-bedecked harlequin. When he made his vault I should do nothing to impede it, and in his descent I should offer no check of tightened line. On the contrary, the point of the rod should be lowered until the fish had descended into the water, and then it should be elevated, but not so much as to produce extreme tightness of line. Nothing can be more dangerous than to hold hard on a springing fish, particularly in its descent. The mere weight of the falling fish, if resisted, will break the hook-hold. If you can manage by gentle treatment to persuade a slightly hooked fish to contest the matter with you, for a moment or two, beneath the water's surface, there is every probability of the hook getting more firmly fixed, and then you will have [illegible] ance of success. I have some-[illegible]n, and seen him, to my dismay,

throw, in rapid succession, several somersets, six feet high or more, and then with a species of ferocity plunge beneath the water, and there "jigger" away, making the rod quiver as though he who held it were stricken with the palsy. The somersets would be repeated, and, finally, the fish would have recourse to a desperate and lengthened rush. At length, after a protracted struggle, my quarry would yield and be bagged. I would then find that he was hooked foul, that is, outside of the mouth, in some part of the body, and my dismay and wonderment would cease at one and the same time. Now, to return to the fish that sinks the moment he is hooked. You will generally speaking kill him if you play him according to the directions I have just been writing.

How to fish a Salmon-River. — Whenever it is at all convenient, a river should be fished upwards, in the direction of its source, rather than downwards, for the reason that it is far better to begin at the tail of a pool or stream than at the head. If you begin at the head of a pool, there are many chances to one that, if you hook a salmon there, he will take you down stream, and disturb all the fish that come in his way, — all the fish in the lower part of the pool, which you have not as yet fished. Besides, the

lower parts of pools are usually the best, and should therefore be fished whilst as yet in an undisturbed state. By fishing a river upwards, much time is spared, for you proceed straight from pool to pool, and are not obliged continually to advance and then retrace your steps, which you must do in fishing a river downwards, unless, indeed, you begin at the heads of pools. As I wish that everything connected with fly-fishing for salmon should be performed in the most regular way, I recommend up-river fishing, though in doing so I know I lay myself open to the charge of hyper-punctiliousness. One way, many will say, is as good as another. I do not think so; for I maintain that, in fishing a river downwards, you waste time and pedestrian labour. Whenever it cannot be obviated, there is an end to the matter. Always fish first the river-side next to you, then the middle of it, and afterwards the opposite side, if you can reach it. There are many pools and places which ought to be fished *from* their heads. This may sometimes be done by having recourse to small rocks, which, running out into the river towards the head of a stream, serve as stepping stones, from the last of which you may throw straight before you down the pool, which is a very great advantage. Wading, however, is the

only way, generally speaking, effectively adapted to straight-ahead fishing. Angling straight before you from the head of a pool, unless, indeed, it be a very long one, will enable you to work your fly from bottom to top, and to begin working it from the very moment it drops into the water. Such is not the case when you are obliged to cast obliquely across the water. Your fly must then be brought towards you, and a good deal of the river is lost before you can bring your fly round into the current, and work it efficiently and attractively against the stream.

THE PARTS OF RIVERS THAT SHOULD BE FISHED. — The most experienced salmon-fisher in the world will find a difficulty in choosing what are called "the best casts," on his fishing for the first time any river. The most likely-looking spots are frequently without fish from some cause he cannot of himself know, but which is known in the vicinity. Something unknown to him may have happened to disarrange the best-looking pool, and drive away the salmon from it. Its bottom may have been disturbed by a flood sweeping it away, or by adding to it in the shape of fresh gravel or other accumulations. I saw, on the Shin, a certain portion of a good pool destroyed by the formation into it of a little jetty,

to enable anglers, without wetting their feet, to reach the further side of the pool, which was its best part. I consider a guide always necessary to an angler, no matter how great his ability and experience, who fishes a salmon river for the first time. Without a guide, you are liable to fish spots where salmon are not, and to pass by those in which they are. Your guide should be himself an angler, or have been one; and he should not only know all the best parts of the river for salmon, and the flies they take, but he must be honestly willing to give you the information he possesses. In the absence of a guide, take it as a general rule that salmon are seldom seen resting on a smooth, gravelly, or muddy bottom. They incline towards lying amongst rocks and large stones; and if a rapid current runs through them, the angler must work his fly, not in the middle of it, but by each side of it, for it is there salmon lie, between the still and the rapid water. Salmon very seldom lie in the middle of a rapid current; they could not do so without over-exertion. In rocky or stony pools, where the current is moderate, salmon lie in almost every part — before and behind, and between small rocks, and at the extreme end of the pool, where it is falling somewhat rapidly to form the head of the next stream below.

Two rocks or large stones opposite to each other, and somewhat apart, form two currents which meet in an angle; within, or a little above this angular point, salmon constantly lie. The fly should be thrown a little below the angular, or pointed, meeting of the currents, and then be worked first straight up the middle between them, and then on the inner side of each current. In good rivers I have seldom failed to find fish in spots like the last described. I would never fish in the boiling foam, underneath waterfalls and weirs; but where this water runs smoothly and swiftly away, I would fish most carefully, as it is there those salmon lie which have been, in their first attempts, unable to surmount the falls or weirs.

When fishing, in February or March, early rivers, you will find salmon take well on mild, soft days, after frosty nights; but then they will be invariably found at the tails of pools, no matter in what part of the river those pools may be. In the early spring months, when there is a succession of fine open weather, salmon are found in all parts of pools, heads and tails, and if in the latter localities there be a large block of stone forming an easily-stemmed eddy, they will be found in it; because it is at the same time a

good resting and a good feeding-place. Salmon fight for such comfortable spots, the strongest and bravest taking possession of them, and when one fish is hooked and taken away, another fish invariably fills the vacated locality. It is for this reason, that a generally favourite spot is seldom without an aquatic tenant. Fish fresh from the sea, and found in the streams and pools near it, take the fly with far more avidity than those that have been long in the rivers. There are several reasons for this; the fly is a new object for them, they have not as yet been scratched, pricked, or hooked by it, and being satiated with sea-food, such as fish, salt-water insects, and so forth, they seek for some substitute, and fancy they may find it in that nondescript fabric, termed a salmon-fly.

I have now, as plainly as I could, and with a steady view to truth and practical utility, told all I know about casting the line, working the fly in the water, hooking and playing a fish. I have given my opinion as to the best salmon-rods, winches, and lines. I have shown how a river ought to be fished, where it should be fished, and I have added a variety of corollary information. I dare not think myself orthodox, and if any kind being more skilled in piscatorial

polemics than I am, will, in a spirit of toleration, convince me of any halieutic heresies I may herein have promulgated, I do solemnly vow to recant them publicly in a second edition of "THE BOOK OF THE SALMON."

Another hint, on concluding this chapter. In fine late spring, summer, and early autumn weather, salmon rise best of mornings and evenings; before 10 o'clock A. M., and after 5 o'clock P. M. In early spring-tide, I consider the best hours for salmon-fishing are those between 10 A. M. and 4 P. M. It is complete loss of time to fly-fish for salmon in the middle of the day, when the water is low and clear, and the sun shining out cloudlessly. The attention of the reader is directed to what is said about the river Spey, and night-fishing, in the next chapter.

CHAPTER IV.

ON SALMON FLIES: MATERIALS OF WHICH THEY ARE MADE. — SPECIAL AND GENERAL LISTS OF THEM. — THOSE THAT ARE MERELY LOCAL, AND THOSE THAT ARE GENERAL, KILLERS.

If I were even to contemplate telling my readers that I knew why and wherefore salmon rose from the depths of the water and seized upon what are called salmon-flies, I should consider myself meditating an arch-deception. This why and wherefore (I make an unity of the two) puzzles me as much as ever were puzzled those learned writers of the Lower Empire and early mediæval times, who confused themselves and the world by lucubrations as to how many angels, or spirits floating between earth and heaven, could dance on the point of a needle. A dissertation to prove why salmon took one artificial fly, and rejected another, which other salmon afterwards very willingly take, would just be as sensible and profitable as that referring to the angels — fairies if you will — and the needle's point. Many and many an hour do I pass in speculative surprise and open-mouthed wonderment, for there

is nothing — I am alluding to minor matters — that astonishes me more than the effects of a salmon-fly manœuvred after a certain fashion through the waters of a salmon-river.

There are some — clever and minute observers — who maintain that there exists a likeness between salmon-flies and certain insects. I wish there did; but I could never see the slightest likeness, excepting, perhaps, in two or three of the flies, out of the hundreds that are used. The living insect commonly named the "dragon-fly," is also called by some the "pike-fly," by others the "salmon-fly." I think it merits the second better than the last name; first, because it is commonly found amongst the reeds and sedges of ponds; and secondly, because an artificial fly can be made like it, but of larger size, which will be taken more readily by pike than salmon. The larger and rougher sort of artificial pike-flies, salmon will not rise at; but one made delicately, somewhat after the fashion of the third beautiful fly in the first plate or frontispiece, and styled "Erin-go-Bragh," will attract that capricious fish. Flies of that sort are the only ones that resemble living insects, and then only partly, viz. in the colour and shape of the body, for their wings are not like those of any insect ever

seen or found in the heavens above, the earth beneath, or the waters under the earth. Amongst my plates of flies, will be found a beauty — a piscatory Peri — which I have, in justice to the artificial creature, christened "Ondine." In the north of Ireland it is called the "Spirit-fly," and the able artist who made the model for the engraving, declares that it is an imitation of certain natural flies which he has seen. I fancy this a day-dream of angling genius. Perhaps, like the Phidian Venus, it is a statue made up of the separate beauties of divers animated models. Be that as it may, I never saw an insect like it, or any thing like it, and all I know about it is, that salmon will take it eagerly in certain rivers.

In trout-fishing with the fly, I shall not as yet abandon my theory insisted upon in my "Hand-Book of Angling," perhaps too dogmatically, but certainly too pungently, as far as regards certain Scotch writers of the anti-imitation school. That theory is, that trout-flies can be well imitated, and that the nearer the imitation the better. It is now the fashion to maintain the contrary. Be it so. But if ever I fly-fish for trout again, and see living insects "out" — be they March-browns, oak-flies, green-drakes, &c. — I shall certainly use

the best imitations of them I may have in my fly-book, in preference to nondescripts, as recommended by the innovating piscatorial philosophers. If I am obstinate, I cannot help it. My imitation theory extends only to the common river, non-migratory trout, and to the grayling; I totally abandon it with respect to salmon, and all migratory salmonidæ.* They are as capricious as the days are long. Account for it? — Alas! I cannot. But I may suggest that, as the natural history and habits of salmon are abnormal, or normal only as *per se*, I do not see why their appetites or tastes for food should not be also abnormal, or beyond all fixed rule.

Some tell me that salmon-flies are taken for butterflies or for birds by salmon. God bless my heart! We have no humming-birds in this country, or insects of Cashmere. Look at fly No. 1. in the frontispiece — "The Goldfinch," — and in what fairy fields will you find bird or insect like that? Look at that gorgeous artificial, "The Shannon," in plate No. 2., and tell me where, in this clime of ours, you will find living thing possessing the tenth of a tithe of its brilliancy. Yet these splendid formations of feather, gold, and dyed fur, are especial attractions for the salmon of the Shannon

* It holds good with the insectivorous carp tribe.

and of the river Erne. The salmon of other rivers despise them. In Tweed water they would be fish-frights. There, salmon prefer Nubian beauty—for instance, the dusky "Toppy" of plate No. 5. Behold me now in another dilemma. Is the fly called "The Goldfinch," or that called "The Shannon," bred on the banks of that famous river? Does the Tweed produce black insects, with wings tipped with white, like "The Toppy?" I wish somebody would say, "Yes;" and produce specimens. If "The Goldfinch" were a general fly, if "The Shannon" or "The Toppy" were one, I should not be confused as I am, for then I should see that one general taste prevailed amongst salmon, that it was as regular as most of their habits are in every river, whether near or far apart; whereas, the tastes or likings of salmon for flies differ and contrast as widely as any set of rare-ree things, collected from every point of the compass, and jumbled together in kaleidescope-confusion. No man, out of Hanwell, can, if he considers what I have just said, imagine for an instant that a salmon takes a salmon-fly as being the "counterfeit presentment" of any sort of edible it has ever tasted. It takes it unquestionably for some animated, edible substance; and that is all I know about the matter.

It will be asked by the less than half-learned salmon-angler, why I have given so long a list of widely varying and only slightly varying salmon-flies. I will tell him. Though there are general flies that will kill in the majority of rivers, they will not always do so, and they must be only used for want of the better local flies, or when salmon-caprice requires a change — when there has been a surfeit of daily bread. The salmon of every river in the empire have favourite flies, some widely differing in size and colour, some less so; and a discriptive and special *seriatim* catalogue of them must necessarily be a long one. I will grant that it sometimes happens that a Shannon fly will kill in the Tweed and *vice versâ*, or that a Spey fly will kill in the Shin, or that a Blackwater fly will kill at Ballyshannon or in the Bann; but this forms the exception and not the rule. The flies for each river have some specific characteristic. Thus Tweed flies are, generally speaking, of dark or subdued hues, with plain unmixed wings. Shannon flies have quite a contrary speciality; they are always of gay colours, and sometimes of *very* gay colours, as to their bodies; and the crest-feathers, or toppings of the golden pheasant, always form their wings, so that a chief part of each fly is as brilliant as can be. Flies with fiery brown or

brilliant claret bodies, kill well in the Bann, north of Ireland, whilst in the south, as in the Lee, near Cork, blue or ash-coloured bodies are the best. All sorts of diversities exist, from the dingy-looking Welsh fly to the silver-laced one of the Shin. As I intimated before, I wish it were not so, for then I should be saved much trouble and embarrassment. But as it is not, and as salmon are great admirers of a variety of costumes, I felt it my duty to cater far and near for their varying and fanciful fastidiousness. Hence I have considered it necessary to cut out patterns such as I have known or heard to be extremely in vogue amongst the aristocratic denizens of every decent river in the empire.

I beg the reader to bear in mind that whenever I describe a favourite, a good, or a general fly, I append to my description a note of recommendation. I also solicit attention to this great rule — that large gaudy flies suit only deep and somewhat turbid waters, and that small, sombre-hued flies are fittest for low and clear water. Flies of medium size and mediocre brilliancy of colours are appropriate for water moderately deep and moderately limpid; and, above all, I tell him who would successfully angle for salmon, that the weather-glass must be his chief guide. With mer-

cury falling, no salmon will be seen rising except for pastime or something of that sort; with mercury rising, salmon will rise too, not for pastime, but for pasture, if the proper *pabulum* be presented to them. I now proceed to enumerate the materials, not all of them, but pretty nearly all, of which salmon-flies are made.

FEATHERS, FUR, AND SO FORTH, FOR SALMON-FLIES. — The chief feathers are, golden pheasant crest-feathers, commonly called "toppings;" neck, breast, rump, and tail-feathers of the same bird, and frequently some of the back-feathers; wing, tail, and body-feathers of the silver pheasant; tail and wing-feathers of the Argus pheasant, and the crest-feathers of the Hymalayan pheasant; wing, tail, and body-feathers of the bustard; back, rump, and tail-feathers of the guinea-hen; feathers from the body and tail of the jungle-cock and cock of the rock; turkey tail-feathers of nearly all colours; large common cock's hackles of every hue; wood-duck's feathers, those tipped with black and white lines, and found on each side, just above the tail; back-feathers, down to the tail, of the shovel-duck; body, wing, and tail-feathers of the heron; neck, body, wing, and tail-feathers of the bittern; light brown rump and neck-feathers of the grouse; red, green, blue,

and yellow macaw and parrot's feathers; red ibis feathers; breast-feathers of the toucan; body and tail-feathers of the trogan; jay's blue wing-feathers; kingfisher's blue feathers, near the tail; blue and red chatterer's feathers; peacock's wing and tail-feathers; tail-feathers of the kite; mallard and teal's feathers, from the back and beneath the wings; common cock's hackles dyed of every colour; black ostrich feathers.

The above feathers, or fibres of them, will make the wings, tails, legs, and heads of all our best salmon-flies.

Many sorts of fur are used for the bodies; but pig's wool, or its soft hair or down, and mohair dyed every colour, and floss silk of various hues, are the most common materials for the construction of the tags, bodies, and heads of salmon-flies. Pig's wool can be easily dyed, and is most valuable, because it resists the water, does not bag or cake in it like sheep's wool, and retains in it its natural or artificial colours. Mohair is excellent for the bodies of middle-sized and not over gaudy flies; floss silks for small gaudy flies. Gold and silver flat tinsel, and round twist of the same colours, are necessary for the ribbing of the generality of flies. Seal's fur dyed variously, is

excellent for the tags, bodies, and heads of large and middle-sized flies.

The best naturally-coloured cock's hackles are duns of every shade, black, brown, and black red, ginger, grizzled, grey, and dark red or "furnace" hackle, which is black at the outside fibre-tips, and also black at each side of the stem that runs through it. Hackles should be plucked in winter from old male birds in their full plumage. The fibres of the feathers of chickens or hens resist the action of the water badly.

How Feathers, Wools, and Furs are dyed. — The best vessel for dying is a Wedgwood-ware pipkin, and one that will hold a quart of fluid will be large enough for all ordinary purposes. Before dyeing pig's hair or wool, or mohair, each must be scoured of its grease and dirt by immersion and boiling for half an hour in strong soap-lees. Feathers, the chief ones used being hackles, must be also cleansed by washing them with soap in warm water. The principal colours to be obtained are black, brown, blue, red, and yellow, and by combining, in the process of dyeing, those colours, all other hues and shades can be procured. The reader is requested to bear in mind that the art of dyeing is a very delicate one, requiring minute attention and no small expe-

rience. The experimental student must exercise considerable patience, and not be at all discouraged by incipient failures. They will dissolve by degrees into successful results.

Recipe for Blue. — With soft river-water let your pipkin be about three parts full; put it on a slow, clear fire, adding a teaspoonful of "paste-blue," which can be purchased at the colour-shops. Keep stirring it, and when it is more than luke-warm, add a tablespoonful of cold water, into which you have put twelve drops of sulphuric acid. In this dyeing fluid place a quarter of an ounce of material to be dyed, whether pig's hair, hackles, or mohair, taking care that they have been previously thoroughly cleansed as already directed, and rinsed in hot water, and then wrung out just before you put them into the pipkin. Let the whole boil slowly for fifteen or twenty minutes. Then take out your fur or feathers, or whatever material you are dyeing, and rinse in pure cold water. Dry, if possible, in a sunny atmosphere. For stirring your materials in the pipkin always use a clean piece of wood.

For Red. — Water as before in your pipkin, and with it two handfuls of Brazil wood, and a quarter of an ounce of pig's hair, or feathers, or any other material you want to dye. Boil the

whole for half an hour. Take out your material, and cool the dyeing fluid by the addition of a little cold water. When cool, put in sulphuric acid in manner and quantity as before; next, add your material to be dyed, and gently simmer the whole for an hour over a slow fire. Then take out fur or feathers, immerse in cold water, and wring and dry as before. If you want a beautiful claret hue, add, in the first boiling, to the Brazil wood, half the quantity of logwood; and, in the second boiling, a bit of copperas the size of a pea, and the size of a hazel-nut of pearl-ash. Boil an hour, immerse material in cold water, and rinse and dry as before. Take care that the dyeing liquor be cool before you add to it the sulphuric acid.

For Yellow. — Water as before, in which put a handful of bruised Persian berries; boil for an hour, and then add two tablespoonfuls of turmeric. Put in acid, mohair, &c., in manner and quantity as before; boil for half an hour, take out and rinse in cold water, and dry. The addition of a tablespoonful of Brazil wood will change your brilliant yellow to rich orange.

For Brown. — Water as before, in which boil a handful of walnut-rind, with a very small quantity of red wood, and of logwood the size of a

walnut, for half an hour, together with a quarter of an ounce of the material to be dyed. Take it out, cool the liquor, and add acid as before. Re-insert feathers, or fur, &c., and boil them for another half hour. Rinse and dry as usual. For cinnamon and fiery brown colours, dye in the above fluid hackles, pig's hair, and so forth, that have been already dyed yellow. The fiery brown will require more ingredients in the fluid than the cinnamon colour.

For Black. — Water as before, in which boil two handfuls of logwood one hour; then add a little sumach and elder bark, and boil for half an hour longer. Next put in your feathers, &c., and boil another half hour; take them out, cool your liquor, and add acid; dissolve a bit of copperas the size of a nut, and adding a little argil and soda, boil again for half an hour. Take out your feathers, fur, or hair occasionally, as exposure to air during the process of dyeing tends to promote and fix the black colour.

A mixture of blue and red dyeing liquor boiled together, and afterwards cooled, and acid added to it, will produce a purple colour.

A mixture of blue and yellow dyeing liquor will produce, in accordance with your varying and modifying it, greens of all shades.

A mixture of blue, red, and yellow liquor produces bright olives, the hues of which may be sobered by the introduction of logwood.

For Bright Scarlet.—Water as usual, in which put a teaspoonful of crystalised tartar. In this liquid boil the materials you are about to dye; take them out, and put in a tablespoonful of powdered cochineal and a teaspoonful of "grain spirit," which can be bought at the drysalter's. When in a simmering state re-introduce your materials—feathers, or fur, &c., and boil the whole gently for half an hour. Wash, rinse, and dry your materials as usual.

Yellow, and its Varieties for Feathers.—The recipe already given for dyeing yellow, suits pig's wool, mohair, and furs best. The present recipe is better for feathers, hackles, &c. Boil two or three handfuls of yellow wood one hour in a quart of soft water; wash the feathers, be they mottled mallard, or any sort of hackle (light-coloured ones are the best to be dyed yellow), in soap and hot water. They must be tied in bunches at the quill end. Boil these bunches a short time in a pint of water, to which you have added a large spoonful of alum and tartar, in a pipkin. Take them out and immerse them in your yellow dyeing liquor, and let it simmer for

an hour or two, more or less, according to your desire for a paler or deeper yellow. Finally, take out the feathers, and rinse them in hard spring water. Red hackles, boiled in a similar liquor, will become brown or amber. When you want yellow-greens, either of hackles or mohair, add blue paste, or indigo steeped in water for twenty-four hours, to your yellow liquor, and by augmenting or diminishing the quantity of blue, you will obtain several shades of yellow-green.

I recommend the following to especial attention. It shows very simply how one and the same feather may be dyed party-coloured, made, as it were, a harlequin of. Roll some thread tightly round a bunch of white hackles, leaving a quarter of an inch uncovered at the points. Dip in your yellow or other dye, and the points of the hackles only will be dyed. Tie over the dyed tips with thread, and unravel a little of the first thread, tied on so as to expose a portion of the feathers; dip again in red dyeing liquor, or in any other dye you like, and you will have a second division of colour next the yellow. Proceed in like fashion the whole extent of the feather, and you will give it as many stripes of different colours as you may require. When performing this pretty and useful operation, you

should have on the fire at the same time several pipkins containing the requisite dyes.

The above instructions are derived from a most useful little work, entitled "Blacker's Art of Fly-making and Dyeing," and published by him at 54. Dean Street, Soho. To complete the subject of dyeing, I'll have recourse to the second edition of my own "Handbook of Angling," which (p. 94.) says: — "Into a pipkin three parts filled with *soft* water, put the feathers to be dyed, and when they are thoroughly wetted, add a small quantity of sulphate of iron. Simmer over a moderate fire for a few minutes, and the feathers will acquire what is technically called the colour-base or mordant. Remove the liquor from the feathers, and put to them instead a smaller quantity of soft water, and when it is of a simmering heat, add a small quantity of powdered Aleppo galls. The requisite shades of dun colour may be obtained by varying the quantities of the iron and galls. For a full dark dun, add sufficient quantities of the sulphate and the galls. By increasing or diminishing the proportion of either of these articles, you will obtain duns of divers shades. If logwood be used instead of galls, a different tint will be the result. Madder, camwood, the bark of the alder-tree, the fresh outer covering of wal-

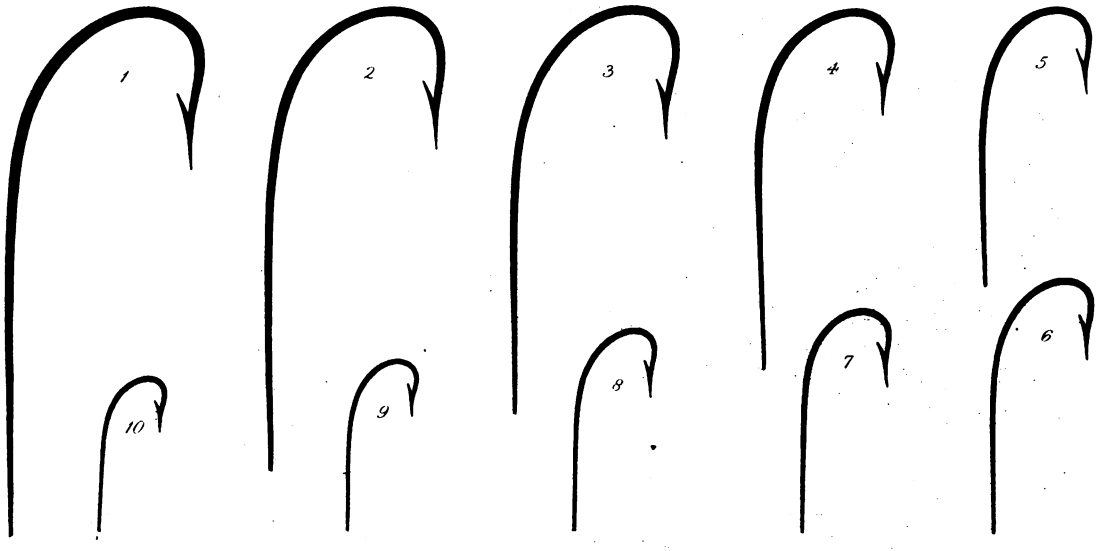
nuts, produce different hues. Galls, logwood, and madder, should however be omitted when the colouring is intended to approach a red or brown. The light shades in all cases should be first gained, and any other darker hue added afterwards. Hard water should never be used in dyeing. Having given to the feathers their mordant or base, as already directed, add either sulphate of iron, sulphate of alum, acetate of alum, or acetate of copper, according to the intended shade. Wash the feathers from the mordant, and put them in a strong decoction of that plant which dyers call 'weld.' Simmer them in this a few minutes, strengthening or weakening the weld-decoction in proportion as the colour is to be more or less brilliant. A little practice, and the noting of the various results after each trial, will soon render the angler familiar with the methods of varying the colours so as to meet his wishes. These instructions, the author of them, Mr. Packer, in his 'Dyer's Guide,' says apply to furs and wools as well as to feathers."

I approve of the following method — that of Mr. Ronalds — of dyeing white feathers a dun colour:—Make a mordant by dissolving a quarter of an ounce of alum in a pint of water, and boil the feathers in it slightly, taking care that they

should all be thoroughly saturated with the [illegible] tion; then boil them in other water with [illegible] sumach, and a small quantity of copperas [illegible] into it, until they have attained the required [illegible] The [illegible] and copperas will produce a [illegible] [illegible] the sumach and copperas, a blue [illegible] [illegible] the quantity of copperas [illegible] [illegible] [illegible] [illegible].

[illegible] of dyeing [illegible] own feathers, [illegible] [illegible] is great. I have now [illegible] [illegible] with practice and [illegible] [illegible].

[illegible] HOOKS FOR SALMON-FLIES [illegible] [illegible] I invariably use the salmon-[illegible] [illegible] manufactured by Mr. John Phillips, [illegible] Quay, Dublin. I consider them [illegible] [illegible] properties — shape, temper, [illegible] [illegible] many bad [illegible] of them, [illegible] [illegible] should order them direct from [illegible] [illegible] who, I have reason to know, is a [illegible] [illegible] artisan. I give an engraving of them, showing their shape and several sizes. On looking at the plate it will be seen how I have numbered the hooks. I make No. 1. the largest size, No. 2. the second largest size, and so on to No. 10., which is the smallest size. This is done for the sake of [illegible]. When, in my list of flies, I say that a fly is to be dressed on a No. 6. hook,



London. Longman & Co.

the reader has only to turn to the opposite plate and he will at once see the size of the hook recommended. Mr. Phillips numbers his hooks differently, thus — No. 4. is his largest hook, and corresponds to my No. 1.; he then proceeds, No. 5., No. 6., No. 7., No. 8., No. 9. He here stops, his No. 9. corresponding with my No. 6., and then he goes on with letters, thus—BB., B., CC., CC. (small), the latter corresponding with my No. 10., which is the smallest hook used in fly-fishing for salmon.

List of Salmon Flies.

At the head of my list of flies I place descriptions of those represented in the plates. They are all standard flies for one river or another, and some of them will kill salmon in any part of the empire. They are given chiefly with the intention of showing what a salmon-fly should be in shape and general colour. In describing how each is made, I have stated my opinion with respect to its killing qualities.

PLATE I. (See Frontispiece.)

No. 1. THE GOLDFINCH. — This is a noted salmon-fly suited for low spring, summer, and

autumn water in the Shannon. It is a graceful model of a gaudy fly, simple in its brilliancy. It will kill well at Ballyshannon, and in most rivers of dull mornings and evenings. It is too bright for clear shallow water. It is a standard fly for grilse-fishing in the Shannon. It is made thus: Body, gold-coloured floss silk; black silk tag, tipped with gold tinsel; ginger-hackle and gold tinsel over body; blue jay at the shoulder, and kingfisher over the butts of the wings, which are to consist of eight or nine golden pheasant toppings of middling size. They should project by half an inch beyond the extreme bend of the hook. Feelers, red macaw; head, black ostrich; tail, golden pheasant topping. Hook, No. 5. and 6.

This fly may be advantageously varied, thus: Black floss silk for body; tag, gold colour, tinsel and hackle as before; no blue jay or kingfisher's feather, and head light puce fur. By dressing it in this manner it will not be so gaudy as before.

No. 2. THE BRITANNIA.—Body, orange pig's hair, ribbed with gold and silver twist; tag, black ostrich harl; over the body a scarlet or blood-red hackle, and a purple one at and above the shoulder; two toppings for tail; wings, two shovel-duck feathers, four toppings, a blue chatterer's feather each side, and outside and a little under them

some silver pheasant tail-feather; small black head. Hook, No. 4. and 5.

This fly in large rivers, or in those in which fish take large flies, I consider the best of all general flies known to me. I do not think large salmon will refuse it in any river in the world, when water is high and slightly discoloured by recent floods. As Britannia is the ruler of the waves, this name-sake of hers is a ruler of the waters.

No. 3. THE ERIN-GO-BRAGH. — Body very long, like those of the large-sized natural dragon-flies, and to be made of green floss silk, and ribbed with gold tinsel and joints of green peacock harl from tag to wings; tag, light yellow and deep orange silk; over body, a dark green or black hackle; round the shoulder deep orange hackle; wings, two toppings mixed with Argus pheasant tail-feather, brown mallard and wood-duck, and a very little blue jay over the butt of the wings, which are to lie long, thin, and delicately over the hook; head, bronze peacock harl; tail, golden pheasant topping. Hook, as long in the shank as a No. 3., but to be of finer wire, and as small in the bend as a No. 6. hook.

This fly is a model of gracefulness, and it will prove exceedingly attractive in pools of medium

depth during the late spring, summer, and early autumn months.

PLATE II.

No. 4. THE SHANNON. — Body, half light orange, half blue silk, to be ribbed with broad silver tinsel and gold twist; a lightish blue hackle, stripped on one side, over body; blue jay under shoulder; head, seal's fur dyed yellow; tag, orange silk; above it another tag of fur of deeper orange hue; tail, large topping; wings, ten or twelve largest sized toppings, sprigs of the leading tail-feather of the golden pheasant, and four long feelers of blue and yellow macaw. Hook, No. 2.

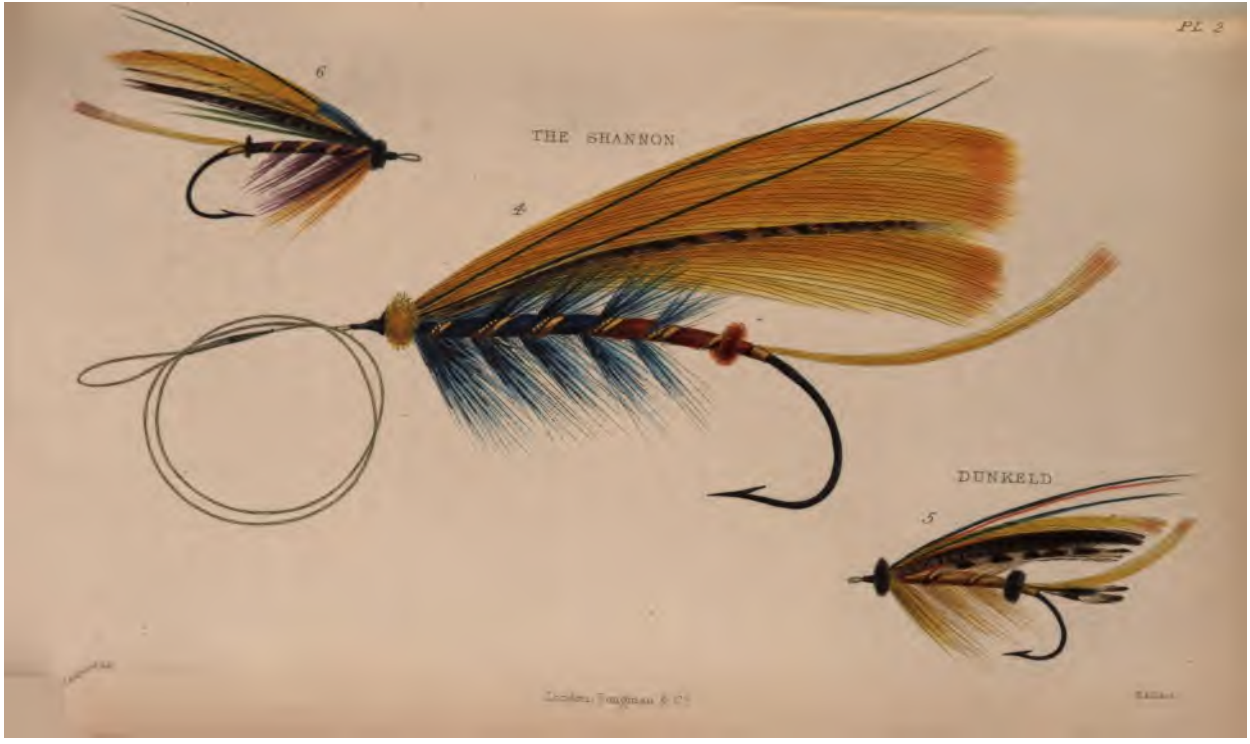
This is a magnificent fly of the largest size that need be used in any river. It is the standard Shannon-fly in the spring, and whenever the water of that famous river is high. If dressed on a No. 6. hook, it will kill in the summer and autumn. The wing may be beneficially varied by the addition of a large white hackle-feather dyed party-coloured, red, yellow, and blue. The wings of all large Shannon-flies should be chiefly composed of long golden pheasant toppings. Some of them, descriptions of which I shall give under the general title of "Shannon-flies," will kill in the Tweed, the Tay, and the Shin.

depth during the late spring, summer, and [illegible] autumn [illegible].

PLATE II.

[illegible] SHANNON. — Body, half [illegible] [illegible] side, to be ribbed with [illegible] [illegible] gold twist; a lightish [illegible] [illegible] side, over body; [illegible] [illegible] fur dyed yellow; [illegible] [illegible] another tag of fur of [illegible] [illegible] large topping; wings, [illegible] [illegible] toppings, sprigs of the [illegible] [illegible] golden pheasant, and four [illegible] [illegible] and yellow macaw. Hook, No. [illegible]

[illegible] magnificent fly of the largest size [illegible] [illegible] any river. It is the standard [illegible] in the spring, and whenever [illegible] [illegible] famous river is high. If [illegible] [illegible] hook, it will kill in the summer and [illegible]. The wing may be beneficially varied [illegible] of a large white hackle-feather [illegible] [illegible], red, yellow, and [illegible]. The [illegible] large Shannon-flies should be [illegible] [illegible] long golden pheasant toppings. [illegible] [illegible], descriptions of which I shall give under the general title of "Shannon-flies," will kill in the Tweed, the Tay, and the Shin.



London, Longman & Co.

No. 5. THE DUNKELD. — Body, gold tinsel rolled close, and ribbed with silver twist and yellow hackle; tag of black ostrich, tipped with gold tinsel; tail, small topping and small jungle cock's feather; a little blue jay at shoulder; wings, two small toppings, mixed with brown mallard and peacock's wing-feather; blue, yellow, and red macaw feelers, and black ostrich head. Hook, No. 8.

This is an excellent little fly, one of the smallest that should ever be used, and it will kill well at Ballyshannon and in the Sutherlandshire rivers, on summer and autumn mornings and evenings.

No. 6. Body, puce floss silk, ribbed with silver twist and puce hackle; tag of gold tinsel, orange silk, and black ostrich; small topping for tail; yellow hackle round the butt of the wings, which are to be of two toppings, mixed with bustard and sprigs of red and green parrot's tail, and to have blue kingfisher's at each side; feelers, blue and yellow macaw, and black ostrich head. Hook, No. 8.

This is a good general fly at low water for the northern Scotch and Irish rivers. It and the "Dunkeld" are great favourites with a gentleman connected with our foreign office. He is an excellent salmon-fisher, and these are some of his

patterns. I shall describe a few more of them hereafter, under the head of "General Salmon-flies."

PLATE III.

No. 7. THE BLUE JAY. — Body, light blue silk, ribbed with gold tinsel; orange tag and black ostrich; tail, small topping; blue jay hackle over body; wings, a topping, mallard, silver pheasant tail, mottled turkey and guinea-fowl feathers; feelers, blue and yellow and red macaw; small black ostrich head. Hook, No. 7. and 8.

This is a favourite general fly of mine at low water. I have killed well with it in Sutherlandshire. In the rivers of the south of Ireland, it is a standard fly. I would vary it thus: — Tail, sprigs of golden pheasant neck-feather, mallard, and light blue macaw; blue jay over body, and blood-red hackle at the shoulder; and wings, golden pheasant neck-feather, mallard, light blue macaw, and kingfisher. For summer and early autumn mornings and evenings, the body should be of orange, instead of blue floss, silk.

No. 8. Body, yellow mohair, to be ribbed with gold twist and black hackle; tag, yellow floss silk tipped with gold; tail, a small topping; blue jay at shoulder; wings, brown turkey or kite tail-

BLUE-JAY.
7
8
9

feather, mixed with golden pheasant tail and neck-feathers, guinea-hen and teal, and a topping bending over the whole; blue and yellow macaw feelers, and blue mohair head. Hook, No. 6.

This is a deadly Sutherlandshire fly, particularly for the Shin and Laxford. It has been to me a plentiful purveyor of salmon. It is a model of a subdued gaudy fly, and will prove a general killer in rivers of moderately high water. The salmon-fisher should never be without it.

No. 9. Body, blue floss silk, ribbed with silver twist; tapering orange tag, and topping for tail; guinea-hen hackle wound close by the silver twist, and thickening and lengthening up to the shoulder; wings, a full mixture of golden pheasant tail and neck-feathers, guinea-hen and teal feathers; blue and yellow long macaw feelers, and bronze peacock harl head. Hook, No. 5. and 6.

This fly is as deadly as the latter, and better suited for day-fishing in deep clear pools and streams. As a general fly, I have the highest opinion of it, and should never fail to try it wherever I roamed, by known or unknown rivers. I recommend it with the confidence of successful experience. It has killed with wings and hackle, after salmon had gnawed off silk for body, and twist for ribbing.

PLATE IV.

No. 10. Body, green mohair, ribbed with gold twist and black hackle; orange tag; and tail of short, half an inch or rather less, orange or yellow macaw feather; wings, silver pheasant tail, peacock wing, teal and guinea-hen feathers; blue and yellow macaw feelers; head, orange mohair, or bright bronze peacock harl. Hook, No. 7. and 8.

This is a famous little fly in low clear water. I killed last year, towards the end of July, in the Shin, twenty-three salmon with it; I should have killed more, but I wished to keep it as a *memento mori.* It should be used in the day time, for it is not a gaudy fly, and suits bright weather and bright water. It is an Irish pattern.

No. 11. Body, silver-coloured floss silk, ribbed with silver tinsel and gold twist; a fine short-fibred black hackle wound over all; blue jay at the shoulder and a topping for tail; wings, a mixture of brown turkey tail and peacock's wing-feathers, golden pheasant neck, teal, guinea-hen and light brown turkey or kite feathers, with a topping surmounting the whole; blue and yellow macaw feelers, and black ostrich head. Hook, No. 6. and 7.

No.
twist
of sh
yello
tail,
blue
moh
No.

T
I ki
the
have
mem
time
wea
N
with
fibr
at t
a m
win
hen
wit
yell
Ho

10

11

12

London: Longman & Co.

One of the best general early morning and late evening flies I know of. If dressed on a No. 4. hook, it would kill well in the Shannon, the Tweed, or the Spey, at high water. The wing is a good specimen of the "mixed" wing. Tied on a No. 8. hook, it will be an excellent grilse-fly — one of the very best that can be used of dull days in the rivers of Sutherlandshire.

No. 12. Body, grey donkey's fur, from the butt of the ear, or hedgehog's fur, or grey pig's wool, to be ribbed and tipped with silver tinsel; gold colour tag, and a tip of darker shade under the shoulder; tail, a few sprigs of mallard and golden pheasant neck-feather; wings, mixed fibres of golden pheasant tail and breast-feathers, mallard and brown turkey; feelers, blue macaw; and blue or blood-red head. Hook, No. 4.

This fly is called "the jackass," and is a celebrated killer at Lismore, on the Blackwater, co. Cork. I look upon it as a general fly. If dressed on No. 6. and 7. hooks, it will prove a general summer-fly on all our best rivers, particularly those of the south of Ireland. It is a good sample of a fly, neither too sombre-hued, nor too gaudy. It may be slightly varied with long blood-red tag, and a tip or joint of fur of deeper blood-red colour under the shoulder.

PLATE V.

No. 13. ONDINE.—Body, blue peacock, closely ribbed with fine gold twist; two joints of green trogan feather, and one of short red orange hackle under the shoulder; over the butts of the wings, blue jay; small light blue tag, gold tip, and brilliant little topping for tail; wings, a careful mixture of fibres of bustard, silver pheasant, yellow and blue macaw, teal, guinea-hen, and golden pheasant tail and neck-feathers, surmounted by a topping; feelers, blue and yellow macaw, and bright blue silk head. Hook, No. 7. and 8.

None but a connoisseur can fully appreciate the beauties of this fly. It is of composite architecture, but not too florid. Its ornaments are most attractive, and they will suit the tastes of salmon, no matter to what nation they belong. I gaze at it gloatingly. It is a summer and autumn fly — a fatal sorceress then to fresh-run salmon and grilse. Its charms will be most acutely felt in the north of Scotland, and no part of Ireland will be insensible to them.

No. 14. Body, dull yellow mohair, ribbed with gold tinsel, and a long-fibred hackle of the same colour wound over it; tag, a little brown harl; tail, small topping and sprigs of bustard and

ONDINE

13

14

15

London: Longman & Co.

guinea-hen feathers; wings, divided and of unseparated fibres of slips from the bustard or peacock's wing, or from a cinnamon brown and dark mottled turkey tail-feather; feelers, blue and yellow macaw; head, bronze peacock harl. Hook, No. 5.

This is an admirable specimen of a Welsh fly for moderately deep and not over bright water. In the spring it will kill in the Wye, the Eske, the Conway, and the Tivy; and, if dressed of a smaller size, it will prove a general summer-fly for the salmon-rivers of Wales.

No. 15. TOPPY. — Body, black pig's wool or bullock's hair, slightly ribbed with gold or silver tinsel; tag, crimson silk or mohair, next to it two turns of red hackle; black hackle up the body; tail, yellow mohair picked out; wings, black feather from a turkey's tail, tipped with white; head, crimson mohair. Hook, No. 5, 6, and 7.

This is a standard Tweed-fly. Each wing of strips of undivided fibres is put on separately. They are therefore fully divided, and project over and by the hook, like the slightly opened blades of a pair of scissors. The wings of the generality of home-made standard Tweed-flies open in the same fashion, and so do many of the

Welsh flies. This sort of wing is represented by figures 14 and 15, plate V., viz. by the two last flies I have just described. To distinguish this wing from the "mixed" wing, I shall call it "Tweed-fashion wing." I am not in love with it; and, in nine cases out of ten, should prefer the mixed wing.

River Shannon Flies.

The great standard Shannon-fly is depicted on the plate No. 2. The reader will be good enough to refer to my written description of it at p. 88. I will now give a description of other large flies for the same river, the wings of which are to be like those of the painted fly, and the hooks on which they are to be dressed of the same size, at least for high spring-tide water.

No. 1. Body, half orange, half black floss silk, over all of which a plain ginger hackle, and silver tinsel and gold twist; blue silk tag, tipped with silver; blue jay at shoulder, and blue fur head. Wings and hook like those of "The Shannon."

No. 2. Pomona-green floss silk body, over which blood-red hackle, stripped on one side; orange tag, jay under shoulder, and blue head. Wings and hook as before.

No. 3. Black floss silk body, silver tinsel and lemon colour hackle over it; orange tag, dark head, and wings and hook as before.

No. 4. Body, all blue or purple floss silk, over which a blue hackle; yellow head, and wings and hook as before.

I now come to six much smaller flies for the river Shannon. They are used in the summer and autumn months, chiefly for grilse, or, as they are called in Ireland, "salmon peal."

At the head of them stands the "Goldfinch," — that beauty standing first in the frontispiece, and described in writing at p. 86. Then comes

No. 2. It is to be similar to the "Goldfinch," except that its body is to be of light-green floss silk.

No. 3. Body, claret floss silk, gold tinsel, and blue jay hackle over it; orange tag, and black ostrich head. Wings, broken-up fibres of blue, yellow, and red macaw, guinea-fowl, and golden pheasant tail-feathers; over the wings, one or two toppings. Hook, No. 5 and 6.

I consider this one of the best types of a gaudily mixed wing, and one that would suit bodies of other flies, made of materials of plain, quaker-like colours.

No. 4. Body like the last; but a guinea-fowl's

hackle, dyed yellow, is to be substituted for the blue jay, and the head is to be of dark blue fur. Wings and hooks as before.

No. 5. Body, light blue floss silk, over which silver tinsel and bustard hackle; topping for tail, and black ostrich harl for head. Wings and hooks as before.

No. 6. Body, black floss silk, gold tinsel, and light brown hackle; orange tag, and tail a few short sprigs of cock of the rock feather; wings, fibres of the same feather, and of guinea-fowl, blue, yellow, and red macaw. Head, wings, and hooks as before.

Every one of the last six flies, if dressed on No. 7. hooks, will suit the Ballyshannon and northern Irish rivers.

River Tweed Flies.

No. 1. Body, purple pig's hair, with a rather long tag of orange pig's hair or wool; purple hackle over body, which is to be ribbed with silver tinsel; blue hackle at the shoulder; wing, cinnamon brown turkey tail-feather, each wing to be thin and long, and of undivided fibres; tail, orange mohair, mixed with golden pheasant neck, and teal feathers. Hook, No. 2. for high

water; to be dressed on smaller hooks for low water.

No. 2. Body, blue pig's hair; long yellow pig's hair tag; yellow hackle over tag, and light blue hackle from that to the shoulder; silver tinsel over body; scarlet hackle at head, and underneath red pig's hair. Wings, white swan's wing-feather; each wing to be thin and long, and of undivided fibres; tail, red mohair, mixed with a few fibres of scarlet ibis feather. Hooks as before.

No. 3. Body, black pig's hair, a long tag of red pig's hair, and between it and the black body a bit of purple pig's hair; small orange hackle struck over the red tag; silver tinsel, and purple hackle over the black portion of the body; ibis body-feather at shoulder, and underneath a bit of red pig's hair. Wings, black and white spotted turkey tail-feather tipped with white; tail, orange mohair, mixed with teal feather, and a small topping. Hooks as before.

No. 4. Body, black spaniel's hair, with a short tag of orange pig's hair, above which a tag of red and then blue, and over all a purple hackle; to be ribbed with silver, and blue hackle at the shoulder. Wings, two whole black and white feathers of the snipe, which are found under that

bird's wing; blue hackle at shoulder; tail, scarlet ibis mixed with red mohair. Hook, No. 4 and 5.

No. 5. Body, black pig's hair; tag, of orange ditto, above which a claret tag; silver tinsel, black hackle over; blue ditto at shoulder. Wings, light mallard feather of undivided fibres; tail, gold colour mohair, mixed with a few sprigs of golden pheasant neck-feather. Hook, No. 5 and 6.

No. 6. Body, black pig's hair at centre; tag, orange, above which red mohair tag; black hackle over all; silver tinsel; blue pig's hair under wings, which are to be of light brown mallard feather, put on as before; tail, as in the last fly. Hook as before.

No. 7. Body, black in the centre, as in the previous fly; orange and blue tag; black hackle over all; gold tinsel; claret pig's hair at shoulder. Wings, black and white spotted turkey tail-feather, to be divided and of undisturbed fibres; each wing to be thin, and a little longer than the body; tail as before. Hook, No. 6 and 7.

No. 8. Centre of body black; orange, red, and blue tags; gold tinsel; black hackle over all; orange pig's hair at shoulder; wings, light cinnamon turkey tail-feather; tail as before, with a sprig of blue macaw. Hook as before.

No. 9. Body, black mohair; orange tag; black hackle; silver twist; teal wings, small bit of red under them; tail, yellow mohair. Hook, No. 9 and 10.

This fly is of the smallest Tweed size, and the large flies (all of them after patterns by Mr. Forrest, of Kelso) may be reduced to the same dimensions for clear, low, summer water.

Take notice that the wings of all the above flies are put on separately, each wing consisting of an undivided collection of the fibres of the feather of which it is made. They are of the "Tweed-fashion wing," alluded to in describing Plate No. V., and their shapes may be seen in the representations marked No. 14. and No. 15. in the above-mentioned plate. A few of the Tweed-flies, like that marked No. 4. in this list, have wings, each of which consists of a whole feather, stem and all, and merely stripped of the down at the root or quill-end.

Mr. Scrope's Tweed-Flies.

KINMONT WILLIE. — Body, fur of the hare's ear, end of body red mohair or pig's wool; tail, yellow ditto; over the body black cock's hackle; wings, mottled feather from under the wing of a

male teal, and yellow mohair or fur head. Hook, No. 7 and 8.

THE LADY OF MERTOUN.—Body, water-rat's fur, end of body crimson mohair, and a turn or two of red hackle; over the water-rat's fur black hackle; tail yellow, and head crimson mohair. Wings and hooks as before.

TOPPY.—This is a favourite of Mr. Scrope's. It is represented in Plate, No. V.

MICHAEL SCOTT.—Body, black pig's wool, terminated with hare's ear fur and a little crimson mohair, and yellow tail; over the body, black hackle and gold twist; a couple of turns of red hackle above the tail; wings, mottled feather from the back of a drake; head, yellow mohair, and a little hare's fur next it. Hook, No. 4 and 5. This is reckoned a very killing Tweed-fly.

MEG WITH THE MUCKLE MOUTH.—Body, yellow floss silk, ending with a tag of crimson fur, and yellow or orange mohair tail, just above which, a little red hackle; over the body, gold twist and brown hackle. Wings, brown turkey tail, tied Tweed-fashion, and head crimson fur. Hook, No. 5.

MEG IN HER BRAWS.—Body, a mixture of brown and black pig's wool, at the end a green tag, followed by one of crimson mohair; over

body gold twist, and a large furnace hackle; tail and head, yellow mohair; wings, light-brown of the wing-feather of a bittern, and over their roots blue jay hackle. Hook, No. 5.

These last two flies dressed on No. 3. hooks, will suit the Tweed in spring time. Of the above six patterns, Mr. Scrope observes, "I will note one thing, which is, that if you rise a fish with the *Lady of Mertoun*, and he does not touch her, give him a rest, and come over him with the *Toppy*, and you have him to a certainty, and *vice versâ*. This I hold to be an invaluable secret, and is the only change that, during my long practice, I have found eminently successful."

Mixed-Wing Tweed-Flies.

Recently, somewhat gaudy-bodied flies, with mixed wings, have killed well in the Tweed, frequently better than the old standard flies. I shall give a short list of these successful substitutes.

No. 1. Body, purple pig's hair; orange and red tag, tipped with gold tinsel; a topping for tail; body to be ribbed with silver tinsel and gold twist, and to have a purple hackle struck from the tags to the wings, over the shoulder of which

there is to be a jay's hackle. Wings, two toppings, silver and golden pheasant tail, guinea-hen, mallard, teal, and blue macaw; head, orange pig's hair, and feelers of blue and yellow macaw. Hook, No. 6, 7, and 8.

I guarantee this fly as a killer when the regular Tweed-flies fail, especially in summer; indeed, at any period of somewhat low water. With a fly of this pattern tied on a No. 7. hook, Lord Henry Bentinck killed, one day, in the Tweed, fourteen salmon. I should use it as a general fly.

No. 2. Body, blue pig's hair and yellow tag, ribbed with gold twist and hackle dyed blue; round the shoulder, jay's hackle; head, red mohair, and a very small topping for tail. Wings, four toppings in the midst of a mixture of bustard, golden pheasant tail and neck-feathers, mallard, Argus pheasant, cock of the rock, guinea-hen, teal, and jungle-cock feathers; feelers, blue and yellow macaw. Hook, No. 4 and 5.

A high-water Tweed-fly, presenting one of the best specimens of an attractively mixed wing. By varying the body, making it frequently gaudy, more frequently not, but rather of a sombre hue, you will produce a valuable general fly.

No. 3. Body, black mohair and yellow tag; over body, silver tinsel and dark purple hackle,

with orange hackle at the shoulder, and blue head. Wings, six toppings, and one small one for tail. Hook, No. 5 and 6.

This beautiful fly will not kill on bright days, or in low bright water; but, under contrary conditions of weather and water, it will prove successful in the Tweed, Shannon, and Ballyshannon.

No. 4. Body, half orange, half black, the black part next the wings, and to be of pig's hair, the whole to be ribbed with gold twist and silver tinsel; a black hackle to be struck from the centre of the body upwards, and a few turns of a yellow hackle to be made beyond the shoulder; dark blue head. Wings, four toppings, having at each side of them a jungle-cock's feather; tail, two or three fibres of golden pheasant's neck-feather. Hook, No. 5 and 6. for full water; and for low water, No. 7 and 8.

No. 5. Body, puce mohair and claret hackle; tag, yellow or orange mohair; to be ribbed with gold twist; orange hackle, blue jay, and kingfisher at shoulder; full, gaudily mixed wings. Hook, No. 6 and 7.

Sutherlandshire Flies and Rivers.

I believe that, at the present time, the rivers of Sutherlandshire will afford more sport to the

salmon and sea-trout fly-fisher than any other streams in the empire. I attribute their superiority to their excellent management by Mr. Andrew Young and others, who zealously carry out the wishes of his Grace the Duke of Sutherland, embodied in instructions communicated by his Grace's chief agents, Mr. Loch, M.P., and Mr. Gunn, to the immediately superintending managers, and by them caused to be minutely carried into effect. I appreciate these rivers so highly, that, after describing the several standard flies for them, I shall write a little sketch of each.

I shall begin with the celebrated river Shin, the best river in Sutherlandshire, and the best I ever fished in. Mr. Young lives at Invershin, at the mouth of the river, and he has the power of permitting gentlemen to angle in it on certain conditions. Last season I killed fifty-four salmon in it in fifty-five hours, and the flies I used were the three represented in Plate No. III., and marked No. 7, 8, 9., with the two numbered 10 and 11. on Plate No. IV. The green-bodied fly, marked No. 10., was the most successful of all; but if I were to fish the Shin again, my favourite summer and autumn fly should be the Ondine of Plate No. V. The next two are local Shin-flies: the third fly is not.

No. 1. Body, orange floss silk; yellow tag, tipped with silver twist; above it black ostrich and red tag; to be ribbed with silver tinsel and gold twist; grouse hackle at centre of the body; teal hackle under shoulder. Wings, two neck-feathers of the golden pheasant, over which a mixture of brown and black, and white spotted turkey tail-feather, with fibres also of the golden pheasant tail-feather, and brown mallard; feelers, blue and yellow macaw; yellow mohair over the roots of the wing, and black ostrich head; tail, a golden pheasant topping. Hook, No. 4. At this size the fly is a large one, fit for the Shin in the spring. For the summer, it should be made on hooks three sizes smaller, and will kill best morning and evening.

No. 2. Body, black floss silk; tag, of yellow-green ditto; below it black ostrich tag, tipped with silver twist; over body, gold tinsel and silver twist; grouse hackle, and round the shoulder guinea-hen hackle. Wings, golden pheasant neck-feather in centre, mixed with a few fibres of the following feathers, viz. peacock wing-feather, light brown, spotted, and cream-coloured turkey tail-feathers, golden pheasant tail and red rump-feathers; feelers of blue and yellow macaw, and black ostrich head; tail, a mixture of red ibis,

mallard, and cream-coloured spotted turkey. Hook, No. 5.

This fly, which is a good one, might be much improved, by dressing it on a No. 6 or 7. hook, making the body long and tapering, and winding over it, by the tinsel, a good short-fibred old black cock's hackle, and putting a short topping for tail.

A DEADLY IRISHMAN'S SUMMER SHIN-FLY. — Body, yellow floss silk, ribbed with gold tinsel; dark brown tag; bright blue hackle over body, and to be full at the shoulder. Wings, fibres of the following feathers: Himalayan pheasant crest-feather, brown turkey, golden pheasant tail and red rump-feather, blue macaw body-feather, golden pheasant neck-feather, guinea-hen, green-sword peacock's feather, small topping; feelers, blue and yellow macaw; head, reddish brown; tail, small topping, mixed with golden pheasant neck-feather, ibis, and mallard. Hook, No. 7, 8, and 9.

The wing of this fly is most attractively mixed, and its attractions will not be confined to the Shin. If dressed on No. 4 and 5. hooks, it will kill in full water in any river in the empire. With me it is a standard fly.

FLIES FOR THE RIVER LAXFORD. — No. 1.

Body, orange floss silk; tag, yellow green ditto, tipped with silver twist, and ribbed with gold tinsel; black hackle, and claret silk under shoulder, round which blue jay hackle. Wings, mixture of the fibres of the following feathers:— black and white turkey tail, bustard, red macaw, guinea-hen, golden pheasant neck-feather, and silver pheasant tail-feather; feelers, blue and yellow macaw; head, black ostrich; tail, a few fibres of mallard dyed yellow. Hook, No. 6 and 7.

No. 2. Body, brown floss silk, tipped with silver twist, and ribbed with silver tinsel and gold twist; fiery brown hackle; blue mohair picked out at the shoulder; wings mixed, and of golden pheasant neck-feather, mallard, brown turkey, teal, blue macaw, and green parrot; feelers, blue and yellow macaw; tail, small topping. Hook, No. 9 and 10.

For the River Inver. — No. 1. Body, pale green floss silk; orange tag, tipped with silver twist, and between them black ostrich tag; to be ribbed with gold tinsel, silver twist, and grouse hackle, and wings mixed thus: — brown spotted turkey tail-feather, peacock's wing, red ibis, teal, guinea-hen, and silver pheasant dyed yellow;

blue and yellow macaw feelers, and black head; small topping for tail. Hook, No. 6 and 7.

No. 2. Body, black floss silk; crimson tag, tipped with black ostrich and gold twist, ribbed with silver tinsel and twist, and black hackle; crimson mohair, picked out under wings, which are to be a mixture of cream-spotted turkey tail, guinea-hen, and teal feathers, golden pheasant neck and tail-feathers, and two or three fibres of bustard; black ostrich head, and topping for tail. Hook, No. 6 and 7.

FOR THE RIVER BRORA. — Body, a mixture of blue, green, and yellow pig's hair, silver tinsel, black hackle; wings, peacock wing-feather; tail, red mohair. Hook, No. 7 and 8.

FOR THE OIKEL. — No. 1. Body, brick-brown floss silk; red and black ostrich tag, tipped with silver twist; to be ribbed with silver tinsel and gold twist; grouse hackle full under the wings, which are to be of the following fibres: spotted turkey dyed yellow, brown turkey, teal, blue macaw, red ibis, and bustard; black ostrich head, and topping for tail. Hook, No. 7 and 8.

No. 2. Body, yellow brown pig's wool; tag, black ostrich, tipped with gold twist; to be ribbed with gold twist; black red hackle over body, and blue mohair picked out at the shoulder.

Wings, a golden pheasant neck-feather; alongside of it an entire teal's feather, brown spotted turkey, guinea-hen, and wood-duck fibres; black ostrich head, and small topping for tail. Hook, No. 8 and 9.

FOR THE CARRON. — Body, black floss silk; orange tag, ostrich and silver tip; to be ribbed with silver tinsel and gold twist; grouse hackle over body. Wings, turkey feather dyed yellow, mallard, silver pheasant tail, guinea-hen, teal, and Argus pheasant fibres; black head, and small topping for tail. Hook, No. 8 and 9.

No. 2. Body, black floss silk; orange and black ostrich tag, tipped with silver twist; to be ribbed with silver twist; black heron hackle; wings, bustard, pea-fowl, silver pheasant, and teal feathers; feelers, blue and yellow macaw; black head, and two fibres of bustard feather for tail. Hook, No. 9.

FOR THE RIVER KIRKAIG. — Body, puce mohair; tag, red ditto, tipped with gold twist; to be ribbed with silver tinsel, black hackle, and a bit of orange mohair picked out at the shoulder; wings, bittern and guinea-hen; black head, and orange mohair tail. Hook, No. 8.

GENERAL SUMMER FLIES FOR ALL THE ABOVE RIVERS. — No. 1. Body, brown mohair;

silver twist and black cock's hackle over; black head, and small topping for tail. Wings, a mixture of guinea-hen and brown mallard feathers. Hook, No. 7 and 8.

No. 2. Body, black mohair, over which black hackle with a piece of orange mohair rolled on and picked out at the head; yellow tag, and small topping for tail. Wings, the spotted peacock wing-feather, neatly tied Tweed-fashion. Hook, No. 8 and 9.

No. 3. Body, claret mohair and claret hackle, and gold tinsel over it; orange tag, and small topping for tail; wings, brown mallard. Hook, No. 9.

No. 4. Body, yellow silk, ribbed with gold tinsel; grouse hackle from the centre upwards; amber hackle at shoulder, and small black ostrich-harl head. Wings and hook as before.

The last four flies mentioned are good lake and sea-trout flies.

Sutherland Rivers briefly described.

THE SHIN. — This river, if not the best, the second best in Scotland, runs out of Loch Shin, near Lairg, passes by Achany, and runs into an arm of the sea at Invershin, about five miles

higher up than Bonar-bridge. It is not a wide, but it is a rapid river, full of falls, pools, rapids, and streams. From the Shin-bridge to the upper fall — a distance by the river side of about two miles or less — there is excellent fishing, better perhaps than from the upper-fall to the Loch. I think, however, that in the late summer months there is a greater number of large fish above the fall than below it, but by far a greater number of grilse below than above it in July and August. The best spots are Cromartie's pool, Angus's pool, the Ferlun pool, and the Black-stone pool. However, all the intervening streams should be closely fished, particularly those above the lower fall, by the wood side. The best season for large fish is March and April, and for grilse July and August. However, whenever the river is high there is always abundance of fish in the river. They run large, but, generally speaking, are not handsome fish. In Loch Shin there is good trout-fishing, particularly for the *salmo ferox*.

THE LAXFORD.—This little river is not more than four miles long. It is eight miles distant from Scourie. 'Tis a capital angling stream for small salmon and large sea-trout. The latter are more abundant in it than, perhaps, in any other river in Scotland. Its salmon do not average more

than 7lbs. in weight, but they are handsome, lively, and full of game. Its best month is May, for later in the season it is frequently too low. However, after a flood it is invariably good. A hundred sea-trout may be taken in it in a few hours with a small (No. 10. hook) fly, having a bright yellow body, ribbed with gold or silver, a gaudily mixed wing, and blue jay at shoulder. The size should be varied according to the state of the water. This interesting little river, now rented by Earl Grosvenor and Lord Anson, is fed by Loch Stark, a small piece of water, and one of the best in Scotland for sea-trout angling. Twelve dozen, averaging about 2lbs. a piece, having been caught in it with the fly in one day.

THE BRORA. — This is a small river on the east coast of Sutherlandshire, near Dunrobin Castle. It is, like the Shin, a very early river, and salmon take the fly well in open weather as early as the first week in February. In March, even on a very snowy day, eight fresh-run salmon have been taken by one rod in this river. Its fish are small, but handsome, lively and "wicked." In the spring they take large flies, as large as those I have recommended for the Shin at high water; but, in bright summer water, the flies must be small, and of sombre hues, like that recom-

mended for this river in the list of Sutherland-shire flies.

THE OIKEL.—Perhaps I ought to have written "Okiel." The name is spelt and pronounced differently. It is a late river, abounding in grilse after June. Nineteen have been killed in it by one rod in a day. They are very small, but active and strong, and even salmon rarely run heavier than 6lbs. in weight. The river is never, for any considerable length of time, in order — not longer than two or three days after a spate or flood. It is useless to fish above the bridge-fall until late in the season. The Oikel is within a couple of hours' walk of the Shin. There is a small stream, called, I believe, the Jenach, running into the Oikel about half a mile below the bridge. The salmon, though small, are exceedingly handsome, very small in the head, and deep and short in the body. This little river is seldom in order, being usually very low and bright. The angler should fish it "fine and far off," and with the smallest sized grilse fly of dark colours. The fly, marked No. 9. in the first list of Tweed flies, will answer.

THE CARRON. — This river is in Ross-shire, on the borders of Sutherland, and is the picture of a salmon river. It is not carefully preserved,

and a man must be lucky to kill three or four fish in it in a day. Its salmon, grilse, and sea-trout are handsome and of excellent quality. It runs into the Kyle near Bonar-bridge. The best fishing is about five miles higher up and further on. It is a rapid rocky river, and runs clear after a flood in less than four-and-twenty hours. Small dark and brown-bodied flies, with wings of turkey, mallard, and guinea-hen, are the best for it. A somewhat gaudy mixed wing suits dark days, and on them the "blue jay" of Plate No. III., will prove successful.

THE CARSELY.—This is another small river running into the Dornoch Kyle at Rose-Hall. It is a good little stream in April and May; but not above the bridge, half a mile higher up than which is a fall salmon do not surmount before June or July. After these months, during August and September, there is fair fishing, provided the river be not too low, in its higher pools and streams, in the direction of its source, at the foot of the celebrated Ben-More Assynt. Carsely-salmon are neither handsome nor large; 10lbs. being an extreme weight. They take best the flies recommended for the Oikel, and should be tempted with some of the small-sized Shin flies.

THE INVER. — I ought to have placed this

river between the Shin and the Laxford. It is a better river than the latter, but not so good as the former. It is deemed the second best salmon-angling river in Sutherlandshire. Its salmon are prettily shaped, and of good quality. They are small, active fish, averaging about 8lbs. or 9lbs. in weight. It is not an early river, and few fish are taken in it before the middle of May. Its best months are June and July, yet, afterwards, up to the 15th September, two or three salmon a day may be killed in it. In June and July, favourable days, a good angler will kill in it his eight or ten grilse and salmon. It has been strictly preserved for the last two years. Like the river Shin, it is fed by a large loch (Assynt), and therefore continues long in order after rains. Mr. Dunbar, of Loch-Inver inn, now rents it for the purpose of affording sport to anglers, and he also rents for the same purpose —

THE KIRKAIG, another river of nearly the same size, distant about three miles from Loch-Inver. Its salmon are celebrated for the beauty of their shape, and the largeness of their size. Fish of between thirty and forty pounds in weight have been killed with the rod in it. It is an early river, and the large fish are caught as early as February and March in its lower pools. A

waterfall, impassable for salmon, about four miles higher up than its mouth, limits angling to that distance. The pools are smooth towards its mouth, but rapid towards the high waterfall; and the fish, being of singular activity and game, afford exciting sport. It is frequently in angling order, because it is fed by a chain of lakes which divides the counties of Ross and Sutherland.

THE NAVER.—This is a goodly sized stream, and of fair angling repute. However, its salmon are neither large, nor handsome. It may be fished to advantage as early as April, and with the river Oikel flies, and with water in "tune," affords good sport. It lies about twelve miles to the east of Tongue, a town situate in the centre of the northern coast of Sutherlandshire.

THE BOGGY AND THE HALLADALE are two streams not far from the Naver. They are inferior to it. The first is an early, the second a late river. In the former, the Oikel-flies kill; in the latter, a plain red-bodied fly, with brown turkey or mallard feather wings.

Besides the above-named rivers, there are many lesser ones in Sutherlandshire abounding in trout. There are also numerous large and small lochs, in this romantically wild and picturesque county, inhabited by the salmo ferox and large grey lake-

trout, and by thousands of smaller and diverse species. The trout-fisher, therefore, whether he fly-fishes or spins, will find most abundant and varied sport in the mountain waters of this alpine region of North Britain.

Ross-shire Rivers.

THE ALLAPOOL. — This beautiful little stream is justly considered a good angling one. The late lamented John Hay M'Kenzie, laird of Cromartie, who was one of the best salmon-fishers and deer-stalkers in the north, used to enjoy excellent sport in this river, which was his own, and whose local name is "Cromartie's river." Bright flies suit it best, similar to those recommended for the Shin.

THE DIONARD. — This river, which runs into the Kyle of Durness, is a small but good one, at least for sea-trout and grilse. It should be fished in June and July, at about three miles from its mouth when it is full, immediately after a heavy fall of rain. The best fly for it is one with body half blue, half yellow mohair or floss silk, the yellow next the wings, which are to be of mottled teal's feather divided. A black red hackle is to be wound over the whole length of the body. Hook, No. 8.

THE RENNIE AND CANNARD. — Other rivers in Ross-shire, like those already described. Small passably gaudy flies kill in them.

Flies for various Scotch Rivers.

FOR THE FINDHORN. — No. 1. Body, yellow floss silk, ribbed with gold twist, orange and black tag, silver tip, topping for tail; black hackle from the tail up, and guinea-hen hackle at shoulder. Wings, mixed with bustard, tail and neck-feathers of the golden pheasant, silver hen pheasant tail, green peacock and teal feathers, fibres of red, yellow, and blue macaw, kingfisher each side, black head, and the usual feelers. Hook, No. 7 and 8.

No. 2. Body, orange floss silk, ribbed with gold tinsel; a red, black, and brown tag, and small topping for tail, over body grouse hackle or hen Argus pheasant neck-feather, with blue jay at shoulder. Wings, mixed of the following feathers: — bustard, cock of the rock, guinea-hen, yellow macaw, and a topping longer than the other feathers; black head, and the usual feelers. Hook, No. 8.

FOR THE NAIRN. — No. 1. Body, different shades of mohair, commencing at the tail, with

red, then blue, then brown-red, and, lastly, near the shoulder purple or dark blue, silver twist, and black hackle over all; tail short, of red or orange mohair. Wings full, and of spotted teal's feather; black head. Hook, No. 8.

RIVERS DON AND DEE IN ABERDEENSHIRE. — These rivers are but tolerable ones. The general fly used for them is one with body, next the bend of the hook, of light blue floss silk, darker blue next the shoulder, silver tip, and silver twist, and black hackle over body. Wings, spotted peacock wing-feather, with a little teal's feather over it at the back. Hook, No. 6. The following are good flies for the Don and Dee.

No. 1. Body, brown peacock harl, ribbed with silver tinsel, and black-red hackle. Wing, teal or mallard feathers. Hook, No. 8.

No. 2. Body, brown silk or mohair, mixed with a little blue, orange, and a slight tinge of green, to be ribbed with silver twist and furnace hackle. Wings, dun heron or light mallard, varied with teal and bittern wings. Hook, No. 7. At high water, small gaudy flies will kill in both these rivers.

Flies for the Spey.

No. 1. Body, claret floss silk, with some deep yellow-brown pig's hair towards the wings; orange and black ostrich tag, tipped with silver twist; to be ribbed with silver tinsel and gold twist, claret hackle from tail to shoulder, and round the latter grouse hackle. Wings, two golden pheasant neck-feathers, and a topping, light-brown spotted turkey tail and Argus pheasant, guinea-hen, and golden pheasant tail-feathers; over the roots of the wings yellow mohair; black ostrich head, and topping for tail. Hook, No. 3. This is a large-sized spring-fly.

No. 2. Body, puce floss silk, to be ribbed with gold and silver tinsel and yellow green silk thread, and over all one of the pendant feathers of a brown cock's tail. Wings to lie along the back of the hook, and they are to be made of the fibres of a large brown spotted feather from the turkey's tail. Hook, exceedingly long in the shank,—as long as that of a No. 1. hook, but to be finer in the wire and smaller in the bend. A large mackerel-hook, if well tempered, would do. This is the old standard Spey spring-fly.

No. 3. Body, tinsel and hackle the same as

before; wings, brown mallard feather. Hook, No. 4 and 5.

No. 4. Body, cinnamon brown floss silk; hackle, tinsel, and wings like the last fly. Hook, No. 5 and 6.

No. 5. Body, puce floss silk, grouse hackle, silver and gold twist, and mallard wing. Hook, No. 7.

The two first flies are very large, and only fit for the spring. The three last are smaller, and are summer and autumn flies.

No. 6. Body, near the tail, fiery-brown floss silk; towards the head, from the centre of the body, orange floss silk, ostrich tag tipped with silver twist. The body to be ribbed with silver tinsel and gold twist, orange hackle from tag to wings, under which blue jay hackle. Wings, a golden pheasant neck-feather, and fibres of Argus pheasant, and slightly spotted cream-coloured turkey tail-feathers; black head and red tail. Hook, No. 4 and 5. This is a standard Spey-fly for May and June.

No. 7. Body, puce floss silk, and next the shoulder the body is to be of mohair of the same colour; red and black tag, tipped with gold twist; body to be ribbed with silver tinsel and gold twist; grouse hackle over the puce mohair.

Wings, brown mallard, black and white spotted turkey, and golden pheasant tail-feathers, blue macaw, teal, and light turkey tail-feather, dyed yellow, and bustard; feelers, blue and yellow macaw, black head, and topping for tail. Hook, No. 5 6 and 7. A good summer and autumn fly at low water.

The months of August and September, if the Spey be full, will require flies dressed on No. 3 and 4. hooks, with gaudy bodies and gaudily mixed wings. The bodies should consist of joints of yellow, orange, and red floss silk or pig's wool, with a red or fiery-brown hackle over all. In the summer and autumn months, flies should be ribbed with gold tinsel, but with silver in the spring months.

The Spey and its Tributaries described.

Mr. Dunbar of Loch-Inver has kindly sent me a sketch of the river Spey, executed so much in accordance with my taste that I'll transcribe it in his own words: — "The Spey," he writes, "is perhaps the very best salmon-angling river in Scotland, but it is not a pleasant river to fish, for two reasons; first, you must use a very strong and long rod, at least twenty feet in length; so that, working this all day, becomes very tiresome;

secondly, whoever expects to kill many fish in the Spey must be half amphibious, able to wade up to the middle all day long, for the river is so broad that one cannot, from the shore, throw line long enough to reach it.

"The Spey salmon run very large. Many are killed every season, weighing from between twenty pounds to thirty pounds each; and I have known a few killed of the respective weights of fifty pounds. I myself killed a still larger salmon on the Spey, but always felt a delicacy in telling the weight, as some people might suppose that I was stretching rather a long line.

"There is no river in Britain where there are such large numbers of salmon killed as in the Spey. I have known Mr. Hoggarth's (the great salmon fisheries' contractor of Aberdeen) fishermen take out of a few pools with nets upwards of 1500 salmon in one day. A few years ago Mr. Hoggarth rented on lease a few miles of the Spey at 800*l.* a year. The rent, I believe, is now reduced to 600*l.* I have killed salmon on the Spey fifty miles up the river, with sea lice adhering to them, which is a proof of the rapid rate of travelling of the fish, since the parasitical insects drop off the fish after a sojourn of not more than from twenty-four to thirty hours in

fresh water. Spey fish are in general very handsome, with small heads and very broad and deep bodies.

"I have angled in this river in June and July all night, when the water was very low, and with great success. When the days are very bright and the river low, you may fish all day long and not get a single rise; but if you wait until after sunset, all the fish move up to the thin water at the top of the stream; and if there is a brisk wind, and an over-cast, blue, cloudy sky, with no dew falling, you may then begin operations, and before three o'clock in the morning you may bag half-a-dozen salmon, and some of them very large ones. If there is the least dew falling, you may content yourself with walking home, for not a fin will rise at your fly. I may here mention that, at night, you never see the fish rise, nor can you see, with anything like precision, where your line and fly fall on the water; but you may soon get a 'rug' (tug), and off goes your reel with a rattling noise. The fly that answers best at night has a black body, over which very broad silver tinsel is to be thickly wound; the wings are to be of pure white, — of the white wing-feather of the goose or swan. I recollect one night, about five years ago, taking four large salmon out of one pool in

the Spey, when I could not see my fly drop in the water.

"Many gentlemen angle all day long when the river is very low and the weather bright and sunshiny, without taking a single fish. After they return home is the time the natives go to work. I recollect a notorious poaching character showing me, one morning early, no fewer than eight salmon, two of which would weigh upwards of twenty pounds apiece, which he told me he had caught with the fly, after eleven o'clock the night before."

THE AVON.—This stream rises in the celebrated Carngorm hills, and empties itself into the Spey at Ballandallach, near the seat of Sir John M'Pherson Grant. It is one of the most transparent rivers in Scotland. You may see salmon lying at the bottom of pools twelve feet in depth. It is a good angling stream on a dark, cloudy day, and is famous for its sea-trout. The best fly is a small, very dark-bodied one, with teal and woodcock wings. Spinning with the parr, or artificial minnow, may be successfully practised in this river.

THE SPEAN.—This river runs through the braes of Lochabar, and joins the Lochy below Spean-bridge. About seven miles above this

bridge there is a waterfall, over which salmon cannot pass; but below it, until the river joins the Lochy, the pools are numerous and rapid, and in them fish rise well, and are of goodly size. Though a few may be killed in April, June and July are the months for good and certain sport. A plain dark fly is generally used. The old standard Spey-flies kill well, and so do bright-bodied, and gaudily-mixed wing flies.

Three favourite Shannon Flies.

I resume, continued from page 98., my list of flies for the best of "the Irish salmon rivers."

No. 1. Body, yellow at the tail, then blue, then orange, and purple at the shoulder; legs, purple and blue jay hackles, struck from the centre of the body upwards to the wings, which are to consist of two large toppings, extending a quarter of an inch over and beyond the bend of the hook, and to be sprigged at each side with a few fibres of golden pheasant tail, peacock wing, and brown mallard feathers; long feelers of blue and yellow macaw; topping for tail and black head. Hook, No. 3 and 4.

No. 2. Body, purple pig's hair, tag, yellow or orange floss silk, to be ribbed with gold tinsel

and silver twist; topping for tail, from which a dark purple hackle is to be struck up to the wings; jay hackle round the shoulder. Wings, twelve toppings, mixed with guinea-hen, bustard, and Argus pheasant feathers; blue macaw feelers. Hook, No. 2 and 3.

No. 3. Body, half orange, half purple pig's hair, the orange coloured next the tail, wine-purple hackle, struck in from the centre, with an orange hackle round the shoulder, and over it a blue jay hackle. Wings, brown mallard, golden pheasant-tail, neck and toppings mixed with blue macaw and bustard feathers, a little guinea-hen and teal feathers at each side; body to be ribbed with silver tinsel; head, blue pig's hair. Hook, No. 4 and 5.

The wings of the two last flies may be advantageously varied by the addition of two cock of the rock feathers. I would recommend the last fly for the Spey at high water in the late summer and early autumn months.

Ballyshannon Flies.

No. 1. Body, yellow or gold-colour floss silk, ribbed with gold tinsel; black ostrich tag, and two toppings for tail; legs, a bright yellow

hackle from the tail upwards, and a little yellowish-green mohair and blue jay at the shoulder. Wings, two toppings mixed with golden pheasant neck-feathers, and a few fibres of ibis, bustard, mallard, Argus pheasant, peacock wing, yellow macaw, and a little green parrot; head, black ostrich harl. Hook, No. 6 and 7.

No. 2. Body, orange floss silk, ribbed with gold tinsel, a deep orange hackle struck over the body, and blue jay at the shoulder. Wings, two cock of the rock feathers, with a topping at each side of them extending a little longer than they over the bend of the hook, with fibres of mallard and jungle-cock; tail a rather long topping; head black, with a little blue mohair underneath; feelers, blue and yellow macaw. Hooks as before.

No. 3. Body, lilac floss silk, gold twist, and tag of orange mohair; blue dun hackle over all, with jay and kingfisher at the shoulder. Wings, a few fibres of mallard, mixed with toppings, neck and tail-feathers of the golden pheasant, also a few fibres of cock of the rock, bustard, guinea-hen, and green parrot; feelers, blue and yellow macaw. Hook, No. 7 and 8.

No. 4. Body, light blue-dun fur, mixed with yellow mohair, and ribbed with gold tinsel; over body, wound side by side, two grizzled cock's

hackles, dyed yellow and orange; blue jay at shoulder, and underneath it a cock of the rock feather, wound round the throttle. Wings, half-a-dozen middle-sized toppings, mixed with mallard and blue macaw, and on each side of the wings a jungle-cock feather; dark blue head and the usual feelers. Hook, No. 6 and 7.

These four patterns are, to my mind, perfection. Flies dressed after them will be of medium size, tending to small. They will kill in any water in the world, wherein salmon are tempted by brilliant colours, variegated and subdued by an admixture of hues, whose rich beauty surpasses that of splendid gaudiness.

The Ballyshannon, or Erne river, is between three and four miles in length, fed by Loch Erne, and runs into the bay of Donegal, or into the Atlantic thereabouts. There are few rivers in the empire equal to it for the purposes of salmon-angling. It is delightfully situated, and in its vicinity anglers can procure every requisite accommodation. The proprietor of it is liberal, and will allow any gentleman of known respectability to fly-fish in it for a reasonable period. It is, unquestionably, the best river in the north of Ireland.

River Bann Flies.

No. 1. Body, claret pig's hair, gold tinsel, and dark claret hackle struck up from the tail, with an orange hackle round the shoulder, and a yellow tag near the tail, which is to consist of one topping. Wings, brown mallard, mixed with bustard, golden pheasant toppings, neck and tail-feathers; black ostrich harl head, and blue and yellow macaw feelers. Hook, No. 6.

No. 2. Body, fiery-brown pig's wool or mohair, over which gold tinsel and amber hackle, and topping for tail. Wings, brown mallard, and golden pheasant neck-feathers, mixed with bustard and guinea-hen; yellow hackle at the head, which is to be finished off with black ostrich harl; the usual feelers. Hook, No. 6 7 and 8.

This is a general killer in all the best rivers of the north of Ireland.

No. 3. Body, peacock harl, ribbed with gold tinsel and claret hackle; round the shoulder, bright amber hackle; wings the same as those of the last fly, with the addition of a few fibres of cock of the rock feather. Hooks, same sizes as before.

No. 4. Body, purple mohair, and hackle over it of the same colour; gold tinsel, tag, yellow and

light-brown mohair, and topping for tail; orange hackle at shoulder, and blue head. Wings, neck-feathers of the golden pheasant and mallard; feelers of blue and yellow and red macaw. Hook, No. 5 6 and 7.

The four preceding flies are sound specimens of the moderately gaudy.

Flies for the River Bush.

No. 1. Body, orange mohair, and claret hackle over gold tinsel; wings, brown mallard; tail, fibres of the same feather and black ostrich head. Hook, No. 8 and 9.

No. 2. Body, amber coloured mohair, over which gold tinsel, and amber or fiery-brown hackle; small topping for tail. Wings, brown turkey tail-feather and mallard, mixed with a few fibres of golden pheasant neck-feathers; black ostrich head and macaw feelers. Hooks, as before.

No. 3. Body, orange mohair, over which gold twist and orange hackle; blue jay at shoulder, and black head. Wings, brown mallard, and a few fibres of cock of the rock feather. Hooks, as before.

No. 4. Body, peacock harl, ribbed with gold tinsel, and black hackle; amber ditto at shoulder,

and small topping for tail. Wings, brown mallard and fibres of the sword-feather of the peacock's tail. Hooks, as before.

At a place called Bush-mill on this river, there is established a salmon-fishing club on liberal principles. Any gentleman recommended to it will be amicably received by its members, and every facility they can give or procure afforded to him for the enjoyment of sport.

Flies for the Lower Blackwater.

I now come to the best rivers of the extreme south and south-west of Ireland, viz. those of the counties Cork and Kerry. They are good rivers, and I hope the Salmon Fisheries' Act of 1848, has much improved them. I am the more anxious for a consummation of this sort, as I am fully convinced of the good that would result to the province of Munster, from its having well preserved salmon-rivers situated at a *trajêt* of thirty hours' duration from the British metropolis. The good would be manifold — commercial and social, profitable and pleasing — reciprocally so to warm-hearted, hospitable Celt, and munificent Saxon. May we see them for the future more frequently together on the romantic banks of the beautiful

Blackwater using in brotherly emulation the following flies: —

No. 1. This fly, a standard one at the celebrated weirs of Lismore, is depicted on Plate No. IV., and described, marked No. 12, at page 93. It may be dressed one size larger, and then it will be of the largest spring size, suitable at that season for the highest water between Lismore and the sea.

No. 2. To be made like the last, substituting a blood-red tag for a gold colour one, and having a joint of dark blood-red coloured pig's hair under the shoulder.

No. 3. Body, light brown olive pig's wool, over which hackle of the same colour, and gold tinsel; tag, golden yellow, and between it and the olive body a very short joint or tag of grey fur; tail, sprigs of mallard and golden pheasant neck-feather. Wings, hooks and feelers like those of the two preceding flies. Head, blue or deep red mohair.

No. 4. Body, one third of it next the tail to be of grey fur, the remainder up to the wings of bright green fur, and same coloured hackle; amber tag, tail as before, blood-red head; wings as before, with the addition of a few green fibres from the sword-feather of the peacock. Hook, No. 4 and 5.

No. 5. Body, bright dark green fur, with a few hairs of golden olive shining through; gold tinsel and golden olive hackle over; bright gold colour tag; wings and head like those of the last fly. Feelers and tail like those of No. 1.

The bodies of the above five flies are best made of pig's wool, or fur dyed of the different colours mentioned. If tied on No. 5 and 6 hooks, they will prove good general summer flies.

No. 6. Body, claret or puce floss silk, over which silver tinsel, and golden olive hackle; tag, golden yellow silk, and above it two turns of black ostrich harl; blue jay over the shoulder round the butts of the wing, which must be a rather gaudily mixed one, and have in it a few fibres of red parrot feather; head, black ostrich. Hook, No. 6 and 7.

No. 7. Small blood-red silk tag; mallard and golden pheasant neck-feathers for tail; next it, but above the tag, a short joint of bright orange silk; remainder of the body bright dark green silk, over which silver tinsel and jay's hackle. Wings rather gaudy, and black ostrich head. Hooks as before.

No. 8. Body, deep bright orange silk, grouse hackle over it, and jay under the shoulder; blood-

red silk tag, above it black ostrich tag; and tail, wings, head, and hooks, as before.

The three last flies are for Blackwater grilse, but in summer the largest salmon will take them. They will kill in the best rivers of Sutherlandshire.

Spring Flies for the Upper Blackwater.

No. 1. Body, squirrel and hedgehog's fur mixed, over which silver tinsel and green and blood-red hackles; pale yellow hackle side by side with the blood-red hackle under shoulder; tag, gold colour silk. Wings, fibres of the golden pheasant breast-feather, turkey tail, mallard, blue macaw, red and green parrot and green peacock harl; black ostrich head. Hook, No. 4 and 5 and for low water, No. 6.

No. 2. Body, four joints of equal proportions—thus; beginning at the tail, brown seal's fur and hackle of same colour, blue fur and hackle, grey fur and hackle, brown seal's fur and hackle repeated, close under wings orange hackle; the first joint next to the tail to be ribbed with gold, the other joints with silver tinsel; tags, orange silk and black ostrich harl. Wings, hooks, and head, as before.

No. 3. Tag, blood-red fur, next it, a short joint

of deep bright orange silk and hackle, a small blood-red hackle struck on next, then a long joint of dark sea-green fur and hackle and gold tinsel, blood-red hackle under shoulder. Wings, hooks, and head, as before. The tails of the last three flies should be of single short fibres of golden pheasant neck-feathers, light blue macaw, mallard, and green and red parrot feathers.

Summer Flies for the Upper Blackwater.

No. 1. Body, grey fur, grey hackle and silver tinsel, jay under shoulder, blue tag and head. Wings, mallard, blue peacock fibres and sprigs of golden pheasant neck-feathers; feelers, blue and yellow macaw. Hook, No. 7, 8, and 9.

No. 2. This fly is represented in Plate No. III., under the name of "The blue Jay;" and it is described and recommended at page 90.

No. 3. Body, dark grey fur, gold tinsel, side by side with which brown olive and grey hackles. Wings, golden pheasant breast-feather, mallard, light blue macaw and kingfisher; black ostrich head, and blue and yellow macaw feelers. Hook, No. 7 and 8.

No. 4. Body, orange silk, gold tinsel, grouse

and light brown olive hackles, jay under shoulder. Wings, hooks, and head, as before.

No. 5. Same as before, except that for the grouse and olive hackles, two bright brown ones are to be substituted.

The two last flies kill best in summer water when slightly discoloured after rain.

Spring Flies for the River Lee.

This pretty river runs through a chain of hills from Kerry into and through the city of Cork, down to Cove or Queen's-town. It would be a delightful and excellent salmon stream, if its proprietors would unite and put a stop to the destructive practices of the Cork poachers. Even in its present neglected condition, the river Lee will repay the English angler for a se'nnight's visit to it. The four following flies he must use in the spring, or whenever the water is full from the effects of recent floods.

No. 1. Body, triple-jointed; first joint, near the tail, of blue seal's fur and blue hackle; second joint, grey fur and grey hackle; third, and shortest joint, strong fiery-brown fur and similarly coloured hackle; the whole to be ribbed with silver twist; tag, orange silk; tail, a few fibres of blue and red

macaw, mallard, blue peacock, and golden pheasant breast-feathers. Wings, a full mixture of the same feathers as in tail; black ostrich head, and the usual feelers. Hook, No. 4 and 5.

No. 2. Same as the first, with the exception of a bright olive joint in lieu of the fiery-brown one, and a blood-red hackle under the shoulder.

No. 3. Body, orange floss silk, gold tinsel, grouse and bright golden olive hackles wound side by side; jay under wings, which with tag, tail, and head, are to be like those of the first fly. Hook, No. 5 and 6.

No. 4. Two blue and two grey joints of fur and hackles of the same colours to be laid on alternately for body, bright blood-red hackle under shoulder; silver twist, gold tag; wings, head, and hooks, as before.

Settled or Low Water Lee Flies.

No. 1. Tag, blood-red silk, black ostrich harl next, then a short joint of light blue silk, and above it a longer joint of grey fur and grey hackle over it, blue jay under shoulder; the whole body to be ribbed with silver tinsel. Wings, head, and tail of the same fibres, but smaller than those of the 1st high water Lee fly. Hook, No. 7 and 8.

No. 2. Tag, amber coloured seal's fur, black ostrich next to it, then a short light blue silk joint, after which a long joint of grey fur and hackle; under shoulder, brown olive hackle. Wings as before, with two blue kingfisher's feathers at each side. Head, tail, and hooks as before.

No. 3. "Blue Jay," varied with turns of blood-red and gold coloured hackles under shoulder.

No. 4. Body, grey monkey's fur and a few hairs of golden olive mixed with it, silver twist and grey hackle; a blood-red tag at tail and under shoulder. Wings, head, tail, and hooks as before.

Lakes of Killarney — High Spring Water.

No. 1. All shades of brown and olive bodies, with similarly coloured hackles, ribbed with gold; wings, brown mallard, and brown turkey-tail feather; tail, rather heavy of fibres of brown mallard, golden pheasant's neck-feather and blue jay. Hook, No. 7 8 and 9.

No. 2. Tag, gold colour mohair, tipped with gold twist, then a light blue joint with grey hackle and no tinsel; half a grouse hackle laid next; remainder of body ant-brown fur, hackle of same colour, and gold tinsel; jay under shoulder. Wings,

brown mallard and turkey, with a few fibres of golden pheasant neck-feather; black ostrich head, macaw feelers and hooks as before. I consider this a good general fly.

Killarney Summer-Flies.

Black bodies, blue hackles, and wings as before. Also bodies of hare's ear fur and orange mohair mixed, golden olive hackles, and wings as before. Hare's ear and green golden olive hackle for body, and wings as before. Very dark brown olive fur, same coloured hackle, and wings as before.

The angling glories of these most beautiful lakes have, for the present, nearly departed. The nets of reckless proprietors have dimmed them to the great loss of inn-keepers and poor boat-men. Would that the famous echoes of the caverns, caves, grottoes, and glens of Killarney unceasingly repeated louder and louder still—until proprietors, English and Irish, were driven into the practical adoption of the philanthropic principle—"property has its duties as well as its rights!"

The Blackwater, County Kerry.

This is a good, little salmon river, for which at high and coloured water the three following flies will be found the best.

No. 1. A blue and blood-red hackle over a golden olive body, gold tinsel, and orange silk tag. Wings, mallard, golden pheasant neck-feather, blue macaw and red parrot; black head. Hook, No. 7 and 8.

No. 2. Two blue hackles over a fiery-brown body; wings, &c., as before.

No. 3. Golden brown body, same coloured hackle and gold tinsel; tag, gold-coloured fur and a little of the same under the shoulder; wings, &c., as before.

For the same river at settled water; orange body, black hackle, gold twist and mallard wings; also, blue silk body, blue hackle, silver twist, and wings as before. Bodies of all shades of grey fur and hackles, with tags at tail and shoulder of yellow, red, fiery-brown, gold colour, and golden olive mohair, ribbed with silver twist, and having plain brown mallard tails and wings, will prove good killers. Hook, No. 8 and 9.

Flies for Waterville, County Kerry.

No. 1. Body, fiery-brown mohair, same coloured hackle, gold twist, and a small claret hackle round the shoulder. Wings, mallard, fibres of blue macaw, and golden pheasant neck-feathers neatly

mixed; tail, a couple of fibres of mallard, red ibis, blue macaw and golden pheasant neck-feathers; black ostrich head. Hook, No. 7 and 8.

No. 2. Body, dun fur, ribbed with silver twist and blue dun hackle; bright yellow tag, and a little yellow mohair at the shoulder. Wings, head, tail, and hooks as before.

No. 3. Body, claret pig's hair, ribbed with gold tinsel and black hackle; yellow tag at tail, and a roll of black ostrich harl above it. Wings, head, tail, and hooks as before.

I recommend Waterville, which is about thirty-six miles beyond Killarney to salmon and sea-trout fishers. Mr. Butler, the exceedingly liberal proprietor of the waters there, will allow any gentleman to fish them. The large Waterville lake teems with the finest sea-trout in the kingdom. I regret to be informed by eye-witnesses, that there are individuals, who abuse Mr. Butler's permission to fairly fly-fish his salmon river, by pretending they are doing so, whilst at the same time they are carrying into effect the unsportsmanlike and disreputable practice of "stroke-hauling," that is, sinking a large hook, sometimes a double or treble one, hauling it in at quick jerks, and so hooking foul the fish the hook comes in contact with. Many a fish is hooked and lacerated with-

out being caught; and I hope that Mr. Butler, being now publicly advised of the most objectionable practice, will peremptorily order its discontinuance.

Standard Welsh-Flies.

The reader will perceive on the 5th Plate, a representation of a model Welsh-fly, and at page 94–5. he will read a description of it. The seven following flies are standard ones for the salmon rivers of the principality.

No. 1. Body, dingy yellow mohair, with same coloured very full hackle, and ribbed with gold tinsel; wings, two back or bittern neck-feathers, tied on Tweed fashion. Hook, No. 5. The hackles of Welsh-flies are generally very long in the fibre, and are wound closely, without clipping their points, from almost the bend of the hook upwards to the wings.

No. 2. Body, light brown coloured mohair, ginger hackle, gold twist and bittern feathers for wings. Hook, No. 6.

No. 3. Body, dingy orange mohair, furnace hackle, gold tinsel, and full mallard wings. Hook, No. 5 6 and 7.

No. 4. Body, fiery-brown mohair, same coloured hackle and gold tinsel; wings, light brown

turkey tail-feather, set on Tweed fashion, and hooks as before.

No. 5. Body, dingy yellow mohair, over which strike closely a grizzled blue dun hackle of very long fibres. Wings, cinnamon brown turkey tail-feather; head same as body; tail, a mixture of red macaw and teal feathers. Hook, No. 5.

No. 6. Body as before, and over it a light blue dun hackle of long fibres. Wings, brown spotted turkey-tail feather; tail, red mohair cut short, and head, pure yellow. Hook, No. 5 and 6.

No. 7. Body, a mixture of grey, blue, and yellow mohair, with a long-fibred darkish blue dun hackle, struck closely from the tail up to the wings, which are to be of light brown spotted turkey tail-feather; tail, a few short bustard feather fibres. Hook, No. 6 and 7.

Local Welsh Flies.

No. 1. Body, orange pig's hair; legs, two yellow-dun hackles, struck up from the tail to the shoulder. Wings, light brown-yellow turkey tail-feather; tail, a bit of red ibis, and a small widow's crest-feather; head, orange-coloured wool. Hook, No. 3. This fly is only fit for full water, clearing after a flood.

No. 2. Body, turbid orange wool; legs, a dun hackle, dyed the colour of the body. Wings, a light, spotted, turkey tail-feather, dyed yellow; tail, red toucan, and brown turkey tail-feather. Hook, No. 5.

No. 3. Body, sooty yellow wool; legs, a dun hackle dyed brown. Wings, a spotted cinnamon-coloured tail-feather; tag and tail, red worsted. Hook, as before.

No. 4. Body, dark orange worsted, or pig's wool; legs, two dark-dun hackles rolled up from tail to shoulder, round which a yellow-green hackle. Wings, dark-brown spotted turkey tail-feather; tail, neck-feather of the golden pheasant drawn in short. Hook, as before.

No. 5. Body, dark orange wool ribbed with silver twist; legs, two grizzled-dun hackles from tail to shoulder. Wings, two body-feathers of the bittern; head, green peacock sword-feather, one or two fibres of which are to be left hanging from the butt of the wings; tail, short red and blue macaw feathers. Hook, No. 6.

No. 6. Body, yellow-green wool, ribbed with blue mohair; legs, a long, light-dun hackle from tail to shoulder. Wings, as before; tail, blue wool. Hook, No. 7.

No. 7. Body, fiery-brown wool; legs, dun

hackle from tail to shoulder. Wings, small, spotted bittern feather; tail, red worsted. Hook, No. 8. and 9. This is the smallest sized fly that need be used for salmon in Wales. It is a low water fly.

The four following flies are great favourites in Wales, and are known there by the name of "fern-flies."

No. 1. Body, yellow worsted mixed with a small quantity of light buff; legs, dun cock's hackle. Wings, pea-hen's back or rump-feather, dyed yellow; tail, crimson worsted. Hook, No. 5.

No. 2. Body, dark buff, or salmon-coloured wool; legs, dun hackle dyed olive. Wings, two bittern feathers dyed yellow; tail, mallard, dyed yellow. Hook, as before.

No. 3. Body, deep yellow mixed with a little orange worsted; legs, dun hackle, dyed yellow; tail, grey and yellow dyed mallard-feather mixed. Wings and hook, as before.

No. 4. Body and legs a sooty yellow; tail, widow's crest-feather. Wings, as before, and hook, No. 6.

The feathers for the wings of fern-flies are dyed thus: — Dissolve in a pint of boiling water an oz. of alum. Steep in it the feathers for three or

four hours. Boil in the same quantity of soft water for half an hour half an oz. of fustic, and the same quantity of turmeric. Remove the feathers from the alum water and immerse them in the yellow dye, and they will soon assume the required colour.

Large Palmers for Welsh Salmon.

No. 1. Body, very long of orange wool ribbed with gold tinsel, orange tail; two red-dun hackles struck from the tail to the centre of the body, and two dark blue-dun hackles from that up to the head. The whole to be dressed on two hooks whipped tightly together, back to back, the barb and bend of the upper hook to project from the centre of the body of the palmer. The hooks to be two number fives or sixes. This palmer should be used in full water after a flood.

No. 2. Body, black ostrich harl and black hackles from tail to head. Hooks, as before. Fit for pools and clear water.

No. 3. Body, light blue dun wool over which hackles of the same colour. Hooks, No. 7. Good in clear water towards evening.

The above local Welsh flies and palmers are after patterns sent me by Mr. W. Flinn, fishing-

tackle maker of Worcester. He has much experience of the rivers of South Wales, and the above are the flies he successfully uses.

A Batch of General Salmon Flies.

No. 1. Body, orange floss-silk, tipped with gold tinsel, and small topping for tail; claret hackle and gold tinsel over body; blue jay at shoulder, and full brown mallard wings; head, black ostrich, and blue and yellow macaw feelers. Hook, No. 6 and 7. This is a celebrated fly in the north of Ireland, and is called "The old Irish gentleman."

No. 2. Body, claret mohair, over which gold tinsel and claret hackle; brown tag, and small topping for tail; wings, brown turkey tail-feather with two toppings in the centre. Head, and hooks, as before.

No. 3. Body, orange floss silk, orange hackle, gold tinsel, and topping for tail, blue jay hackle and two kingfisher's feathers at shoulder. Wings, toppings, mixed with brown mallard, teal, guinea-hen, and golden pheasant neck and tail-feathers; black ostrich head, and blue and yellow macaw feelers. Hook, No. 6.

No. 4. Body, yellow floss silk, over which silver twist and black hackle; dark blue tag, and topping

for tail. Wings, brown mallard, golden pheasant neck and yellow rump-feathers, silver pheasant tail, guinea-hen, and teal feathers; blue jay and kingfisher at the shoulder, black head and macaw feelers. Hook, No. 6.

No. 5. Body, gold or orange colour pig's hair, hackle of the same colour, gold tinsel, black ostrich tag, tipped with silver; tail, a topping. Wings, two toppings, and a rump-feather of the golden pheasant, with a neck-feather hackle-wise at shoulder, over a joint of brown red pig's hair; macaw feelers, and yellow or orange head. Hook, No. 5 and 6.

No. 6. Body, half yellow, half puce floss silk, black ostrich tag and red floss silk, tipped with gold tinsel, and topping for tail; over body, silver tinsel and jay's hackle struck up with it to the shoulder. Wings, brown mallard, guinea-hen, teal, golden pheasant neck-feather, blue peacock fibres, and a topping over all; macaw feelers, and black ostrich head. Hook, No. 6 and 7.

I recommend this as an especially good general fly for water of moderate depth and brightness.

No. 7. Body, to commence with two or three turns of puce, followed up by turns of blue, orange, red and purple floss silk, over which, from tail to shoulder, blue hackle and silver tinsel and

gold twist, small guinea-hen feather round the shoulder, orange head, and topping for tail. Wings, two golden pheasant toppings and small neck-feather, with a few fibres of bustard and golden pheasant tail-feathers; the usual macaw feelers. Hook, No. 7 and 8.

No. 8. Body, black mohair, over which silver tinsel, gold twist and black hackle; peacock harl and orange tags, and toppings for tail. Wings, brown turkey and golden pheasant tail-feathers, mixed with guinea-hen, teal, and brown mallard; blue macaw feelers, and dark blue head. Hook, No. 8.

No. 9. Body, fiery-brown pig's hair, ribbed with gold tinsel, and having a grouse hackle round the shoulder; tail, yellow mohair picked out, and brown mallard wings. Hook, No. 7.

The last seven flies described, are patterns sent me by the gentleman mentioned in describing the two little flies which contrast so well with the large Shannon fly on Plate II. He assures me that he is successful everywhere with them.

The Three Graces.

AGLAIA. — Body, all of silver tinsel, ribbed with gold twist; black ostrich tag, tipped with

gold; tail, a small topping and a few fibres of the wood-duck's feather; black hackle, thin and short over body, teal hackle at the shoulder. Wings, two toppings, bustard, cream-coloured turkey and wood-duck feathers, and black ostrich head. Hook, No. 7. A famous summer's evening fly.

THALIA. — Body, orange floss silk, orange hackle, gold tinsel, cock of the rock's hackle under shoulder, and over shoulder blue jay hackle. Wings, two toppings, brown Argus pheasant tail-feather, bustard, and blue kingfisher feather at each side of the wings; black head, and blue and yellow macaw feelers.

EUPHROSYNE. — Body, bronze peacock harl, gold tinsel and a short-fibred claret hackle or hackles to be wound with close regularity from the tail to the wings; orange tag, gold tip, tail, two toppings. Wings, long, delicate and super-incumbent, and of brown Argus pheasant tail-feather, golden pheasant tail and long-topping; at each side the wings, short pieces of silver pheasant tail-feather; head, green peacock's harl.

These are the three last patterns of Salmon-flies I shall describe. Their beauty cannot be surpassed. The first is an exquisite imitation of a silver-hued moth, spangled with gold on the body and with various colours on the wings.

Night-time is the season for its conquests. The two last flies must be tied on very long-shanked hooks, fine in the wire, and small in the bend, like that of the Erin-go-Bragh figured at the bottom of the frontispiece. The graceful figures of these two flies, decked in most tasteful costume, cannot fail to call up to them the homage of the most fastidious salmon-connoisseurs. Their attractions are peculiarly persuasive when viewed through the medium of water somewhat deep and opaque.

Standard Sea-Trout Flies.

No. 1. Body, yellow floss silk, gold tinsel, black-red hackle, small topping for tail, blue jay at shoulder, a neatly mixed gaudy wing and black ostrich head. Hook, No. 8 9 and 10.

No. 2. Body, blue floss silk, blue hackle and silver tinsel, blue jay at the shoulder. Wings, head, tail and hooks as before.

No. 3. Body, black mohair, black hackle, silver tinsel, yellow tag, small topping for tail, head yellow mohair picked out to hang under the shoulder. Wings, two little toppings, surrounded with teal and guinea-hen feathers. Hook, No. 8 and 9.

There cannot be a better general sea-trout fly

than this. Salmon, at low water, will take it well.

No. 4. Body, peacock harl, gold tinsel, amber hackle, a small topping for tail; mallard wing. Hook, No. 9 and 10.

The best sea, white trout, or sewin flies for the Kerry rivers and lakes, and, generally speaking, for all others, are those with dark and bright fiery-brown bodies, blue and fiery-brown hackles over bodies, gold-coloured necks, and plain wings of brown mallard, turkey, grouse and landrail's wing-feather. For the wings of small flies the two last-mentioned feathers are the best.

END OF PART THE FIRST.

PART THE SECOND.

THE NATURAL HISTORY OF SALMON.

CHAPTER I.

ALL THE KNOWN HISTORY AND HABITS OF SALMON MINUTELY WRITTEN AND DESCRIBED.

THE natural history of salmon has been frequently written; still, there exists, as far as my reading extends, no history of the fish sufficiently accurate and copious at the same time. I assert this unhesitatingly, and without rendering myself liable to any charge of self-conceit. The history and habits of the salmon written in detail in the following pages are not mine. The writing is mine, and very little more. The real author—the communicator of the chief facts enumerated—is Mr. Andrew Young of Invershin, manager of the Duke of Sutherland's northern salmon-rivers. He has communicated them to me orally and by writing, and I am nothing more than the public

narrator of them, or the narrator of them to the public. I can, therefore, without on my own part infringing the rules of modesty, pass judgment on the abilities of Mr. Young and the value of his facts, exactly in the way a translator is permitted to speak of an original author whose works he is translating.

Who is Mr. Young? That gentleman, some seven hundred miles far away from me at the time I write this, will pardon me if I tell the world who and what he is.

He has been connected with salmon fishing for upwards of thirty-five years; 1st. on the river Tay, and then on the justly famous river Shin, and other rivers in Sutherlandshire. "I have been," he says in a private letter to me, dated Dec. 17. 1849, and which, at the risk of offending him, I make in part public, "experimenting on salmon for upwards of 30 years. Few, I believe, if any, have paid the attention to the habits of salmon I have done. To enumerate all the experiments I have made would fill volumes. On this point I must abridge. In 1834, and for a number of years following, we [I suppose Mr. Young and his assistants] marked spawned fish, for the purpose of settling the question, denied by many, of the return of salmon to their

native rivers. This we did satisfactorily. We, in 1835, marked smolts to ascertain and set at rest the following point denied by many, viz.; that the smolts returned grisle the same year they first went from the rivers to the sea in the smolt state. The experiments proved this also; and specimens of the grisle that we marked when smolts, and which returned grisle from the sea to fresh water the year they were marked, may be now seen in the Museum of the Royal Society of Edinburgh. We continued these markings many years, invariably with similar results, and at the same time, continuously during three years, we carefully watched the spawning operations, and spawning beds in all their stages, and were fully convinced at last that the fry remained in the rivers *one whole year, and no longer, after having been hatched.* However, though I was fully convinced in the case, the public were not, and still hung to the old theory that they were fry and smolts the same year, and that their migration to the sea took place shortly after they were hatched. To make assurance doubly sure, we, in 1841, erected a chain of four artificial breeding ponds by the river Shin [I have seen the remains of them. They were in the Shin, close by its rocky left-hand bank.], about fifty yards above

Shin-bridge, where we hatched the fry to the state you have seen them preserved here. We continued this process for some years, and always found the same result.* The ponds were visited and examined by many gentlemen and naturalists, and amongst others by Mr. Travers Twiss, one of the professors of the University of Oxford, through whom I presented, in June, 1834, to the Ashmolean Museum, a set of ova and fry up to the smolt state."

Mr. Young, to my own knowledge, has done more than this. In 1848 he wrote, in the *John o' Groat's Journal*, a series of essays on the salmon, which I caused to be re-published in a celebrated weekly London sporting paper.† In the same year Mr. Young collected these essays, and published them at Wick, in pamphlet form, with the title, "The Natural History and Habits of the Salmon," &c. Now, it will be asked, why he should have thought it necessary to dictate to me the substance of another history on the self-same subject? He must himself answer the

* This result will be stated by and by in our history of the Salmon, and in our explanation of the plates, representing Salmon Fry in several stages of their existence.

† *Bell's Life in London.*

question.* If I were to answer it for him, I should say, it was because he did not consider his pamphlet copious enough; that it lacked detail and arrangement; that it contained extraneous

* "Inversbin, Jan. 14. 1850.

"My dear Sir,

"I have received yours of the 8th instant. [A note of mine requesting Mr. Young to state why he thought a new natural history of Salmon still necessary.]

"The reason why we consider it necessary to write the Natural History of the Salmon is exactly, because it has never been fully given to the public, although Mr. Shaw and I have written several pamphlets on the subject. They were written, at least mine, for the purpose of preparing the public for a much fuller account of the history and habits of Salmon than they contained. I consider we are now endeavouring to give that fuller account to the public, and I hope it will prove worthy of their perusal. As we could not give it without the knowledge derived from frequent experiments made for several successive years, we have spared neither time, pains, nor labour in making them, and we show ourselves now most willing to communicate to all who take an interest in the matter, the secrets we have fished out from the depths of the sea, and the pools and rapids of rivers. That is our sole design in writing the present history, and I, having fallen in with 'EPHEMERA,' whose . . . . . considered that *between us* we should be able to give to the public the fuller information still so much required on the subject.

"I am, my dear Sir,

"Yours truly,

"A. YOUNG."

"To Ephemera, &c."

matter: in fine, that he thought two heads better than one.

I will now state how I made the advantageous acquaintance of Mr. Young. In 1847 I published "A Handbook of Angling," in which I inserted a brief sketch of the natural history of salmon, following Mr. Shaw's theory, that the fry of salmon do not arrive at the smolt state until they are two years old; that is, that they do not assume the silvery, or migratory coat, until they have attained the age mentioned, and do not go to the sea before. In a few weeks after the publication of the "Handbook," I went to Ireland, on a fly-fishing excursion, and whilst angling for trout in some of the tributaries of salmon-rivers, I caught a great many salmon-fry, marked with transverse bars, ("parrs" Mr. Shaw and others erroneously call them,) and also a great many smolts, or salmon-fry in their silver-hued migratory costume. This took place between the middle of April and the middle of May. I examined these little fish, and it struck me, I cannot explain fully why, that Mr. Shaw had exaggerated their ages. I could not believe that any of the fry marked with transverse bars exceeded in age twelve months, nor could I reconcile with my own observation that the smolts I

caught were two years old, or thereabouts. I doubted, therefore, the accuracy of Mr. Shaw's "Experimental Observations on the Development and Growth of Salmon-Fry, from the Exclusion of the Ova to the Age of Two Years."

Immediately after my return to London I wrote to Mr. Young, of whose reputation I had in part heard, and I expressed to him my doubts as to the slow growth of salmon-fry as maintained by Mr. Shaw. Mr. Young promptly answered my letter, stating that he regretted to differ from Mr. Shaw; in fact, that the latter gentleman's calculations were wrong by one whole year; that there were no salmon-fry to be found in salmon rivers with transverse bars at the age of eighteen months (see Mr. Shaw's plates of young salmon); that they became smolts at the age of twelve months, and then migrated sea-wards, and not at the age of twenty-four months, according to Mr. Shaw's experimental theory. A weekly correspondence almost, since 1847 up to the present time, has been carried on between Mr. Young and myself, the chief subject of which has been the salmon, and nearly all that pertains to it. Mr. Young, the year before last (1848), invited me to visit him at Invershin, but I was not able to experience his kindness until last year, when I

had the pleasure of passing a month with him on the banks of the Shin. The object of my visit was manifold; to obtain from Mr. Young's own lips his knowledge of the history of salmon, and of its habits; to see his museum; to see how and where he had made his experiments; and, finally, to furbish up my piscatorial practice, getting rusty, I felt, for want of a sufficiently stimulating arena wherein to exercise it. Mr. Young communicated to his Grace the Duke of Sutherland the object of my visit to his princely land and water domains, and the "Good Duke," for which I, with most cordial gratitude, thank him, issued orders that I was to be allowed to circulate freely throughout the length and breadth of more than five-sixths of Sutherlandshire. The result of this gracious permission, and of my friendly visit to Mr. Young, is the preceding and subsequent part of this book.

If in the pages that follow this, the errors of any writer are confuted, I beg, on the part of Mr. Young and of myself, to declare that we are actuated by no other motive than the establishment of truth. With respect to Mr. Shaw, to him, I believe, belongs the merit of originating the artificial breeding of salmon, and if he have erred, he has done much good, by striking out the first

spark to enlighten the paths of subsequent inquirers. He has been the Columbus of the salmon-world to Mr. Young and others, and to my very humble self amongst the number. I wish Mr. Shaw would repeat his experiments, feeding his salmon ponds with water from the Nith, and not with spring or rivulet water as he formerly did. He would then discover the cause of his erroneous calculations—that they were produced by the difference of temperature between the waters of the Nith from which he took the ova, and the waters of the ponds in which they were hatched, and in which his experimental salmon-fry were reared.

SALMON PREPARING TO SPAWN.—The male and female salmon appear together on that part of a shallow in which their bed is to be dug, and they remain moving about upon it for a few days before they begin the process of nidification. No precise period can be fixed for their appearance. Salmon spawning-beds are made by the fish in some sandy or gravelly part of the river, generally high up towards its source, and not unfrequently in rivers, and almost rivulets, tributaries to some large river, of course, connected with the sea. Before two salmon, male and female, commence the formation of their nests, they make efforts to

drive away every fish that may come within their vicinity.

The spawning season extends over a period at least of six continuous months. On an average—I am referring to the majority of our great salmon rivers, no matter where situate in the empire—it commences about the middle of September, and ends about the middle of the following March. Perhaps, I should have said, "it would commence about the middle of September," for in some rivers it cannot, except in rare isolated instances commence so early, viz., in those that are netted up to the 14th of that month, and so up to that period have nearly all their early spawners killed.

The first fish that appear on the spawning-beds are grilse, or young salmon of the previous year's incubation, or of the two last months of the year before that; and they are generally the precursors of mature salmon, that is of fish in their third year or upwards. From the middle of September, when grilse and salmon are first observed upon the shallows, or spawning localities, they increase daily in number up to about the first of December. The process of spawning is at its height from the middle of November to the middle of December. The substance of these observations is properly only applicable to those rivers—His Grace the

Duke of Sutherland's for instance in the north of Scotland — wherein the cruives are taken up early in August, and all netting ceases about the middle of that month, and by no means to those impoverished rivers, the renters or proprietors of which, killing the goose with the golden eggs, go on slaughtering pregnant salmon during the whole of the destructive period allowed them by the fatal clauses of Mr. Home Drummond's Act. From the 1st of December to the middle of the following March the number of salmon on the spawning-beds diminishes in about the same proportion that it had increased from the middle of September to the 1st of December. At the end of March scarcely a pair of salmon can be met with performing the functions of procreation.*

* I beg the reader to bear in mind that, if, as asserted in the text, the spawning season extends, more or less actively, from September to March, there must be salmon-fry (the smolts of Mr. Young) of twelve months old in the corresponding six months of each successive year, and there must be salmon-fry marked with the transverse bars for about eight months in the year. What then becomes of Mr. Shaw's assertion that, — "Immediately after the migration of the two years-old parr (which the latter always affect [qy. effect?] about the beginning of May, under the name of salmon-fry, there is no other parr, besides such as have been recently hatched, to be found in the river, save those which correspond with this specimen [a salmon-fry

It may be necessary to mention here, though in doing so, I partly repeat myself, that spawning

with transverse bars, alleged by Mr. Shaw to be twelve months old], which is the pink of the river Hodder, alluded to by Mr. Yarrell." Now, if ova deposited and impregnated in the middle of September be hatched in ninety days, the average time at this season of the year, as stated by Mr. Young, they will be about four and a half months old in the following May, and consequently can neither be Mr. Shaw's parr "recently hatched," nor his twelve months old specimen, nor Mr. Yarrell's "pink." Mr. Young says some late spawners deposit their ova in March. These ova will be hatched by the following 1st of June at the latest, the water being at high temperature, generally speaking in April and May. The fry produced by these ova will be only eleven months old the following May. We will now take ova deposited and impregnated on the 1st December, and allow them the longest period, viz. 140 days, for incubation. They will be fish-fœtus about the middle of April, and of course, twelve months old at the same period of the following year. Now take the fry of ova deposited in the early part of November and hatched in the middle of March, they will be twelve months old in the corresponding period of the following year, and two and a half months or more in the May of the year in which it is hatched. Calculate in like manner the produce of ova deposited in the months of January and February, and you will find that you will have embryo fish, no more than a day or so old, in the middle of April and the beginning of May each succeeding year, which can neither be Mr. Shaw's "parr," nor Mr. Yarrell's "pink." Mr. Young states that the "throng" time of spawning is between the middle of November and the middle of December. The "throng" time of the migration of

invariably commences — I mean the spawning season — at the heads of rivers, and one can see that the first pair spawning are fish that by escaping the nets and cruives have made their way up even before the fishing operations are over. Many of these fish are of the category of those, which on Sundays when the cruives are open and netting has for the time ceased, have entered the rivers and ascended safely to the shallows. They are autumnal spawners, the best and most prolific of all, and they would be by far more numerous if netting ceased some time in August. Why they are the most prolific I will explain. It is in a word, because their spawning operations are over before the setting in of winter storms, and their attendant heavy rains and floods. Before the period of the inundation of rivers, the salmon-beds

smolts must be then between the middle of April and the middle of May, not in the last fortnight of the April and the first fortnight of the May that succeed the "throng" time of spawning, but, according to Mr. Young between the April and May of the first year after that, and according to Mr. Shaw, not until the second year after. It is not necessary for me to say that I am convinced of the accuracy of Mr. Young's experiments and of his statements, the result of them, and of very long and clear-headed observation. Salmon-fry and smolts are found in salmon rivers nearly all the year round. Some of the fry represented in the plates were taken from the Shin in November.

or nests are completely filled in and levelled, which is of the greatest importance to the preservation of the ova deposited underneath, as the fiercest currents of water will pass over the completed beds innocuously. These observations will be fully comprehended by and by, when I come to describe the process of nidification, or bed or nest-making of salmon.

Having touched upon the beneficial importance of early spawning, I will mention some of the evil effects of late spawning. When fish spawn late, that is, in the winter months, or in the rainy, snowy, or frosty season, they are in the first place almost certain to have their operations disturbed or destroyed by storms or floods; their beds and ova swept away during the progress of the execution of the former, and the deposition of the latter. In the second place, dry, wintry weather, which at least in the North is invariably frosty, is almost as equally injurious to productive spawning as wet weather, because during its prevalence, the waters of the shallows are frozen up. Salmon cannot enter them, and as they are the only spots appropriate for spawning, that operation is completely impeded, or else the fish are forced to select spots unfit for the purposes of incubation. When floods prevent salmon from depositing their

ova in the shallows, they have recourse to the inundated banks or sides of rivers, and deposit their ova there. The consequence is certain destruction of the deposited eggs, for long before they can be incubated or hatched, the waters subside, and the salmon-beds with their contents are left high and dry upon shore.*

Before salmon commence the preparation of their beds, I think, if not impeded, they will not stop until they have arrived at the spot, or at least very near the spot, at which they them-

* I call the attention of the Legislature to the facts and inductions embodied in the two preceding paragraphs. Can any thing be more evident than that early spawning is necessary for the successful propagation of salmon? Is not the converse of the proposition equally patent, that late spawning is highly injurious to the breeding of that most valuable fish? Why then, with such results before us, should we (be allowed to) oppose natural laws in such a way as to change the regular and appointed time for salmon-breeding? Not even the most sceptical of the accuracy of this natural history and habits of salmon can deny the almost next to uselessness of late breeders, or fail to acknowledge that it is the early breeders that produce a numerous progeny — a progeny likely to thrive, and, if permitted, become in their turns early breeders. If the present system continue, if the Legislature will allow salmon-fishing to extend almost to the winter months, the consequence will be salmonless rivers. And when the evil is done, restocking the rivers will be the only remedy that can be resorted to — a costly remedy both in time, trouble, and expense.

selves first received life. This opinion I am able to illustrate by, what appears to me, exceedingly interesting and conclusive facts.

Loch Shin, a piece of water, about twenty-one miles by fourteen, situate in the heart of the Sutherland mountains, is the immediate feeder of the river Shin, noted for its salmon fecundity. The Loch itself has four feeders, middling sized rivers, viz. the Terry, Fiack, Garvie, and Curry, in which, previously to the year 1836, not a salmon was ever seen, though many were in the habit of entering the loch or lake.* In the year mentioned, at the request of his Grace of Sutherland, and Mr. Loch, M.P., salmon were caught in the

* The following is interesting to the numerous fraternity of salmon-fishers. Although salmon were frequently seen going into Loch Shin in great numbers and leaping in its waters, not one had been caught either by fly-fishing or trolling in the Loch until last year (1849). His Grace, the Duke of Argyle, trolling in the Loch last season for the *salmo ferox*, hooked and killed a salmon, and therefore was the first to break the charm that had from time immemorial protected the *salmo-salar* sojourners in this large lake. It may be reasonably inferred from the above fact that as spawning salmon increase in the four rivers that feed the Loch, salmon and salmon-angling will increase in it also, so that hereafter it may become as famous for salmon-fishing with rod and line as it is now for angling for the *salmo ferox*, and various sorts of salmonidæ.

river Shin, shortly before the spawning season, and conveyed to the four rivers above-named, amongst which they were distributed in due proportions. Mr. Young was the managing director on the occasion. In the wonted season all the fish spawned, each in its respective river. Now, mark one of the consequences: salmon at present, and ever since, come regularly to spawn, traversing the lake to do so, in all these heretofore salmonless rivers. Nay more, the fish hatched in the Terry, at least those that survive long enough, return to the Terry; and the young of the other three rivers return from the sea to them, each grilse or salmon entering never-failingly the stream that gave it birth. What wonderful and unerring instinct! One might think that they would remain in the river Shin, and spawn where their ancestors had spawned; but no, they leave their own natal shallows, pass down the lake, through the river Shin, along the kyle of Sunderland, to the sea; and there having become adolescent, they retrace their route, and, after necessary rests on their long voyage, very frequently on the spots of their parents' nativity, they revisit, for the first time, the scenes of their birth and infancy. Revisit them—for what? Being nubile, to perform the nuptial rights, which they do where their

forefathers begat them, and so they go on increasing and multiplying in colonies heretofore tenantless of salmon, ever since volcanic action called from the "vasty deep," the mountains and rivers of northern Caledonia!

IMMEDIATE SPAWNING OPERATIONS. — The spawning-bed, which may be called a continuation of nests, is never fashioned transversely, or across the water current, but straightly against it. The way the bed is formed has never been accurately described. Some have affirmed that the male fish is the sole architect; others, that the female does all the work; others again, that the tail* is the only delv-

* By comparing the text with the following extract from Mr. Shaw's "Experimental Observations," &c. (p. 19.), the reader will see how widely he and Mr. Young differ on one of the most interesting habits of salmon. Mr. Shaw says, — "It has been generally supposed that the male salmon, during the spawning season, assists the female in forming the spawning-bed. This idea is, I think, founded in error, as, during the whole course of my experience, I have never been able to detect the male taking any share whatever in the more laborious portion of these parental duties. The only part he performs, beyond the mere sexual function, consists in the unwearied vigilance which he exhibits in protecting the spawning-bed from the intrusion of rival males, all of which he assiduously endeavours to expel. The female, regardless of the occasional absence of the male during these contests, and probably satisfied with the presence of the male parrs, proceeds with her operations

ing "implement employed," and others write that the bed-trenches are dug across the stream. These

by throwing herself at intervals of a few minutes upon her side, and while in that position, by the rapid action of the *tail* [the emphatic italics are Mr. Shaw's], she digs a receptacle in the ground for her ova, a portion of which she deposits, and, again, turning upon her side, she covers it up by a renewed action of the tail,—thus alternately digging, depositing, and covering the ova, until the process is completed by the laying of the whole mass, an operation which generally occupies three or four days. In the course of these experiments, it has been ascertained that the milt of a single male parr, whose entire weight may not exceed one and a half ounce, is capable, when confined in a small stream, of effectually impregnating all the ova of a very large female salmon." Not satisfied with the assertions contained in the above extract, Mr. Shaw appends a note to it, in which he puts forth one fact with great positiveness. "I am aware," he says, "it has been a matter of dispute amongst observers as to which of the two extremities of the fish is employed in the formation of the spawning-bed. However, from late opportunities of observation, which rarely occur, owing to the turbid state of the river in the spawning season, I am now satisfied that it is by the action of the caudal extremity alone that the gravel is removed." Salmon rivers are by no means always in a "turbid state" during spawning time. They are frequently quite limpid then, in the fine weather of September, or in the clear frosty weather of October, November, or December. Mr. Young has over and over again seen salmon excavating, in the way described in the text, not only in limpid water, but in water so shallow that the dorsal fins of the fish could be seen at the surface. No turbidness of water, there-

people, they must pardon my telling them so, are feather-bed naturalists. I have already shown the direction of the beds. It corresponds with the run of the river. A salmon-bed is constructed thus: the fish having paired, chosen their ground for bed-making, and being ready to lay in, they drop down the stream a little, and then returning with velocity towards the spot selected, they dart their heads into the gravel, burrowing with their snouts into it. This burrowing action, assisted by the powers of the fins, is performed with great force, and the water's current aiding, the upper part or roof of the excavation is removed. The burrowing process is continued until a first nest is dug sufficiently capacious for a first deposition of ova. Then the female enters this first hollowed link of the bed, and deposits therein a portion of her ova. That done, she retires down stream, and the male instantly takes her place, and pouring, by emission, a certain quantity of milt over the deposited ova, impregnates them. After this the fish commence a second excavation, immediately above the first, and in a straight line with it. In making the excavations they relieve

fore, could have prevented him from observing with the most minute accuracy.

one another. When one fish grows tired of its work it drops down stream until it is refreshed, and then, with renovated powers, resumes its labours, relieving at the same time its partner. The partner acts in the same spirit, and so their labour progresses by alternate exertion. The second bed completed, the female enters it as she did the first, again depositing a portion of ova, and drops a little down stream. The male forthwith enters the excavation, and impregnates the ova in it. The ova in the first part of the bed are covered by the sand and gravel dug from the second being carried into it, chiefly by the action of the current. The excavating process just described is continued until the female has no more ova to deposit. The last deposition of ova is covered in by the action of the fish and water breaking down some of the gravel bank above and over the nest. Thus is formed a complete spawning bed — not at once, not by a single effort, but piecemeal, and at several intervals of greater or less duration, according to the age and size of the fish, and quantity of ova and milt to be deposited and emitted. A female salmon in its third year has a larger quantity of ova to deposit than a female grilse, or young salmon in its second year; and it may be taken for granted, that the older

and larger either fish — male or female — is, the greater the quantity of ova to be deposited, and of milt to be emitted. In consequence, the time occupied in deposition chiefly depends upon the size and fecundity of the female fish. The average time is from five to ten days. It would be more correct to say the mean time lies betwixt.

When the spawning operations — I am describing those of a single pair of salmon — are terminated, the female fish, with instinctive view to repose and convalescence, falls back into some pool below the spawning-bed just completed, and sown with salmon-seed. The male frequently follows her example, sometimes from two motives: 1st, to consort with another female, if he have any milt remaining, and 2ndly, if he have not, for the purpose of recovering from the debilitating effects of spawning. A male salmon may impregnate the ova of one or more salmon. A mature male salmon has milt enough to impregnate the ova of several grilse, or young salmon; and he will continue the operation of impregnation as long as the seminal fluid lasts. If, in the first instance, a female choose a mate unable to fecundate all her ova, she will, when his milt is exhausted, go in search of another, and will be a bigamist or polygamist, as long as nature, or (as a phrenologist

would say) philo-progenitiveness, compels her to be so.* The length of a spawning-bed depends

* This could never happen if Mr. Shaw's most extraordinary statement were true, viz. "That the milt of a single male parr [male, salmon-fry], whose entire weight may not exceed *one and a half-ounce*, is capable, when confined in a small stream, of effectually impregnating all the ova of a *very* large female salmon." Let me make a calculation. The ova in mass of a *very* large salmon will weigh on a very low average one pound and a half; and the ova separated, as they are by the act of deposition, will number many thousands. Supposing a male salmon-fry to have milt in proportion to age and size — that a tenth part (I am allowing Mr. Shaw's little fish the widest, indeed improbable, latitude) of its entire weight be milt, then the weight of that of an ounce and a half fish would be 3 dwts. 12 grs. Now, I will ask the question how many ova, each the size of a pea, will 3 dwts. 12 grs. of milt impregnate? Will 72 grs. of milt impregnate several thousand ova, each weighing at the least 5 or 6 grs.? Let us bear in mind that each ovum is distinct from the others, and that every ovum must, to be impregnated, come in contact with milt. There is a wild German theory, that the emission of milt in water, gives it impregnating power, and that all ova in such water will receive from it the vivifying germ. It would seem as if Mr. Shaw inclined to this theory. On this point Mr. Young writes me, (Jan. 26. 1850.) "There is no such thing in existence as a male salmon-fry impregnating the ova of a female salmon of any size. I have seen, perhaps, more salmon on the spawning-beds, and watched their motions, perhaps, more frequently than any man alive, and I must say that I never yet saw the remotest appearance of salmon-fry offering to engage in the operations of spawning."

upon the quantity of spawn to be deposited therein, and also upon the hardness or softness of the gravel which has to be excavated. The harder the gravel-bed, the shorter the spawning-bed, for then the succession of nests will be more compact, and take up less space, whether in length or width.

A single pair of salmon may be forced to form distinct beds, in different spots. For instance, they have commenced spawning in a stream two feet in depth more or less, and whilst so engaged, the river falls so low, that they cannot continue to work in the first selected spot, for want of water wherein freely to move. When this happens they will drop lower down, or at any rate retire elsewhere, in search of deeper running water. Other causes may induce them, *e.g.* floods, to have recourse to the formation of a second bed, in a spot suited for it.

Thinking as I do the laying and impregnating, covering up and hatching of salmon-eggs—I use plain words purposely—most interesting points in the history of our River-king, I will not, if I can, leave any thing connected with them untouched. When I do not state facts, I will bring forward deductions and, as it were, circumstantial evidence as convincing to the reasoning mind as fact itself.

We have seen that the bed, or trench, in which salmon deposit their spawn, is made bit by bit, and no doubt the inquiring reader will ask why? I have, I hope, a ready and satisfactory answer. The ova of the female salmon are not mature all at the same time. That portion of them next the vent becomes first ripe for deposition, whilst the part in the pectoral regions is immature. In consequence, the ova can be deposited by piecemeal only, and that is one of the chief reasons why the salmon-bed consists of a succession of excavations, the first for the reception of the ova next the vent which are already mature; the second for the ova that will become next the vent and matured in four-and-twenty hours, perhaps, and so on for several days until all the eggs forming what is called the "hard roe" are ripe and fit to be laid. On this point the common hen, and other birds afford an analogy. They deposit their eggs at intervals, as their outward covering or shells harden, that is as they become mature. The analogy extends no further. Birds' eggs are impregnated before they are deposited; salmons' eggs are not; birds' eggs naturally require animal heat to vivify them, salmons' eggs never do. The analogy, therefore, applies only to deposition or laying at intervals.

Let any one examine the roe* of a female salmon about spawning time, and the peas, grains,

* It would be exceedingly difficult to surpass for minuteness and accuracy the description of salmon ova given in Mr. Young's pamphlet, and running as follows: — "Ova, when extracted from salmon in spawning time are of a pale or light blue colour, and each is about the size of a small pea. It is composed of a white shell, and light red yolk, and from the crystalline nature of the shell, the inward parts of the egg are quite perceptible,—the shell being full of small pores, scarcely discernible to the naked eye, which, at the time of deposition, fully prepare it for the reception of the milt of the male fish. At this time the yolk of the egg, apparently filling the cavity of the shell, gives it an uniform colour, rendering the external whiteness of the shell scarcely perceptible. After the eggs have lain twenty days in the gravel of the spawning-bed, the yolk approaches more to white, and gives the whole egg a lighter appearance. Now is discernible on one side of the yolk a very small brilliant spot which increases in size, so that by the time the eggs have lain thirty-three days amongst the gravel, it has covered nearly a third part of the yolk. The remaining part approaches more to white, and exhibits the shell more clearly, so that the observer is very much interested in noting the visible alteration. The red spot grows larger daily, and when the eggs have been forty eight days in the gravel, the red spot has covered fully one-half of the yolk, and continues to spread daily more and more. At this period are first seen traces of the embryo fish, under the appearance of an elongated formation of a bluish white, in the yolk of the egg, and of about the thickness of a small thread. The yolk being of a different colour we can clearly see the formation increasing in size daily, and drawing more

or eggs of that part of it nearest to the vent will always be found of larger size, and softer than

towards perfection. At the expiration of sixty-three days the formation exhibits at one of its extremities two very small black spots, which afterwards become the eyes of the fish. A decided change now takes place daily; the young fish are getting larger — the black spots are becoming more visible — and the brilliant red, which at one time nearly covered the yolk, drawing closer towards the fish, and leaving the other parts of the egg of a paler appearance, and the fish fully double the thickness that it was on its first appearance: the shell of the egg appears thinner and more transparent, so as to afford full opportunity for minute inspection. At seventy-nine days all the above appearances are more marked, and at ninety-three days the shell of the egg is a good deal distended — the head of the fish larger and better formed — the eyes more visible — and the red of the yolk leaving the back parts and drawing more closely towards the belly of the fish, where it appears to be formed into a conical-looking bag, one end of which is attached to the fish. This appears more clearly after the ova have been deposited 100 days in the gravel, for now we see the embryo fish alive—we see it turning over within the shell of the egg, the shell being very thin and much distended — the red appearance in the yolk is now fully formed into a conical bag attached to the neck and belly of the fish; and as it turns over within the shell we see the little bag turning with it. If a single ovum at this stage is taken with a little water into the hollow of the hand the water's temperature is augmented, and the movements of the fish so much expedited as to enable us to see all the different parts of the fish-formation, and to afford us time to note all the various alterations, which are now neither few nor small.

those situated higher up in the stomach of the fish. They are softer also, and their outward fila-

At the end of 113 days we find the fish visibly larger —the head better shaped, but large in comparison with other parts of the fish — the conical bag much the same in appearance as before, and the fish more lively, and turning over more frequently in the shell. At 123 days, the fish are still larger, and, from their restlessness and frequent turnings, we now see that their cells have become too small for them, and that they are unwilling to be kept much longer in confinement. They must, however, remain a little longer; for, at the lapse of 133 days, we find the shells of the eggs still unbroken, and the fish in a very restless state, so that, by all appearance, they are not to endure their imprisonment much longer — the conical bag being now red towards the belly, but of a pale colour on the outside — the fish restless, and turning frequently and quickly from one side of the shell to the other, and often appearing to break out of confinement,— the shell being now extremely distended and thin. The time has now arrived when an immediate change from bondage to liberty is eagerly looked for, and the observer feels anxious to continue looking on. The myriads of young fish are continually moving from one side to the other, and the whole spawning-bed is in a state of commotion. Such is their state now, that night only can force the observer to change his place, and, from an anxiety to see the actual movements of development, he leaves the spawning-bed with deep regret. With quick and anxious steps he returns next morning by the dawn, fearing that he has lost the long-looked-for and interesting sight that he expected to see on the previous evening. He watches all that day with the most intense anxiety, still expecting the moment of the grand exhibition, but is yet

ments are thinner and more porous, and thus they are fitter for impregnation — for absorbing the milt of the male as it is poured over them. There is another reason why all the ova cannot be deposited at once. It is forced from the fish, or rather the fish forces it from itself by pressure — by forcing itself into the gravel of the nest. No natural pressure would be sufficient to expel the ova at once. When artificial pressure is employed — I mean manual pressure — the mature ova alone come freely away through the vent; the immature ova remain firmly inclosed within their reticulated tissues or membranes — within, as it were, their net-work fastenings. Although the unripe ova

disappointed. This state of matters continues until nightfall, and yet no discernible change. Next morning, however, the ova having been now 135 days deposited, he finds the shells yielding fast to the pressure from within—numbers already burst, numbers bursting, and numbers yet remaining whole. This is the moment of anxiety — the long-looked-for period has now arrived — that of a new generation of fish being launched from a state of thraldom into one of liberty, and into their own natural element. They are now cast abroad amidst the waters with Nature for their only guide ; to her provisions their parents have left them 135 days ago, and she has formed them to thrive without nurse or protector, and sent them forth on a hazardous journey provisioned for four or five weeks, and she exhibits them in all their history and habits amongst the strangest and most wonderful works of creation."

should be expressed, they would be useless for production, for their absorbing pores are still closed against the interpenetration of the milt, and consequently in this state impregnation is impossible. The milt of the male, like the ova of the female fish, becomes mature by degrees. When mature they are very easily exuded, for even holding up the fish by the heads will cause limited exudation of milt and ova. The pressure, or weight of the roe above on the roe beneath, is sufficient to produce this partial exudation.

The facts stated in the preceding paragraph are sufficient not only to account for impregnation taking place at intervals, for the impossibility of its being done *tout d'un coup*, but also for the improbability of impregnation by intermission or *coitus* either before or at the time of the deposition of ova. Mr. Young dissipated all doubts upon this point by the following experiments: — He took a female salmon, exuded by manipulation a portion of her ova, and having simply done so, he buried it beneath the gravel of one part of an artificial spawning-pond. From the same salmon he exuded another portion of ova, but before he covered it over with the gravel of another portion of his spawning-bed, he impregnated it by pressing milt from the male salmon, and causing it

to come in contact with the last ova deposited. He then covered them in beneath the gravel, and in due time they produced fish. The ova he had covered in without impregnation produced nothing. He repeated the experiment frequently, and always with similar results. He has even taken two female salmon in the act of spawning. The ova of one he impregnated with milt from a male; the ova of the other he did not impregnate. He covered in each under equal conditions, apart in the same spawning-bed. The ova that he had caused to be impregnated were productive; the other proved perfectly barren. This experiment was repeated, and the result was ever the same.

It may be asked, how is it that ova and milt are not swept away by the action of the rapid water in which they are deposited—that they are not swept away in the act of deposition, and before they can be covered in beneath the gravel? It would appear that at the critical moment of deposition the specific gravity of the water is less than that of the mature spawn, for the grains of ova fall to the bottom like grains of shot, and the milt sinks as if it were molten lead. However, we must take into account the effect of the force by which ova and milt are expelled downwards by the spawning fish.

As some of the ova are deposited and impregnated ten or more days sooner than other portions, we must expect to see the incubating progress completed by degrees. Such, in fact, is the case. The evolving of the fish-fœtus is not simultaneous, but gradual, and the infant fry come out from their sand-bed by degrees; at intervals of time corresponding with the intervals that took place during the deposition of the ova. We may, therefore, have young fish from one and the same nest, differing in age from one to ten or fourteen days.

The length of time necessary for the completion of the incubating process varies according to the localties of rivers, because locality produces different temperatures. The temperature of river water is also very sensibly affected—heightened or diminished by the mildness or rigour of the season. In the rivers of the north of Scotland salmon ova are hatched in a period varying in duration from 100 to 140 days.* In conformity

* Mr. Young, in his pamphlet, mentioned at page 160, says, — "The ova, after being deposited, progress very slowly, particularly during the winter season, when the temperature of the water is low; as the length of time between deposition and hatching depends entirely on the heat or cold when the seed is lying amongst the gravel. Ova deposited in September, when the temperature is high, will produce fry in the course of ninety days, whilst those de-

with the habits of oviparous, or egg, or spawn-bearing fish, the parent salmon having deposited their spawn, impregnated it, and covered it in beneath sand and gravel, take no further heed of it, or the fry it produces, except, perchance, hereafter to feed upon them. Water influenced by atmospheric action is the sole incubating agent. I may here observe that after the ova are covered in they are safe from all casualties, on which point more hereafter.

It is during the deposition of ova that they are destroyed, and the greatest destroyers of them are river trout of every species. These salmon-pests are ever on the watch whilst salmon are depositing their ova, and are only kept away from the spawning-beds or trenches by fierce attacks and rapid charges made on them by male and female salmon, both whilst they are preparing to spawn and are, at least one of them, actually engaged in doing so. However, as long as a spawning salmon is in its bed, or nest, laying ova or impregnating it, no trout will venture to come near the excavation. It is only when spawning fish drop down the stream, to gather vigour for

posited in November and December, will require something between 100 and 140 days, according as the winter months may be favourable or unfavourable."

the formation of another nest, or link of the bed above that already excavated, and in which uncovered ova are deposited, that trout dart towards the bed and devour the spawn. The falling down stream for a short time and short distance on the part of salmon is of twofold necessity; first, to gain renewed strength by temporary cessation from labour; and secondly, to get space enough to "take a run," if I may use a jumper's phrase, in order to be able to dart their heads with greater force and effect into the sand and gravel for the formation of a new nest, or link in the bed-trench. The water-ousel is also a sad destroyer of salmon ova. It watches their emission by the spawning salmon, then dives into the water, and descending to the bottom, runs along it to the spawning-bed, out of which it extracts a large quantity of spawn, and would steal more did not the procreating fish see it and drive it away. The spawn once fairly covered in, neither trout, nor water-ousel, nor any other fish or bird can injure it. The supposition that eels burrow into salmon-beds and feed upon the spawn beneath, is erroneous.

It is alleged that alluvial deposits frequently settle upon, and cover the beds, thereby destroying the ova—addling them, in fine, by preventing the chemical action necessary for their incubation

from reaching them. Such occurrences can very rarely, if ever, take place in the spots salmon select for spawning. Those spots are in running waters, where alluvial or other matter brought down by floods cannot well abide. And here let me remark, that salmon never deposit their ova in the sand or gravel of still, smooth, or deep waters. They never breed in lochs or lakes. Nor, a very curious fact, will they spawn in new gravel, nor in gravel that has recently been disturbed by natural, or artificial causes. For instance, a spate or flood shall sweep away a portion of the gravel of a ford, and, for many years, a favourite spawning locality, and by so doing expose a new stratum of gravel. Not only will salmon spawn no longer there, but they will not even rest in their journeys in water having a bottom recently disturbed. A period of about two years must elapse bofore they will frequent a pool or stream from which gravel has been removed, or to which gravel has been added. So that an excellent spawning-bed, or a famous pool may be annihilated by a furious rush of water.

GROWTH OF SALMON-FRY. — The ova having been hatched, the embryo salmon pierces the sandy and gravelly crust of its nest, and almost instanter assumes a shape somewhat

like a hairless caterpillar, or fringed larva of about three quarters of an inch in length, and tapering from head to tail, having a small sac attached to it, near the throat, about the size of, or rather less than, the original ovum, or single pea or spawn. This sac is the remains of the incubated ovum, or egg, and still, no doubt, contains vitelline, or matter equivalent, for the sustentation of the infant salmon. In connexion with the sac and incipient fish, several conduits, or veins are visible. The sac remains attached to the imperfectly formed fish for about a month, and is detached or consumed by degrees. The gradual detachment may be observed in a specimen of twelve days old, for at that age it will be seen that the sac has visibly decreased in volume, though it has not as yet become undetached, or entirely consumed.

At a month old the fish-fœtus has grown in length, and exhibits to the naked eye plain traces of head, eyes, and tail. Still it is barely more than a pale, misshapen, little longitudinal, half-animated, substance.

At two months old the "fry" measures about one inch and a half, is of nearly perfect piscine formation, having all its fins well defined, and on its coat a slight appearance of transverse bars, commonly and erroneously termed "parr marks." In

speaking of the young of salmon I shall invariably use the word "fry," until they have attained the age of twelve months, when I shall call them "smolts." That is the correct nomenclature, as I shall show when I describe the plates representing the young of salmon.

At from three to four months a salmon-fry measures in length from two to two and a half inches — hardly so much. Its head is round; there are pink spots on the body, and the transverse bars are plainly apparent.

At six months the young fish measures from three and a quarter to three and a half inches in length, and the pink spots and transverse bars continue to become more and more distinct.

At eight months the fry is very little longer than it is at six months of age, but it is evidently thicker or more bulky. At nine months even, the increase of growth does not tally with increase of age. No doubt its growth is impeded by (I beg the reader to bear in mind that I am speaking generally, and not of exceptions) its attaining the above age in the winter months when its favourite food, flies, other insects and larvæ cannot be procured in any thing like abundance.

I think it is better to explain here why I say that salmon-fry at eight months old enter, gene-

rally speaking, the winter months. I have already stated that the vast majority of salmon spawn between the middle of November and the middle of December. That interval in Scotland is called the "throng" time of spawning. The ova are hatched in from one hundred to one hundred and forty days. The mean time, then, is one hundred and twenty days or four months, so that as nearly as possible the fish commence their existence about the 1st of March, and will have completed their eighth month by the following November, or the first of the winter months.

Now, a word or two about exceptions, and they are most necessary, as they will explain why salmon-fry and smolts are found in rivers all the year round, and why they are found of different sizes. They will also explain, how it is that after the general migration seawards of smolts in the spring, some are still found in the rivers during the summer, autumn, and winter months. Some salmon spawn in September, and the ova, subjected to water of a higher temperature, at least, for two months, than the ova spawned in December, are hatched in about one hundred days, and produce young about Christmas, or may be, a fortnight earlier. They will be smolts, therefore, in the midst of the following winter, and will *mi*grate at that period. They are the young of

the earlier spawners. I will now come to fish that spawn the latest of all, viz., in the month of March. I should then say the ova of such fish, considering the increasing temperature of the water in March, April, and May, would be fully incubated in ninety days, producing embryo salmon in June. Now, in November when these fry are only six months old, the fry of ova spawned in September, will be eleven months old, and the fry of those spawned at the "throng" season will be about eight months of age. I have taken three spawning periods, early, middle, and late, and given the results. Even between those periods fish spawn, so that there must be in every month of the year, either fry of different sizes, or smolts in their migratory coats preparing for their first descent to the sea, or actually descending thither. I have great hopes that this explanation will prove satisfactory, and remove all scepticism from the minds of those who have paid only cursory attention to the habits of salmon.

A salmon fry at ten months measures about four inches, and the transverse bars begin to disappear, silvery smolt scales by degrees taking their place.

At eleven months its length is four and a half inches, and the bright silvery scales are now seen descending towards the region of the belly.

A salmon-fry at twelve months old is called a "smolt." That is the name by which it is generally known. I deem that its proper name at this age. It is the "last-spring" of the rivers of Herefordshire, and of those of the neighbouring counties — of the Severn and its tributaries. He who calls smolts, or young salmon of twelve months old, "salmon-fry" does not employ a misnomer. If I mistake not, they are so denominated in Ireland until they become salmon peal or grilse. At the above age the young fish measures about five inches, and weighs from three to four ounces, more or less.*

It now—at the age of twelve months—assumes the migratory coat, that is, the silvery one. The transverse bars have disappeared, and so have the pink spots on the sides. The young fish, a part the back, belly, and head, is covered with bright, silvery scales. At the shoulder a few trout-like

* The above descriptions of the growth of salmon-fry are after admeasurements which I made last year of natural specimens preserved in Mr. Young's salmon and salmonidæ museum at Invershin. The reader, after perusing a few pages, will come to other descriptions of young salmon given in explanation of the plates in which they are engraved, and coloured from the egg to the smolt state inclusive. If in the separate descriptions any difference may be found touching the age and size of fish, it will be so small as not in any way to militate against the correctness of our calculations on the growth of salmon-fry.

spots are visible. It is now ready at the first fitting opportunity to commence journeying down river to the sea. In order to induce and enable smolts to do so, it is not necessary that rivers should be flooded, but there must be a sufficient volume of water to carry the migrating fish safely over weirs, shallows, and other impediments. They will not migrate at low water. They generally do so from their native rivers to the sea — tide and time permitting — from the 15th April to the middle of May. At that epoch rivers are generally full, neither flooded nor the reverse. Oftentimes their migration takes place earlier, and frequently later in the year. Late migration is caused by late spawning, which is the result of a late "close" time, or not allowing salmon to ascend the rivers freely in the early autumn months — in other words, killing the early spawners by means of nets, cruives, and other devices after the month of August has expired.

The reader must have already remarked the very slow growth of salmon-fry. At the end of a year, the whole of it passed in fresh water, the young fish, on an average, weighs little more than four ounces. At that weight, being a smolt, it descends to the sea; and, if it should remain therein, say for eight or nine weeks, and then

depends on three things: duration of time they remain on their sea feeding-grounds, quality and quantity of food they obtain thereon, and hereditary capacity for growth with apportioned capacity for digestion. The grilse of small salmon, that is, of salmon which never grow beyond a small size, are handsomer, in every way better shaped, and generally of a brighter silvery hue, than the grilse, the produce of larger growing salmon. The grilse of the rivers Carron and Laxford, in Rossshire and Sutherlandshire, are handsome, small-headed, thick and deep and short in the body; the scales of which are small, smooth, and bright, because they are the offspring of small parent salmon: whereas the grilse of the river Shin, in which salmon grow to a very large size, are ill-shaped fish, having large heads, long, thin bodies, large, long fins, and large, rough, and by no means brilliant scales. It requires experience to distinguish a large and well-shaped grilse from a small salmon; indeed grilse are sometimes larger than salmon, the cause whereof I shall state by and by. Very frequently the only distinguishing marks between grilse and salmon are the smaller scales of the former, and longer and larger fins. The fins of a grilse of eight pounds in weight, are

longer and larger than those of a salmon of the same size.

The backs, a great portion of the sides of the gill-cover and of the rays of the fins, of river Shin fish, become nearly black after two or three weeks sojourn in fresh water. The chief cause arises from the colouring matter in that river, which is mainly fed from sources originating in peat soils, or flowing through them. I believe that the waters of all rivers, derivable from sources of the character of those of the Shin, speedily discolour or render dark the bright, silvery scales of fish fresh from the sea; and I believe that all fresh water, no matter how pure its source, has a similar effect, though less in degree. A black, or dark fish, therefore, can never be a fresh-run salmon.

Although a grilse or salmon, fresh run from the sea, is larger and in better condition than it will be after a few weeks' sojourn in fresh water, it is neither so strong nor so active. At all events, its strength and activity are not so enduring. One evident cause of this is, that fresh water hardens and renders tough and stiffly elastic, the fins*,

* Mr. Shaw remarks, — "On the approach of autumn, the whole of the Salmonidæ, resident as well as migratory, while in fresh water, acquire a dusky exterior, accompa-

which are soft and feebly pliant in fish fresh from the sea; and the natural consequence is, that aided by those whalebone fin-rays (for to the consistency, or very nearly so, of that substance, fresh water reduces them) they are more capable of putting forth enduring effort and strong and rapid motion, than the obese fresh-run fish, with its limber fins. A man rowing a heavy boat, with short, pliant sculls, will make but slow progress through the water, and will be speedily fatigued; whereas, if he have long, stout oars, they yield little to the water, and, by resistance but slightly elastic to it, the boat is propelled rapidly onwards, and the labour of the rower is considerably lightened. The pliant, almost powerless sculls of the rower, are the soft fins of the fresh-run fish — the stout oars are the fins of the fish that has been a lengthy sojourner in fresh water.

Besides, fresh-run fish that have been recently feeding in rich sub-marine pastures, may not be unaptly compared to horses just taken up from

nied by a considerable increase of mucus or slime. The fins also become more muscular. However, on the return of spring, they resume their wonted beautiful colouring, and the fins, the cartilaginous portions of which are frequently damaged during the winter floods, grow up and acquire their former outline."

luxurious grass or clover-fields, and submitted to dry-feeding. The dry-feeding of salmon are the insects, and larvæ, and small fish afforded to them in rivers. The consequence of dry-feeding, good food in small quantities, is the same on quadrapeds and on fish. They severally become less bulky, lose superflous adipose matter, which is replaced by increase of muscular fibre, and, therefore, though smaller in size, their strength, activity, and power of endurance, are greater. This will explain why the angler finds it frequently more difficult to tire out a small fish than a larger one. For myself, I have had over and over again an easier task in capturing with rod and line a fresh-run salmon, of fifteen pounds in weight, than a grilse half the size, which has been a few weeks training, as it were, on short but strengthening commons in fresh water. At all times a grilse will be found more powerful than a salmon of the same weight, because the fins of grilse are larger in proportion to the size of their bodies than the fins of salmon. Grilse possess, consequently, easier and greater powers of locomotion than salmon. I cannot help fancying that the aldermanic salmon, when put to its speed by the spur of the hook, soon gets "blown," or, as a turfite would say, exhibit symptoms of "distress," whilst its child or brother

limited to space and wholesome fresh-water diet, has its air passages and muscular tissues unclogged by obesity; and, therefore, when compelled to make abnormal exertions, as it does when hooked by the fly-fisher, it evinces greater power of endurance, or "bottom," as it is termed.

In some rare instances, a grilse, that is, a salmon in its second year, which has been only once to sea, has been known to weigh as much as fourteen pounds; whereas, a salmon, or fish in its third year, or one that has been twice at sea, has been known not to weigh more than six pounds. This great disproportion in weight is chiefly caused by difference in the duration of the time each remains at sea; to disparity in the amount and quality of food, each finds there; and, also, to dissimilarity of race. The one, the grilse, being probably the offspring of giant, the other of small salmon of dwarfish stock. However, difference in the duration of time is alone sufficient to produce inequality in weight. For instance, two smolts from the same spawning-bed, or the produce of ova hatched in the same nest, shall go down to the sea, and resort to the same feeding-grounds. One shall tarry on them, say for two months, and then return to its native stream; the stay of the other on the feeding-grounds, before

its return homewards, shall be four months. The result will be, on a most probable average, that the latter grilse will be double the size of the former. So that *cæteris paribus*, all things besides being equal, the fish that remains longest at sea, must, in all cases be, though not the older, the larger fish.

The question will naturally here arise, why should one fish remain longer on the feeding-grounds than another?* It is a very difficult question, one I do not think that can be very satisfactorily answered. A fish may return from the sea after a sojourn of one month, whilst another may, in some very rare instance, re-

* Mr. Young, in his pamphlet, says,—"We have also marked numbers of spawned salmon, both after their second and third spawning, and have found, at all times, that the length of their sojourn in the sea exactly corresponds with the length of time from the smolt to the grilse, and from the foul grilse to the salmon. The time from the smolts descending to the rivers, until they return to the rivers as grilses, is about eight weeks; and from the time the spawned grilses leave the rivers, until they return as salmon, about eight weeks, and so on throughout all their after stages. We allude here only to the great body of the fish, as there may be numerous exceptions from this general rule, and part of them we have seen, and heard of others, viz., some of them retiring earlier than the time we have stated, and others remaining longer in the sea."

main in salt water several months.* Doing so is exceptional, because as smolts frequently emigrate in shoals, so grilse or salmon very often immigrate in company. Hence there is "a salmon season" and a "grilse season." If fish from the same river and of the same age, continue all along travelling companions, slight will be the difference in their appearance, on their revisiting their haunts of infancy.

It is impossible to state with anything like accuracy, the number of years salmon may live; nor can I devise any sure means of ascertaining such information. Migration to the sea being necessary to the physical development of salmon, it must likewise be necessary for the prolongation of its existence. Salmon, like pike and nearly all the carp tribe, cannot be confined in ponds or stews to discover whether they are long-lived or not. Salmon must have running water over a gravelly bottom to breed in, and sea-water and the various kinds of food it produces, to thrive and grow. If confined to ponds, or even to lakes, salmon would cease to increase and multiply; and their growth would be so much retarded and

* The earliest return recorded by Mr. Young is five weeks and three days, and the latest fourteen weeks.

stunted by deprivation of their natural food; and their natural constitution would be so much impaired, that, in all probability, they would prematurely die from inanition, or from other cause of early decay. If they did not, I conjecture they would become in time a distinct species of fish, or the progenitors of some distinct species; very likely some nondescript sort of fresh-water trout.

Salmon, if they live long, cannot grow in after years as fast as they grew during the earlier period, particularly the grilse stage of their existence, when they frequently increase their size eight-fold in a sea-sojourn of two months. A salmon weighing, when caught in its descent to the sea, 10 lbs. has been retaken on its return after a sojourn of thirty-eight days on its salt-water feeding-ground, and when recaptured it weighed 21¼ lbs. This instance of the wonderfully rapid growth of salmon occurred in the Tay near Dunkeld, and was verified by the present Duke of Athol.* Now, if

* In a private letter, dated May 11. 1845, his Grace, then Lord Glenlyon, writes, "I have received the ticket [a zinc one that had been attached to a foul fish or "kelt," caught by his Grace as it descended to the sea for the purpose of ascertaining the duration of its sojourn, and its rate of growth in salt-water.] No. 129. from Mr. Wilson, and on referring to my salmon journal, I find that I caught this

salmon increased in this ratio for the space of two seasons we should have them weighing upwards of 80 lbs. each, leviathans assuredly never seen in British waters.

I surmise and calculate on this point thus:— The growth of salmon after they arrive at a certain age is stationary or nearly so. They merely recover at sea the loss in weight they have sustained in fresh water, and from the wasting effects of spawning. Not reasoning from the extraordinarily rapid growth of the Dunkeld salmon, I will do so from what I consider to be the average rate of increase on the part of fish of large breed. A smolt going down for the first time to the sea weighing 5 oz. will attain that season the weight of 7 lbs., more or less, according to the length of time it remains there, and the quantity and quality of food it consumes. I shall be extenuating if I fix the average increase during the first season at 6 lbs. That weight will be doubled next season; then we shall have a salmon of 12 lbs. in weight,

fish as a kelt this year, on the 31st of March, with the rod, about two miles above Dunkeld-bridge, at which time it weighed exactly ten pounds; so that, in the short space of five weeks and two days, it had gained the almost incredibl increase of eleven pounds and a quarter; for, when weighed here on its arrival, it was twenty-one pounds and a quarter."

the season after that of 24 lbs., and the season after that of 48 lbs. Here we must stop, for though we sometimes, very rarely assuredly, see salmon weighing 48 lbs., we never see them of double that weight, or of 96 lbs. What is my conclusion from this most fair calculation? Why, that salmon grow very slowly after they have been three seasons at sea, that is, after they have attained their fourth year of existence, and arrived at the weight of 20 lbs. I mean very slowly in comparison with the rapidity of their growth during the second and third years of their age, and I believe that the growth of salmon after the sixth year or fifth visit to the sea is merely nominal, but at the same time I am of opinion that a fish of that age may weigh 40 lbs. Finally, if I were to be shown a Shannon or a Tweed salmon of the weight of 50 lbs., and asked its age, my answer would be ten years, or thereabouts.

Many fables have been seriously related as to the mode and means practised by salmon in leaping, and error has extensively prevailed in reference to the distance they can spring obliquely or perpendicularly beyond the surface of the water. It is a very prevalent opinion that salmon put their tails in their mouths, and by bending themselves like a bow-string to extreme tension, and

suddenly snapping the strain by prompt withdrawal of the tail from the mouth, are jerked upwards, like the dog that was sent sprawling into air by the cow with the "crumpled horns." This is merely laughable; but it is singular that Mr. Scrope, a salmon-fisher, according to his own showing, of more than a quarter of a century's experience, should have stated that on an average salmon jump no further in height than six feet, though he conceives that very large fish, in deep water, could leap much higher. Last year I paid particular attention to those points, and saw that salmon surmounting obstacles in their way as they ascended rivers, sprang straight forwards, head foremost out of the water, no doubt, in a great degree, by means of striking their fins against the water which, with accompanying muscular effort, sent them upwards and forwards. If a salmon means to sink to the bottom it strikes its fins, particularly the dorsal one against the water above. The action of the fins against the resistance offered by the volume of water above tends to force the fish downwards; on the contrary, when the fins are strongly pressed against the volume of water beneath the fish, the tendency of the pressure will be to propel the fish in a vertical direction, or upwards. The class of fish denomi-

nated cetacea, which require to rise frequently to the surface of the water for the purpose of respiration, have tails lying horizontally with the water and not perpendicularly in it. This wise provision of nature is to enable them to rise and sink in the water with greater facility. They have only to strike their flat tails against the waters in the depth of ocean, and straightway they are sent many fathoms upwards; a contrary caudal action will send them down into the deeps again. If the whale were not provided with the flat or horizontal tail it would die of suffocation, as it would then be unable to lift into vital air his huge carcase from the dark unfathomed caves in which he cannot long rest for want of ventilation. The dorsal, pectoral, and ventral fins of salmon are the agents by which they rise and sink in the water. By the agency, in great part, of the caudal fin or tail, they are enabled to propel themselves in any horizontal direction.

A salmon cannot spring far out of the water unless it be deep, but I do not think it need be very deep. In making its spring it first sinks rapidly by upward action of the fins, and then suddenly reversing their action, and finding a *point d'appui* in the volume of water under it and bringing the saltant powers of its muscles

into requisition, it bounds beyond the water's surface, in an obliquely vertical direction, a distance double that of six feet, if it is necessary that it should do so. I have seen a grilse, and not a very large one, jump upwards and forwards somewhat obliquely the length, I and another calculated, of my fishing-rod, viz., seventeen feet. Mr. Young and other observant authorities have told me, that before a portion of the mass of rock, which is the cause of the large Shin water-fall, was blasted, its first ledge was sixteen feet from the surface of the water when the river was at its average height. Salmon could spring into the water on this ledge at a bound, and then stemming the arch-formed cataract, they would ascend to the upper pools. A little below the great Shin fall is a pool, by the cliffs of the left hand bank running rapidly and deeply, called "Angus's Pool." In it I hooked one day a large grilse, which on being struck spang perpendicularly to a distance of at least ten feet—I am confident I may say twelve—above the surface of the water, and then threw a sort of descending summerset backward to the extent of sixteen or seventeen feet.

Witnessing salmon jumping will ever be a favourite amusement of mine. It completes my

admiration of the pleasantly powerful efforts and singularly interesting instincts of that fish. Last season I watched for several evenings salmon surmounting the upper Shin-fall. This cataract forms beneath it a deep, foam-bubbling pool or basin of oval shape, except that the round end at the fall is cut off, and so is the thin end at the tail of the constantly fermenting pool. On its left are high, naked, rocky cliffs; on its right are high cliffs also, but they are studded with trees and plants, amongst which the eglantine flourishes and flowers generally, and they are crowned with an attractive breadth of soft, springy green sward. Seated on it, with legs dangling from its margin, I used to watch with amusing curiosity salmon springing out of the deep and fermenting eddies ever seething and curling at the base of the rocky barrier, over which the water rushed with headlong rapidity. The lowest ledge of this barrier had been reduced, as I said before, by blasting, and was not now more than five feet above the eddy's surface. Into the water of this ledge the salmon would easily fling themselves, and then, with dorsal fins perfectly upright, and working them rapidly to and fro, they would plough their way up the sweeping torrent that was rushing over the arched rock, like a flood bursting over

the upper segment of a water-mill wheel at rest. Very few fish succeeded at the first spring, for if it was not made straight into the current, with head splitting it like a wedge, they were whirled by the force of the descending water back into the frothy pool beneath. If they sprang obliquely into the torrent, and the majority did so repeatedly, they presented shoulder and side to the furiously gushing-down stream, and the presentation of so large a resisting surface brought a larger volume of rushing water into play upon the fish, and they were rolled back as a boat would be if in ascending a rapid its broadside were presented to it instead of its prow. Neither salmon nor grilse appeared much daunted by the repeated rough rollings-over they experienced, for they were to be seen again, after a very few minutes' pause, reiterating their efforts and continuing to do so until they succeeded in making what I shall call, "the straight snout-foremost leap." Then, and it was a pretty sight to see them do it, they worked themselves upwards through the torrent, their bodies moving shortly, rapidly, and tremulously to and fro as they did so, their backs *à fleur d'eau*, and their dorsal fins quivering above it. Some bounded perpendicularly from the water at the base of the rock, some from four to twelve feet

out in a smoother part of the pool towards its middle, and many from a corner close by the left-hand side cliff, and these latter, the current not being so rapid at that point, succeeded in making good their ascent at fewer leaps than the others. I am perfectly convinced from minute observation that a grilse or salmon, having a sufficiency of water to give the requisite impulsion to its saltatory powers can spring a distance of twelve feet, and in some extraordinary instances a yard further out of the water, in a direction slanting upwards, nor is there any habit or practice on the part of this interesting fish that excites my surprise more acutely than its amazing locomotive capacity to pass through, over and against the swiftest and strongest rapids, whether deep or shallow. Salmon ascend falls principally of mornings and afternoons, and very few are seen making the attempt between ten o'clock, A.M. and two o'clock, P.M.

MIGRATION OF SALMON.—If all salmon deposited their ova at the same period of the year, and if all ova were hatched in the same number of days, which they would be if river water was always of uniform temperature, then we should have all salmon-fry of co-equal age, arriving at the smolt state at the same time, and of course migrating to the sea in vast shoals at one and the

same epoch. But as it is not so—as ova are deposited and incubated during six months of the year, the ages of salmon-fry must differ, and the period of migration must extend more or less over half the year. 'Tis true the "throng" time of migration is from the middle of April to the middle of May, because the "throng" spawning season is between the middle of November and the middle of December. If we allow, in consequence of the low temperature of water in the winter months, 140 days for incubation, its "throng" time will be between the middle of April and May. Twelve months afterwards we shall have smolts and general migration of them; but on that account let no one say that we shall not have some smolts and some migration of them in other months of the year.

When salmon having spawned and, having become "kelts," commence leaving for the sea the upper stream of rivers they generally do so singly, but when they have descended to the lower and deeper parts of pools, and particularly when they have reached the tidal ways they congregate in small companies. When these bands of fish reach the feeding-localities at sea, it is most probable they again unite, and so companies become regiments. These regiments are afterwards broken

up, and immigration to fresh water takes place in companies as did emigration to sea-water. Why? Because as all foul fish do not go to the feeding-beds at the same time, so they do not return to fresh water simultaneously. Those companies which reach the feeding places at sea first, leave them first, for no other reason than this, that their appetites are the first to inform them that they have consumed a *quantum sufficit* of sea-grown food. They would return, being "full-fed," as Mr. Young terms it, to their native rivers in larger shoals than they do, were they not scattered, injuriously dispersed, and considerably thinned by natural enemies and artificial obstructions which they encounter in the firths in their homeward journey, during which they are attacked, routed, and slain in large numbers by porpoises and seals, and impeded, caught, or driven back to sea by the greatest of all salmon-abominations, those buccaniering implements of destruction called fixed or stake-nets. These atrocious contrivances project from the shore long distances into firths, remaining fixed night and day, and as salmon travel homewards by an in-shore route, rather than a deep-sea one, incalculable is the mischief resulting from such destructive fixtures. When salmon have descended rivers to the sea

they travel northwards, and of course on their return their road runs south.

The travelling pace of salmon is slow, between two and three miles an hour. When they meet with rough streams and violent rapids they travel much faster, because if they did not call into action the full propelling powers of their fins they could not stem rapidly running waters. Before they hazard a trial of strength with the obstructing force of rapids and swift streams they take rest in some easy pool below, and this delay makes their average rate of progress be, whilst they are actually travelling, about two and a half miles an hour. I must here observe that in the spring months the locomotive powers of salmon are less by one half than in the summer months. When the temperature of the water is 70° salmon travel twice as fast as they do when the water's temperature is as low as 30°.

On re-entering their native rivers, salmon generally repose themselves in the first deep pool they come to. It may be now said that their great voyage is terminated, as they afterwards travel by very easy relays. If one day they are obliged to shoot with rapidity through strong currents, on the next they will take their ease in quiet water. After the month of June salmon

remain for several days stationary in the same pools.

In conclusion, I will state, that salmon should be considered a fresh-water fish. In fresh water it is bred, and in fresh water it remains on a general average ten months out of the twelve. The notion that salmon return from the sea to fresh water for the mere or immediate purpose of spawning is erroneous. Fish that return in the early months have their spawn in an incipient state of development, and to mature it and fit it for deposition, a period of four, five, and six months is frequently required. The truth is, salmon leave the sea when instinct tells them they are sufficiently high fed or fattened to the proper pitch nature requires, and of course for their retirement no spots can be more germane than those in which they have been bred, or in which they have previously long sojourned. Those salmon, it is true, that return to fresh water late in the season have ova far advanced towards maturity, and leave the sea not long before the spawning season. They are those exceptional fish which scarcity of food at sea, or other causes, innate or external, keep in an ill-conditioned state longer than their fellows which have fared and thrived better; or, they are those salmon that have remained longer than others

in the "kelt" or foul state in rivers before they migrated to the sea, and consequently they do not leave it until the approach of the spawning season.

THE PLATES OF SALMON-FRY DESCRIBED.

The 1st figure of plate No. VI., represents the size of the ovum, or egg, a day before it is hatched. It represents its outward appearance and very little more. Its internal appearance, or rather appearances, the art of the painter cannot fairly depict. It cannot represent, withinside a thin and distended shell, "an embryo fish, restless, and turning frequently and quickly from one side of the shell to the other, and often appearing to break out of confinement, having a conical bag attached, which is red inside and pale outside."* What the pencil cannot describe the pen can; imperfectly, certainly, for it merely tells what the investigator may observe as existing and occurring in the interior of a salmon ovum, the day before the young fish breaks through the shell.*

The 2nd figure represents the salmon fœtus

* See note, page 182, on the appearances of salmon-ova at successive stages of incubation.

The 1st figure of plate
size of the ovum, or egg,
It represents the outward
little more. Its internal
appearances, the art of the
Joplet. It cannot represent,
distended shell, "an embryo
moving frequently and quick
the shell to the other, and
break out of confinement.
attached, which is red inside
What the pencil cannot
imperfectly, certainly, for it
the investigator may observe

1
OVUM THE DAY BEFORE
BEING HATCHED
2
ONE DAY OLD
3
TWO MONTHS
4
FOUR MONTHS
5
SIX MONTHS
London Longman & Cº

one day old. Its length is the seven-eighths of an inch. It is altogether imperfectly formed. Still we see something like mouth, eyes, and head. We see a fringed body, and we see a little sac depending from the region of the thorax. This little bag contains vitelline matter for the sustentation of the fish, until it can provide for itself.

In reference to the above figures, Mr. Young has written: "When the young fish are formed, and while they are confined within the shell of the egg they lie in a circular form, and the bursting of this shell is from their endeavours to get straight. The first opening of the shell invariably takes place opposite to the back fin, or middle of the fish, and, as it were by the unstringing of a bow, the tail starts out first, and thereby leaves the fish in a straight position. The head of the fish and the conical bag remain in the shell a little longer; but from the motion of the water and the fish, they very soon throw off the last encumbrance, and appear at large in the water. From the first moments of their existence, we find them formed with fear of their enemies; for, from the least shadow passing over them, we find them endeavouring to get shelter underneath the stones and gravel of the pool, to which they hurry

with wonderful alacrity. But if we stand motionless for a short time, they emerge in myriads from their hiding-places, and then we can examine them minutely and with freedom in all their forms and appendages most correctly; we see a multitude of fishes, although yet in an embryo state, and very unlike salmon; yet we are certain that they are the young of that fish, albeit their appearance is little better than that of a tadpole. The young fish are, on an average (we must mention here that they are not all of the same size; for, from the moment of hatching, we have large and small, which distinctions continue throughout all their after ages), about three-fourths of an inch long, with the provision-bag, fully one-fourth of an inch, attached to the belly, and their heads large in comparison with the body. The bag, when carefully examined, is found to be intersected with small red branches or veins, which all collect into one, and centre at the head of the fish; and from this provision-bag, through its conduits or veins, the young fish derive all their nourishment for the first five weeks of their existence."

At this period, or, say at a month old, I have not thought it necessary to give an engraving of the fish. I'll describe its appeaaance at a month

old. Then the fringe or edge of fins that is seen in the misshapen fry of a day old, is half worn away, except at those parts where the fins are to be. The sac or bag at the belly is more than half consumed, and the body of the fish is lengthened and getting more into fish-form. Still its shape is imperfect. Of this period, Mr. Young remarks in his pamphlet, "The young fish, though they are getting into a natural form, have now arrived at a very critical period of their existence; for the time has now come when the food provided for them by nature becomes quite exhausted, and nothing remains for each but to be its own provider in the best way it can. An entire change of being now takes place, and they must leave their former sinecure habits and work for their living; but, from the sudden transition from the one state to the other, we find that numerous deaths take place amongst them. The survivors very soon become familiar with their new state of existence, and providing meat seems an amusement, as well as a duty; for we see them leaping for sport, as well as greedily catching small objects in the water. After this they improve in appearance very fast; for at the age of two months, we have a perfectly formed fish — the transverse bars visible, and the fins distinct."

The 3rd figure on the plate represents the two months old salmon-fry. In length it is $1\frac{7}{8}$ inches. Its shape is perfect, and its fins are well defined. The transverse bars, beginning at the lateral line, are visible; but not so brilliant and large as they afterwards by degrees become.

The 4th figure is that of a salmon-fry four months' old, or a day or two more or less, and $2\frac{1}{2}$ inches in length. The transverse bars, commencing above the lateral line, have increased in size and depth of colour; and little spots are visible on the back. The fins are very large in proportion to the size of the fry, showing that it is the young of salmon, and not of any small species of *salmonidæ*. The fins of a trout of the same size would be much smaller.

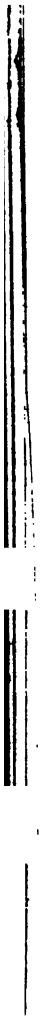
The 5th figure is that of a young salmon, at the age of six months. The drawing is that of a specimen more perfect in shape and colour than ordinarily. It is $3\frac{1}{8}$ inches in length; its colours are deepening, and the transverse bars are more largely developed. Its fins are disproportionably large in respect to the size of the body. Hitherto its growth has been rapid; but at its present age it, generally speaking, enters the cold months, and during four of them, its growth, chiefly from want of insects for food, is very slow.

The 3rd figure on the plate represents the two months old salmon-fry. Its length is 1¾ inches. Its shape is perfect, and its fins are well defined. The transverse bars, beginning at the lateral line, are visible; but not so brilliant and large as they afterwards by degrees become.

The 4th figure is that of a salmon-fry four months' old, or a day or two more or less, and 2½ inches in length. The transverse bars, commencing above the lateral line, have increased in size and depth of colour; and little spots are visible on the back. The fins are very large in proportion to the size of the fry, showing that it is the young of a salmon, and not of any small species of *salmonidæ*. The fins of a trout of the same size would be much smaller.

The 5th figure is that of a young salmon, at the age of six months. The drawing is that of a specimen more perfect in shape and colour than ordinarily. It is 3½ inches in length; its colours are deepening, and the transverse bars are more largely developed. Its fins are disproportionably large in respect to the size of the body. Hitherto its growth has been rapid; but at its present age it, generally speaking, enters the cold months, and during four of them, its growth, chiefly from want of insects for food, is very slow.

6
EIGHT MONTHS.
7
TEN MONTHS
London Longman & Co.



The 6th engraving on plate No. VII. is that of a salmon-fry of between eight and nine months old. In length it is four inches, and it is now more deeply marked with transverse bars and dorsal spots than at any other period. Those spots are sometimes of a pink hue, sometimes they are purple-coloured, and sometimes black. The latter colour they assume after death. The fish now resembles the little trout, called the parr; but its fins are much longer than those of that little fish, and its whole shape is much less perfect. Not observing these marks of distinction has led to the confounding of salmon-fry with parr; calling them, indeed, "parr," as Mr. Shaw and his followers do; whereas the parr is a distinct adult fish, of the river-trout species. I regret that, owing to the season of the year at which I made the application, I could not get a specimen of the parr, to have it engraved and coloured, and placed side by side with the salmon-fry represented on the plate I am now describing. In answer to my application, made from London, in November last, to Mr. Young, at Invershin, he wrote: "The parr you want cannot be got at this season, in consequence of the flooded state of the waters; but from the description I will give, the artist can easily engrave it. [I did not think so, and there

ELEVEN MONTHS
TWELVE MONTHS
OR SMOLT

begin to look more dimly through the scaly coating, and we now see the young fish fairly undergoing another wonderful and interesting change, and rapidly advancing towards perfection."

The 9th and last figure, is that of a smolt or salmon-fry one year old. The transverse bars are apparently gone, completely covered with silver scales. The young fish, "clean as a smelt," has assumed its migratory coat, and in colour and shape, if not in size, puts in a clear title to its salmon descent. It is now completely silver-sided. Its silver scales are easily rubbed off, and when that occurs the transverse bars become again visible, showing what caused the visible disappearance of the latter. The length of the specimen here represented was five and a half inches. Of young salmon at this stage, Mr. Young says: — "They have now got on their migratory dress, and are fully prepared to leave the streams of their nativity for the trackless ocean; they are now full of mirth and activity, gathering together, in shoals, and sporting freely among the waters; feeding greedily, and at this time, they will very readily rise at and take a fly, either natural or artificial. We have various accounts of their size at this age. Some make the smolts in general eight inches long; some allege to have seen them

ten inches, while others have ventured even as high as fourteen inches long. We could mention numbers of half-and-between experiments, from which we have various calculations, and although we are convinced that these experiments were made with the best intentions, yet they fell very far short of the truth; as the fry were often placed in ponds and places of confinement, and their ages, both when they were put in and taken out, unknown. From these imperfect experiments have arisen all the conflicting opinions regarding their size in the smolt state. In all the many congregations of smolts I have examined, their individual length varied from four to six inches, but in the great majority of instances the length was about five inches."

The reader is urged to bear in mind that our larger drawings are after specimens "born and bred" in the river Shin, and not from ova or fry taken from that river and transferred to spawning-beds or ponds fed by water proceeding from another source. On the contrary, the experiments of Mr. Shaw were made on ova and fry taken from the waters of the river Nith, and removed to experimental basins supplied by "a stream of pure spring water," or by that of "a rivulet." Hence, we presume, the tardy growth of his fry; his "con-

verted parr," as he designates it, or smolt, being two years old, whilst ours is only one. At two years old his smolt measures about six inches in length; ours at the age of one year measures five and a half inches, and at the age of two years it will be most probably a well-conditioned salmon, weighing from nine to fourteen pounds, or at any rate it will be a grilse-kelt, averaging between two and three feet in length, at a very moderate calculation, and having been of the weight of six lbs. or thereabouts at the age of eighteen months, that is at the time or nearly so of its spawning for the first time. At this age of eighteen months, Mr. Shaw's engraved specimen is about five and a half inches in length, and its transverse bars distinctly visible. It could barely weigh six ounces. Ours at that age would weigh as many pounds or more, and would be much nearer thirty-six inches in length than five and a half inches. A very great error exists somewhere. Is it ours or Mr. Shaw's? Time will tell.

CHAPTER II.

THE BREEDING OF SALMON ARTIFICIALLY.

In the procreation of salmon art can aid nature by study of nature's laws, and then carrying into practical effect the result of that study. Art can remove obstructions nature meets with in her operations — can render a field fitter for those operations than it would be under natural circumstances; but art can only be a coadjutor, and I therefore think that the epithet "artificial" applied to the breeding of salmon or any living creature is not altogether correct. Though I have used it, I do not wish it to be understood in any but a limited sense. I am going to show how salmon may be bred in part artificially. The beneficial results of being enabled to propagate the salmon tribe by controllable artificial adjuncts are many. They will make themselves self-evident to the reader of the following pages.

The first thing to be taken care of in this way of breeding salmon is that the spawning-beds which are to be artificially formed, be supplied if

possible with the water from which the ova are taken. In making experiments on the growth of salmon-fry this precaution is more absolutely necessary than when one is breeding for the sole sake of stocking a river. In all cases it will be advisable that the spawning and rearing-ponds be not fed with water of a temperature widely differing from that from which the spawn has been procured.

With these few general remarks I will transcribe the notes I have received from Mr. A. Young on this interesting and important subject. To give the seed, he says, the same advantages as that naturally spawned in rivers, the artificial breeding-ponds should be erected in the immediate vicinity of or in the river, and the ponds should be fed by a small stream, or "lead" taken from the river, so that the temperature and all the conditions of the one may in every respect agree with those of the other. At the spot you take the "lead" off the river you commence the erection of a wall to shut out the main current. The wall may be built in the river by the side of one of its banks, and its height then is to be greater than the highest flood-marks of the river. In the bottom of the wall, where it takes the "lead" off the river, an opening or drain-mouth is to be constructed of

the width of the current you wish to flow through your ponds inside the defending wall. This opening at the upper end of the wall is to be so framed that whether the state of the river is low or high, the supply of water to the pond will be neither injuriously diminished nor increased. The drain-mouth, or opening in the wall is to be secured by a strong iron grating, the bars of which are to be half-an-inch apart. This grating will prevent the accumulation in the ponds of anything hurtful to them.

The bed of the ponds must be dug up to the depth of about five feet, and they must be nine feet in width, and eighteen in length. Their bottom must be lower by five feet than that of their feeder. The bottom, however, must not be quite flat, but graduated, rising from the end furthest from the head of the current towards the opening or drain-mouth. The necessary inclination can be given to the bottom of the pond, by beginning with a layer of gravel one foot thick at the furthest end, and finishing off towards the mouth with a layer of gravel, eighteen inches in depth. The bottom of the pond will thus become an inclined plane. The ova are to be deposited at the top of the gradient, where you have finished off with a layer of eighteen inches of gravel, in

order that they may have the benefit of sharply running water. The lower part of the inclined plane, or the deepest part of the pond, suits best the fry after incubation.

The walls that are to secure the ponds must be strongly built of rough stone. No lime must be used in the construction of the walls, or of any thing connected with the ponds. Every one ought to know the destructive effects of lime upon fish. To secure the ponds from the entrance of the smallest fish, besides the iron grating already mentioned, there must be another fixed inside it of copper wire closely interlaced, so closely as to prevent the possibility of the smallest trout passing through the interstices. If a diminutive trout should enter, it would devour the fry as soon as they were hatched. Each end of the pond should be secured in the same way. At the end where the pond-water runs out there should be if possible a fall into the river, which would effectually prevent the ascension to the ponds of any predatory fish.

Some persons have tried artificial breeding in ponds supplied with water from springs and hill-burns, but in such trials no sensible person ought to expect satifactory results, or at any rate results similar to those that would be derived by the use

of ponds constructed in salmon-rivers, or fed by water directly emanating from them. Both the development of the fish *in ovo* and *ab ovo* depends upon the temperature of the water, and we know that a single frosty night will reduce by many degrees the temperature of rills and rivulets, whereas the currents of large rivers are little affected by it. Fry hatched in ponds fed by these hill-streams must be stinted in growth — kept in a *status quo* during many weeks — and they can never arrive at the smolt state in the same period of time as fry produced and bred in the waters of rivers. These latter fry are in their natural element — natural in its temperature and in the food, insects and so forth, it produces. On the contrary, fry bred in ponds fed by springs or hill-burns are, as it were, subjected to a different climate, strange and unnatural to them, barren, or nearly so, of insects, and foreign to their innate tastes. Their progress in growth, therefore, cannot equal that of fry bred in favourable localities.

When the ponds are perfectly formed and constructed they should be filled with water, and it should be allowed to run freely into and out of them for a few days previously to depositing the spawn in them. This is necessary in order that the newly laid gravel may be washed well, the

beds properly seasoned, and all mud or alluvial matter got rid of. The artificial spawning-beds must be reduced as nearly as can be to the condition of the naturally formed ones of rivers.

The next step to be taken is towards procuring proper spawn for deposition in the ponds. To do so we must watch carefully some natural spawning-pond of the river at the time when the operations of spawning are going on, and we must capture a pair of salmon that have actually commenced the spawning process. If we do not, we cannot be sure of procuring spawn in a ripe state. We must avoid capturing at random any pair of fish we may see on the spawning-bed, because many consorted males and females are to be seen hovering about the spawning-grounds several days before they begin depositing their spawn. If from such fish ova are expressed by manipulation they will be found in an immature state, their pores not as yet open for the reception or absorption of the milt, and expressing it over them will not produce impregnation. On the contrary, when a pair, of course, male and female, that have commenced spawning are captured, their ova and milt will be found in the mature state required, or at least, a portion of them. A vessel, can, pail, or small tub, must be ready, containing a small portion of

clean gravel from the river, and as much river water as will cover the gravel, and the seed about to be deposited in it. The female salmon just captured must be held up by the head over the vessel with one hand, whilst with the other hand gentle pressure is made down the belly of the fish. This pressure will cause the expulsion of all the ova that are mature, which will be received in the vessel. The male fish is then to be held and pressed in the same way, which will cause the emission of mature milt into the vessel. The fish are to be returned to their native element, where, if the manipulator be not a rough one, they will speedily recover, and when the remaining spawn, not artificially forced from them, becomes mature they will deposit it as if nothing had happened.

Having expressed ova and milt into the vessel, it must be shaken so that gravel, water, milt and ova be properly mixed, and that no ova escape from coming into contact with portions of milt. If any do they will not be impregnated. On the contrary, the ova that are touched by the milt are impregnated, and if properly cared for will in due time produce young salmon.

I solicit the attention of the owners of rivers to the following great fact: — Salmon-spawn artificially expressed from parent fish, and treated in

the manner just now directed, may be conveyed without injury very long distances — from rivers in one country to rivers in another. Salmon-spawn containing the vivifying germ may be taken from any of the rivers of the British isles, and conveyed not only to any river on the continent of Europe, but to those of other divisions of the globe. The time may come when it may be conveyed to Australia, Van Diemen's Land, &c., in order to colonise the rivers of those countries with the finest and most valuable fish indigenous to the nor'ard rivers of the northern hemisphere. After the ova and milt are expressed, and mixed together in the sand and water of the vessel prepared to receive them, nothing more is necessary to preserve them on a voyage than a change of water every twelve hours. At each conclusion of that interval of time, the stale water is to be poured off, and the same quantity of pure fresh water substituted.

To return to our artificial pond now ready for the reception of the impregnated spawn. It must be imbedded at the head of the pond — at the commencement of the inclination of its bottom, in a small trench about five inches in depth, formed longitudinally with the current and not across it. The spawn must not be laid all of a heap in the

trench, but carefully mixed with gravel all over its bottom, and then covered in with the gravel that has been excavated in forming the breeding-furrow. The trench and its covering must be on the slightly inclined-plane principle. The gravel with which the trench is covered in must not be pressed down, except very slightly, in order not to prevent the free percolation of the water, which must have full ingress and egress to and from the spot where the seed lies deposited. The action and contact of moving water are essentially necessary to perfect this strange incubating process. Without them ova will be non-productive, for placed in gravel at the bottom of still, or sluggishly running water, they will putrify, or, to use a generally known expression, they will be "addled."

For the purpose of making experiments, such as watching the alterations that take place in the ova during their progress towards expulsion of the fœtus, small wire baskets may be used. In them spawn mixed with gravel is to be placed, and they are to be put into the trenches of the ponds. They are to be taken out from time to time to ascertain the condition of the ova, some of which can be extracted and preserved for the information of students in natural history. The

baskets can be replaced without any injury to the ova that remain in them. The breeding trenches described in the paragraph preceding this, destined for the propagation of stock or store salmon, should never be disturbed.

The trenches of artificial ponds do not require to be made so deep as the excavations salmon make when they form their own spawning-beds, because, in ponds rightly constructed, the volume and force of water in them, and passing over and through the gravel of the artificially constructed beds, scarcely ever vary. It is not so with the water in which salmon form their breeding-beds. They are subjected to great variations in volume and strength of water, and if they were not deeply excavated, under a sufficiently resisting weight of gravel, it and them would be frequently washed away, and destroyed by the force of winter floods.

When the spawn is fairly deposited in the ponds, either by means of trenches or wire baskets, all that the breeder has to do is to see daily that the grating through which the water feeding the ponds flows is free from all obstructions — that the stream flows into ponds fairly and regularly, and that their supply of water is always of the proper uniformity, neither diminished by dry

weather and low water in the river, nor influenced in any way by floods. If every thing is done as recommended, the ova will be hatched in seasons of high temperature in a period of about 100 days. Ova deposited in the early part of September, taking the average temperature of late seasons, will be hatched in 90 days, or thereabouts; but ova deposited in November, subjected as they must be to the low temperature of the winter months, will not be incubated or hatched in less than from one hundred to one hundred and forty days. The variation will depend on the mildness or severity of the winter.

Salmon-fry bred in artificial ponds may be allowed to remain in them one whole year, that is, until they have assumed their silver-hued, migratory dress. They are then to be turned free into the river, when they will go to sea and return from it as regularly as those fish which have been produced by the natural process. There are two ways for stocking rivers with salmon, whether they be rivers in which salmon have never bred, or rivers in which they formerly bred, but in which the race is partly or totally extinct by the carelessness or mismanagement of man. The first is by conveying to them impregnated

ova, and burying them in the gravel of running water after the manner already shown. The second method is by transferring to them parent fish of both sexes, at the time of their commencing in their native rivers the operations of spawning. The transferred fish must be placed in a deep pool of the new river, from which they will ascend and select appropriate spawning localities.

The laws regulating the salmon-fisheries in Scotland and Ireland do not require material amendment. The chief one required is the limitation of net-fishing, cruives, and so forth to the 20th August. Angling, — I mean fly-fishing for salmon, — may be permitted for a month later. The rivers of England and Wales, without any exception, should be placed under the nearly wholesome restrictions to which happily those of Ireland and Scotland are subjected.

I conclude these pages cheered by the hope that they will lead to the propagation and preservation of salmon on a far more extended, liberal, and enlightened scale than hitherto—that at a time when so much attention is directed to waste lands, they will cause it to be likewise directed to waste waters, in which exist abundant fertile elements of most valuable production, in

the shape of food, as delicately palatable as it is highly nutritious, and which elements require less care and labour to render their cultivation more profitable than that of any portion of waste land in the empire.

No, this volume must not be concluded with a utilitarian sentence. Our first sporting love — fly-fishing — must not be forgotten. *On n'oublie jamais ce qu'on a une fois aimé.* For what I loved once and love still, the delightfully animating practice of salmon-fishing, let me offer up a parting wish — that no one may find in my treatment of the art in the first portion of this little tome any thing that does not smack, slightly at least, of amusement and instruction!

THE END.

LONDON:
SPOTTISWOODES and SHAW,
New-street-Square.

I.

A HAND-BOOK OF ANGLING; Teaching Fly-fishing, Trolling, Bottom-fishing, Salmon-fishing; with the Natural History of River Fish, and the best modes of Catching them. By EPHEMERA. New Edition, enlarged. Fcp. 8vo. with numerous Woodcuts, 9*s*.

"A volume full of practical directions touching the different kinds of angling; written in an agreeable style, as if the author were talking to his readers." SPECTATOR.

"There is no book with which we are acquainted, professing to be 'a plain, practical, sensible book' on the subject, so well entitled to that praise as the work before us."
MORNING CHRONICLE.

II.

THE ROD AND LINE; Or, Practical Hints and Dainty Devices for the sure Taking of Trout, Grayling, &c. By HEWETT WHEATLEY, Esq. Senior Angler. Fcp. 8vo. with Nine coloured Plates, 10*s*. 6*d*.

"We have perused carefully Mr. Wheatley's book, and have great satisfaction in declaring it to be a most valuable instructor and guide to the fisherman who pursues the noblest and liveliest inhabitants of the stream; viz. the salmon, the trout, and the grayling." MORNING POST.

"Mr. Wheatley does not attempt to teach the tyro, but only to furnish hints and directions to the advanced angler. These hints are original, and relate to various arts, and what in the trade are called 'secrets,' by which the finny tribe may be tricked on to the hook." SPECTATOR.

"Besides smart, pungent, and practically profound dissertations on the rod and line, this clever volume teems with practical hints. . . . The book is pleasantly written, and beneath a semblance of levity will be found enunciated a mass of sterling information." BELL'S LIFE IN LONDON.

III.

THE FLY-FISHER'S ENTOMOLOGY. Illustrated by coloured representations of the Natural and Artificial Insect; and accompanied by a few Observations and Instructions relative to Trout-and-Grayling Fishing. By ALFRED RONALDS. Fourth Edition, corrected; with Twenty copper-plates. 8vo. 14*s*.

IV.

INSTRUCTIONS TO YOUNG SPORTSMEN in all that relates to Guns and Shooting. By Lieut.-Col. P. Hawker. New Edition, corrected, enlarged, and improved; with Eighty-five Plates and Woodcuts. 8vo. 21*s.*

V.

AN ENCYCLOPÆDIA OF RURAL SPORTS: Comprising Hunting, Racing, Fishing, Shooting, Coursing, Diseases of Horses and Dogs, Stable and Kennel Management, Training, &c. By Delabere P. Blaine. With nearly 600 Woodcuts. 8vo. 50*s.*

VI.

PRACTICAL HORSEMANSHIP. By Harry Hieover. Uniform with "The Pocket and the Stud." With Two Plates, one representing "Going like Workmen;" the other, "Going like Muffs." Fcp. 8vo.

VII.

THE STUD FOR PRACTICAL PURPOSES and Practical Men: being a Guide to the Choice of a Horse for use more than for show. By Harry Hieover. With Two Plates, one representing "A pretty good sort for most purposes;" the other, "'Raythe' a bad sort for any purpose." Fcp. 8vo. 5*s.*

VIII.

THE POCKET AND THE STUD; Or, Practical Hints on the Management of the Stable. By Harry Hieover. With a Portrait of the Author on his favourite Horse "Harlequin." Fcp. 8vo. 5*s.*

IX.

STABLE TALK AND TABLE TALK; Or, Spectacles for Young Sportsmen. By Harry Hieover. New Edition. 2 vols. 8vo. with Portrait, 24*s.*

X.

HAWBUCK GRANGE; Or, the Sporting Adventures of Thomas Scott, Esq. By the Author of "Handley Cross; or, the Spa Hunt." With Eight Illustrations by Phiz. 8vo. 12*s.*

London: LONGMAN, BROWN, GREEN, & LONGMANS.

NEW WORKS

IN MISCELLANEOUS AND GENERAL LITERATURE,

PUBLISHED BY

MESSRS. LONGMAN, BROWN, GREEN, AND LONGMANS,

PATERNOSTER ROW, LONDON.

CLASSIFIED INDEX.

AGRICULTURE & RURAL AFFAIRS.

	Pages
Bayldon on Valuing Rents, etc.	6
Crocker's Land Surveying	9
Johnson's Farmer's Encyclopædia	16
Loudon's Encyclopædia of Agriculture	19
,, Self-Instruction for Farmers, etc.	18
,, (Mrs.) Lady's Country Companion	18
Low's Breeds of the Domesticated Animals	19
,, Elements of Agriculture	19
,, On Landed Property	19
,, On the Domesticated Animals	19
Parnell on Roads	24
Thomson on Fattening Cattle, etc.	30

ARTS, MANUFACTURES, AND ARCHITECTURE.

Ball on the Manufacture of Tea	5
Brande's Dictionary of Science, etc.	7
Budge's Miner's Guide	7
Cartoons (The Prize)	8
Cresy's Encycl. of Civil Engineering	9
D'Agincourt's History of Art	9
Dresden Gallery	10
Eastlake on Oil Painting	10
Evans's Sugar Planter's Manual	11
Fergusson on Beauty in the Arts	11
Gwilt's Encyclopædia of Architecture	12
Haydon's Lectures on Painting & Design	13
Holland's Manufactures in Metal	17
Jameson's Sacred and Legendary Art	15
Loudon's Rural Architecture	19
Moseley's Engineering and Architecture	23
Parnell on Roads	24
Porter's Manufacture of Silk	17
,, Porcelain & Glass	17
Reid (Dr.) on Warming and Ventilating	25
Scoffern on Sugar Manufacture	27
Steam Engine (The), by the Artisan Club	5
Twining on Painting	31
Ure's Dictionary of Arts, etc.	31
Wood on Railroads	32

BIOGRAPHY.

Andersen's (H. C.) Autobiography	5
Bell's Lives of the British Poets	17
Collins's Life of Collins	8
Dunham's Early Writers of Britain	17
,, Lives of the British Dramatists	17
Forster's Statesmen of the Commonwealth	17
Foss's Judges of England	11
Gleig's British Military Commanders	17
Grant (Mrs.) Memoir and Correspondence	12
Humphreys's Black Prince	15
James's Life of the Black Prince	15
,, Eminent Foreign Statesmen	17
Kindersley's De Bayard	16
Leslie's Life of Constable	18
Mackintosh's Life of Sir T. More	20
Maunder's Biographical Treasury	22
Roscoe's Lives of Eminent British Lawyers	17
Rowton's British Poetesses	26
Russell's Bedford Correspondence	6
Shelley's Literary Men of Italy, etc.	17
,, Eminent French Writers	17
Southey's Lives of the British Admirals	17
,, Life of Wesley	29
,, Life and Correspondence	28
Stephen's Ecclesiastical Biography	29
Taylor's Loyola	30
Townsend's Twelve eminent Judges	31
Waterton's Autobiography and Essays	32

BOOKS OF GENERAL UTILITY.

Acton's (Eliza) Cookery Book	5
Black's Treatise on Brewing	6
Cabinet Lawyer (The)	8
Donovan's Domestic Economy	17
Foster's Hand book of Literature	11
Hints on Etiquette	13
Hudson's Executor's Guide	15
,, On Making Wills	15
Loudon's Self Instruction	18
,, (Mrs.) Amateur Gardener	18
Maunder's Treasury of Knowledge	22
,, Scientific and Literary Treasury	21
,, Treasury of History	21
,, Biographical Treasury	22
,, Natural History	22
Parkes's Domestic Duties	24
Pocket and the Stud	25
Pycroft's Course of English Reading	25
,, Collegian's Guide	25
Reader's Time Tables	25
Rich's Companion to the Latin Dictionary	25
Riddle's Latin Dictionaries and Lexicon	26
Robinson's Art of Curing, Pickling, etc.	26
,, Art of Making British Wines,	26
Rowton's Debater	26
Short Whist	27
Stud (The) for Practical Purposes	29
Suitor's Instructor (The)	30
Thomson's Management of Sick Room	30
,, Interest Tables	30
Webster's Encycl. of Domestic Economy	32
Zumpt's Latin Grammar	32

BOTANY AND GARDENING.

Ball on the Cultivation of Tea	5
Calicott's Scripture Herbal	8
Conversations on Botany	8
Evans's Sugar Planter's Manual	11
Henslow's Botany	17
Hoare On the Grape Vine on Open Walls	14
,, On the Roots of Vines	14
Hooker's British Flora	14
,, Guide to Kew Gardens	14
Lindley's Theory of Horticulture	18
,, Orchard and Kitchen Garden	18
,, Introduction to Botany	18
,, Synopsis of British Flora	18
Loudon's Hortus Britannicus	19
,, Hortus Lignosus Londinensis	19
,, Encyclopædia of Trees & Shrubs	18
,, ,, Gardening	19

London: Printed by M. MASON, Ivy Lane, Paternoster Row.

Pages

Loudon's Encyclopædia of Plants - - 19
,, Self-Instruction for Gardeners 18
,, (Mr.) Amateur Gardener - - 18
Rivers's Rose Amateur's Guide - - 26
Rogers's Vegetable Cultivator - - - 26
Schleiden's Botany, by Lankester - - 27

CHRONOLOGY.

Allen on the Rise of the Royal Prerogative, etc. - - - - - 5
Blair's Chronological Tables - - - 6
Bunsen's Ancient Egypt - - - 7
Nicolas's Chronology of History - - 17
Riddle's Ecclesiastical Chronology - - 26

COMMERCE AND MERCANTILE AFFAIRS.

Banfield and Weld's Statistics - - 6
Gilbart's Treatise on Banking - - 12
Gray's Tables of Life Contingencies - 12
Lorimer's Letters to a Master Mariner - 18
M'Culloch's Dictionary of Commerce - 20
Reader's Time Tables - - - - 26
Steel's Shipmaster's Assistant - - - 29
Thomson's Tables of Interest - - - 30
Walford's Customs' Laws - - - 32

GEOGRAPHY AND ATLASES.

Butler's Ancient and Modern Geography 7
,, Atlas of General Geography - 7
De Strzelecki's New South Wales - - 10
Erman's Travels through Siberia - - 11
Forster's Historical Geography of Arabia 11
Hall's Large Library Atlas - - - 13
M'Culloch's Geographical Dictionary - 20
Mitchell's Australian Expedition - - 22
Murray's Encyclopædia of Geography - 23
Parrot's Ascent of Mount Ararat - - 24

HISTORY AND CRITICISM.

Bell's History of Russia - - - - 17
Blair's Chron. and Historical Tables - 6
Bloomfield's Translation of Thucydides - 6
,, Edition of Thucydides - - 6
Bunsen's Ancient Egypt - - - 7
Coad's Memorandum - - - - 8
Conybeare and Howson's St. Paul - - 8
Cooley's Maritime and Inland Discovery 17
Crowe's History of France - - - 17
De Sismondi's Fall of the Roman Empire 17
,, Italian Republics - - 17
Dunham's History of Spain and Portugal 17
,, Europe in the Middle Ages - 17
,, History of the German Empire 17
,, Denmark, Sweden, and Norway 17
,, History of Poland - - - 17
Dunlop's History of Fiction - - 10
Eastlake's History of Oil Painting - 10
Eccleston's English Antiquities - - 10
Foss's Judges of England - - - 11
Foster's European Literature - - - 11
Fergus's United States of America - 17
Gibbon's Roman Empire - - - - 12
Grant (Mrs.) Memoir and Corespondence 12
Grattan's History of Netherlands - - 17
Grimblot's William III. and Louis XIV. 12
Harrison On the English Language - 13
Haydon's Lectures on Painting and Design 13
Historical Pictures of the Middle Ages - 14
Humphreys's Black Prince - - - 15
Jeffrey's (Lord) Contributions - - 15
Keightley's Outlines of History - - 17
Kemble's Anglo-Saxons in England - 16
Laing's Kings of Norway - - - 16
Macaulay's Essays - - - - 20
,, History of England - - 20

Pages

Mackintosh's History of England - - 17
,, Miscellaneous Works - 20
M'Culloch's Dictionary, Historical, Geographical, and Statistical - - 20
Maunder's Treasury of History - - 21
Merivale's History of Rome - - - 22
Milner's Church History - - - 22
Moore's History of Ireland - - - 17
Mosheim's Ecclesiastical History - - 23
Mure's Ancient Greece - - - 23
Nicolas's Chronology of History - - 17
Passages from Modern History - - 28
Ranke's History of the Reformation - 25
Rich's Companion to the Latin Dictionary 25
Riddle's Latin Dictionaries - - - 26
Rome, History of - - - - - 17
Rowton's British Poetesses - - - 26
Russell's Bedford Correspondence - 6
Scott's History of Scotland - - - 17
Sinnett's Byways of History - - - 28
Southey's Doctor, etc. - - - - 28
Stebbing's History of the Christian Church 17
,, Church History - - - 17
Stephen's Essays - - - - - 29
Switzerland, History of - - - 17
Sydney Smith's Works - - - 28
Taylor's Loyola - - - - - 30
Thirlwall's History of Greece - - - 30
Tooke's Histories of Prices - - - 31
Turner's History of England - - - 31
Twining's Philosophy of Painting - - 31
Zumpt's Latin Grammar - - - - 32

JUVENILE BOOKS.

Amy Herbert - - - - - - 27
Gertrude - - - - - - - 27
Gower's Scientific Phenomena - - 12
Howitt's Boy's Country Book - - - 14
,, Children's Year - - - 14
Laneton Parsonage - - - - - 27
Mackintosh's Life of Sir T. More - - 20
Mrs. Marcet's Conversations - - - 21
Margaret Percival - - - - - 27
Marryat's Masterman Ready - - - 21
,, Privateer's-Man - - - 21
,, Settlers in Canada - - 21
,, Mission; or, Scenes in Africa 21
Passages from Modern History - - 28
Pycroft's Course of English Reading - 25
Twelve Years Ago: a Tale - - - 31

MEDICINE.

Bull's Hints to Mothers - - 7
,, Management of Children - - 7
Copland's Dictionary of Medicine - - 8
Elliotson's Human Physiology - - 10
Holland's Medical Notes - - - - 14
Latham On Diseases of the Heart - - 16
Pereira On Food and Diet - - - 24
Thomson On Food - - - - - 30

MISCELLANEOUS.

Allen on Royal Prerogative - - - 5
Cartoons (The Prize) - - - - 8
Coad's Memorandum - - - - 6
Colton's Lacon - - - - - 8
De Jaenisch On Chess Openings - - 9
De la Gravière's Last Naval War - - 9
De Morgan On Probabilities - - - 17
De Strzelecki's New South Wales - - 10
Disney's Museum Disneianum - - - 10
Dresden Gallery - - - - - 10
Dunlop's History of Fiction - - - 10
Gardiner's Sights in Italy - - - 12
Gower's Scientific Phenomena - - 12
Graham's English - - - - - 12
Grant's Letters from the Mountains - 12
Hooker's Kew Guide - - - - 14

Pages

Howitt's Rural Life of England - 14
,, Visits to Remarkable Places - 14
,, Rural and Social Life of Germany 14
,, Colonisation and Christianity - 15
Jeffrey's (Lord) Contributions - 15
Loudon's (Mrs.) Lady's Country Companion 18
Macaulay's Critical and Historical Essays 20
Mackintosh's (Sir J.) Miscellaneous Works 20
Maitland's Church in the Catacombs - 20
Necker De Saussure's on Education - 23
Pascal's Miscellaneous Writings - - 24
,, Provincial Letters - - - 24
Plunkett On the Navy - - - - 25
Pycroft's Collegian's Guide - - - 25
,, Course of English Reading - 25
Rich's Companion to the Latin Dictionary 25
Richter's Levana - - - - - 25
Riddle's Latin Dictionaries and Lexicon 26
Rowton's Debater - - - - - 26
Sandford's Parochialia - - - - 26
Seaward's Narrative of his Shipwreck - 27
Sir Roger De Coverley - - - 28
Southey's Common-Place Book - - 29
,, Doctor, etc. - - - - 29
Suitor's Instructor (The) - - - 30
Sydney Smith's Works - - - - 28
Thomson on Food of Animals, etc. - - 30
Walker's Chess Studies - - - - 32
Willoughby's (Lady) Diary - - - 32
Zumpt's Latin Grammar - - - - 32

NATURAL HISTORY IN GENERAL.

Catlow's Popular Conchology - - - 8
Doubleday's Butterflies and Moths - 10
Gray and Mitchell's Ornithology - - 12
Kirby and Spence's Entomology - - 16
Lee's Taxidermy - - - - - 18
,, Elements of Natural History - - 18
Maunder's Treasury of Natural History 21
Stephens' British Beetles - - - 29
Swainson on the Study of Natural History 17
,, Animals - - - - 17
,, Quadrupeds - - - - 7
,, Birds - - - - - 17
,, Animals in Menageries - 17
,, Fish, Amphibia, and Reptiles 17
,, Insects - - - - 17
,, Malacology - - - - 17
,, Habits and Instincts - - 17
,, Taxidermy - - - - 17
Turton's Shells of the British Islands - 31
Waterton's Essays on Natural History - 32
Westwood's Classification of Insects - 32

NOVELS AND WORKS OF FICTION.

Dunlop's History of Fiction - - - 10
Elstvõs' Village Notary - - - - 11
Hall's Midsummer Eve - - - 13
Lady Willoughby's Diary - - - 32
Landor's Fountain of Arethusa -
Madame De Malguet - - - - 20
Marryat's Masterman Ready - - - 21
,, Privateer's-Man - - - 21
,, Settlers in Canada - - - 21
,, Mission; or, Scenes in Africa - 21
Senior's Charles Vernon - - - - 27
Sinclair's Sir Edward Graham - - - 27
Sir Roger de Coverley - - - - 28
Southey's Doctor, etc. - - - - 29
Twelve Years Ago: a Tale - - - 31

ONE VOLUME ENCYCLOPÆDIAS AND DICTIONARIES.

Blaine's, of Rural Sports - - - - 6
Brande's, of Science, Literature, and Art 7
Copland's, of Medicine - - - - 9

Pages

Cresy's, of Civil Engineering - - - 9
Gwilt's, of Architecture - - - - 12
Johnson's Farmer - - - - - 16
Loudon's, of Trees and Shrubs - - 18
,, of Gardening - - - - 19
,, of Agriculture - - - - 19
,, of Plants - - - - - 19
,, of Rural Architecture - - 19
M'Culloch's Geographical Dictionary - 20
,, Dictionary of Commerce - 20
Murray's Encyclopædia of Geography - 25
Ure's Arts, Manufactures, and Mines - 31
Webster's Domestic Economy - - 32

POETRY AND THE DRAMA.

Aikin's (Dr.) British Poets - - - 5
Chalenor's Walter Gray - - - - 8
Flowers and their Kindred Thoughts - 11
Fruits from the Garden and Field - - 12
Goldsmith's Poems, illustrated - - 12
Gray's Elegy, illuminated - - - 12
Hey's Moral of Flowers - - - - 13
,, Sylvan Musings - - - - 13
L. E. L.'s Poetical Works - - - 16
Linwood's Anthologia Oxoniensis - - 18
Macaulay's Lays of Ancient Rome - - 20
Mackay's English Lakes - - - - 20
Montgomery's Poetical Works - - 22
Moore's Irish Melodies - - - - 23
,, Lalla Rookh - - - - 23
,, Poetical Works - - - - 23
,, Songs and Ballads - - - 23
Rowton's British Poetesses - - - 26
Shakspeare, by Bowdler - - - 27
Songs, Madrigals, and Sonnets - - 28
Southey's Poetical Works - - - 29
,, British Poets - - - - 29
Swain's English Melodies - - - 30
Thomson's Seasons, illustrated - - 30
,, with Notes, by Dr. A. T Thomson 30

POLITICAL ECONOMY AND STATISTICS.

Banfield and Weld's Statistics - - 5
Gilbart's Treatise on Banking - - 12
Gray's Tables of Life Contingencies - 12
M'Culloch's Geographical, Statistical, and Historical Dictionary - - - 20
M'Culloch's Dictionary of Commerce - 20
,, Literature of Polit. Economy 20
,, On Succession to Property - 20
,, On Taxation and Funding - 20
,, Statistics of the British Empire 20
Marcet's Conversations on Polit. Economy 21
Tooke's Histories of Prices - - - 31

RELIGIOUS AND MORAL WORKS, ETC.

Amy Herbert, edited by Rev. W. Sewell 27
Barrett's Old Testament Criticisms - - 6
Blakey on Christianity - - - - 6
Bloomfield's Greek Testament - - 6
,, College and School ditto - 6
,, Lexicon to Greek Testament 6
Book of Ruth (illuminated) - - - 7
Bunsen's Church of the Future - - 7
Burder's Oriental Customs - - - 7
Burns's Christian Philosophy - - - 7
,, Christian Fragments - - - 7
Callcott's Scripture Herbal - - - 8
Conybeare and Howson's St. Paul - - 8
Cooper's Sermons - - - - - 8
Coquerel's Christianity - - - - 9
Dale's Domestic Liturgy - - - - 9
Dibdin's Sunday Library - - - - 10

	Pages
Discipline	10
Ecclesiastes (illuminated)	10
Englishman's Hebrew Concordance	11
,, Greek Concordance	11
Etheridge's Acts and Epistles	11
Forster's Historical Geography of Arabia	11
From Oxford to Rome	12
Gertrude, edited by the Rev. W. Sewell	27
Hook's (Dr.) Lectures on Passion Week	14
Horne's Introduction to the Scriptures	14
,, Compendium of ditto	14
Jameson's Sacred and Legendary Art	15
,, Monastic Legends	15
Jebb's Translation of the Psalms	15
Jeremy Taylor's Works	16
Kip's Christmas in Rome	16
Laneton Parsonage	27
Letters to my Unknown Friends	18
Maitland's Church in the Catacombs	21
,, on Prophecy	20
Margaret Percival	27
Marriage Service (illuminated)	21
Maxims, etc. of the Saviour	22
Milner's Church History	22
Miracles of Our Saviour	22
Moore on the Power of the Soul	22
,, on the Use of the Body	22
,, on Man and his Motives	22
Morell's Philosophy of Religion	23
Mosheim's Ecclesiastical History	23
Neale's Closing Scene	24
Parables of Our Lord	24
Parkes's Domestic Duties	24
Pascal's Letters, by Pearce	24
Ranke's Reformation	25
Rest in the Church	25
Riddle's Letters from a Godfather	25
Sandford On Female Improvement	26
,, On Woman	26
,, 's Parochialia	26
Sermon on the Mount (The)	27
Shunammite (The Good)	27
Sinclair's Journey of Life	28
,, Business of Life	27
Sketches (The)	28
Smith's (G.) Perilous Times	28
,, Religion of Ancient Britain	28
,, Sacred Annals	28
,, (J.) St. Paul's Shipwreck	28
Soames's Latin Church	28
Solomon's Song (illuminated)	28
Southey's Life of Wesley	29
Stebbing's Christian Church	17
,, Reformation	17
Stephen's Church of Scotland	29
Sydney Smith's Sermons	28
Tate's History of St. Paul	30
Tayler's (Rev. C. B.) Margaret	30
,, ,, Lady Mary	30
Taylor's (J.) Thumb Bible	31
,, (Isaac) Loyola	30
Tomline's Introduction to the Bible	31
Turner's Sacred History	31
Twelve Years Ago	31
Walker's Elementa Liturgica	32
Wardlaw On the Socinian Controversy	32
Wilberforce's View of Christianity	32
Willoughby's (Lady) Diary	32
Wilson's Lands of the Bible	32
Wisdom of Johnson's Rambler, etc.	16
Woodcock's Scripture Lands	32

RURAL SPORTS.

	Pages
Blaine's Dictionary of Sports	6
Ephemera on Angling	11
Hawbuck Grange	13
Hawker's Instructions to Sportsmen	13
Loudon's (Mrs.) Lady's Country Companion	18
Pocket and the Stud	25
Stable Talk and Table Talk	29
The Stud, for Practical Men	29

THE SCIENCES IN GENERAL, AND MATHEMATICS.

	Pages
Baker's Railway Engineering	6
Brande's Dictionary of Science, etc.	7
Brewster's Optics	17
Conversations on Mineralogy	8
De la Beche on the Geology of Cornwall, etc.	9
Donovan's Chemistry	17
Farey on the Steam Engine	11
Fosbroke on the Arts of the Ancients	17
Gower's Scientific Phenomena	12
Herschel's Natural Philosophy	17
,, Astronomy	17
,, Outlines of Astronomy	13
Holland's Manufactures in Metal	17
Humboldt's Aspects of Nature	14
,, Cosmos	15
Hunt's Researches on Light	15
Kane's Chemistry	16
Kater and Lardner's Mechanics	17
Lardner's Cabinet Cyclopædia	17
,, Hydrostatics and Pneumatics	17
,, and Walker's Electricity	17
,, Arithmetic	17
,, Geometry	17
,, Treatise on Heat	17
Low's Chemistry	19
Marcet's Conversations on the Sciences	21
Matteucci On Physical Phenomena	21
Memoirs of the Geological Survey	22
Moseley's Practical Mechanics	23
,, Engineering and Architecture	23
Owen's Comparative Anatomy	24
Peschel's Physics	24
Phillips's Palæozoic Fossils of Cornwall, etc.	24
,, Mineralogy, by Prof. Miller	25
,, Treatise on Geology	17
Portlock's Geology of Londonderry	25
Powell's Natural Philosophy	17
Ritchie (Robert) on Railways	26
Schleiden's Scientific Botany	27
Steam Engine (Ure), by the Artisan Club	5
Thomson's School Chemistry	30

TRAVELS.

	Pages
Borrer's Campaign in Algeria	7
Costello's (Miss) North Wales	8
Coulter's California, etc.	9
,, Pacific	9
De Strzelecki's New South Wales	10
Dunlop's Central America	10
Erman's Travels through Siberia	11
Gardiner's Sights in Italy	12
Head's Tour in Rome	13
Humboldt's Aspects of Nature	14
Kip's Holydays in Rome	16
Laing's Tour in Sweden	16
Mackay's English Lakes	20
Marryat's Borneo	21
Mitchell's Expedition into Australia	22
Parrot's Ascent of Mount Ararat	24
Power's New Zealand Sketches	26
Seaward's Narrative of his Shipwreck	27
Von Orlich's Travels in India	31
Wilson's Travels in the Holy Land	32
Woodcock's Scripture Lands	32

VETERINARY MEDICINE

	Pages
Pocket and the Stud	25
Stable Talk and Table Talk	29
The Stud, for Practical Purposes	29
Thomson on Fattening Cattle	30

NEW WORKS AND NEW EDITIONS

PUBLISHED BY

MESSRS. LONGMAN, BROWN, GREEN, AND LONGMANS.

ACTON.—**MODERN COOKERY,**
In all its Branches, reduced to a System of Easy Practice. For the use of Private Families. In a Series of Practical Receipts, all of which have been strictly tested, and are given with the most minute exactness. By Eliza Acton. New Edition, with Directions for Carving, and other Additions. Foolscap 8vo. with Plates and Woodcuts, *7s. 6d.* cloth.

"*The whole of Miss Acton's recipes 'with a few trifling exceptions, which are scrupulously specified, are confined to such as may be perfectly depended on, from having been proved beneath our own roof, and under our own personal inspection.' We add, moreover, that the recipes are all reasonable, and never in any instance extravagant. They do not bid us sacrifice ten pounds of excellent meat, that we may get a couple of quarts of gravy from it; nor do they deal with butter and eggs as if they cost nothing. Miss Acton's book is a good book in every way; there is right-mindedness in every page of it, as well as thorough knowledge and experience of the subjects she handles.*"—Medical Gazette.

AIKEN.—**SELECT WORKS OF THE BRITISH POETS:**
From Ben Jonson to Coleridge. With Biographical and Critical Prefaces by Dr. Aikin. A New Edition, with additional Selections, from more recent Poets, by Lucy Aikin. Medium 8vo. *18s.* cloth.

ALLEN ON THE ROYAL PREROGATIVE.—**INQUIRY INTO THE RISE** AND GROWTH OF THE ROYAL PREROGATIVE. By the late John Allen, Master of Dulwich College. A New Edition, with the Author's last corrections: preceded by M. Bérenger's "Rapport" on the Work read before the Institute of France; an Article on the same from the "Edinburgh Review;" and a Biographical Notice of the Author. To which is added, an Inquiry into the Life and Character of King Eadwig, from the Author's MS. 8vo. [*Nearly ready.*

ANDERSEN.—**THE TRUE STORY OF MY LIFE;**
A Sketch. By Hans Christian Andersen, author of "The Shoes of Fortune," "The Nightingale," "O. T.," "Only a Fiddler," "The Improvisatore," etc. Translated by Mary Howitt. Fcp. 8vo. *5s.* cloth.

ARTISAN CLUB (THE).—**A TREATISE ON THE STEAM-ENGINE.**
In its application to Mines, Mills, Steam Navigation, and Railways. By the Artisan Club. Edited by John Bourne, C.E. New Edition. With 30 Steel Plates, and about 350 Wood Engravings. 4to. *27s.* cloth.

BAKER.—**RAILWAY ENGINEERING;**
Containing the most approved Methods of laying out Railway Curves, and of setting out the Cuttings, Embankments, and Tunnels of Railways: with a General and two Auxiliary Tables, for the Calculation of Earthworks of Railways, Canals, etc. Also, the Investigation of the Formula for the Superelevation of the exterior Rail in Curves. By T. Baker, Surveyor and Civil Engineer. 8vo. *5s.* cloth.

BALL.—**AN ACCOUNT OF THE CULTIVATION AND MANUFACTURE**
OF TEA IN CHINA: derived from Personal Observation during an Official Residence in that Country of upwards of Twenty Years; and illustrated by the best Authorities, Chinese as well as European. With some Remarks on the Experiments now making for the Introduction of the Culture of the Tea Tree in other parts of the World. By S. Ball, Esq. late Inspector of Teas to the East India Company in China. 8vo. with Plates and Woodcuts, *14s.* cloth.

BANFIELD AND WELD.—THE STATISTICAL COMPANION;
Exhibiting the most interesting Facts in Moral and Intellectual, Vital, Economical, and Political Statistics, at home and abroad. Compiled from Official and other authentic Sources, by T. C. Banfield, Statistical Clerk to the Council of Education; and C. R. Weld, Assistant Secretary to the Royal Society. Foolscap 8vo. 5*s.* cloth.

BARRETT.—A SYNOPSIS OF CRITICISMS
Upon those Passages of the Old Testament in which Modern Commentators have differed from the Authorized Version: together with an Explanation of various Difficulties in the Hebrew and English Texts. By the Rev. Richard A. F. Barrett, M.A. Fellow of King's College, Cambridge. Vols. I. and II. 8vo. 28*s.* each cloth; or in 4 Half-vols. 14*s.* each. Also, Half-vol. V. 14*s.* cloth.

BAYLDON.—THE ART OF VALUING RENTS AND TILLAGES,
And the Tenant's Right of Entering and Quitting Farms, explained by several Specimens of Valuations; and Remarks on the Cultivation pursued on Soils in different Situations. Adapted to the Use of Landlords, Land-Agents, Appraisers, Farmers, and Tenants. By J. S. Bayldon. New Edition, corrected and revised by John Donaldson. 8vo. 10*s.* 6*d.* cloth.

BEDFORD CORRESPONDENCE.—CORRESPONDENCE OF JOHN,
FOURTH DUKE OF BEDFORD, selected from the Originals at Woburn Abbey, (1742-70). With Introductions by Lord John Russell. 3 vols. 8vo. with Portrait, 48*s.* cloth.

BLACK.—A PRACTICAL TREATISE ON BREWING.
Based on Chemical and Economical Principles: with Formulæ for Public Brewers, and Instructions for Private Families. By William Black, Practical Brewer. New Edition, with considerable Additions. 8vo. 10*s.* 6*d.* cloth.

BLAINE.—AN ENCYCLOPÆDIA OF RURAL SPORTS;
Or, a complete Account, Historical, Practical, and Descriptive, of Hunting, Shooting, Fishing, Racing, and other Field Sports and Athletic Amusements of the present day. By Delabere P. Blaine, Esq., author of "Canine Pathology," etc. With nearly 600 Engravings on Wood, by R. Branston, from Drawings by Alken, T. Landseer, Dickes, etc. 8vo. 50*s.* cloth.

BLAIR'S CHRONOLOGICAL AND HISTORICAL TABLES,
From the Creation to the present Time: with Additions and Corrections from the most authentic Writers; including the Computation of St. Paul, as connecting the Period from the Exode to the Temple. Under the revision of Sir Henry Ellis, K.H., Principal Librarian of the British Museum. Imperial 8vo. 31*s.* 6*d.* half-bound morocco.

BLAKEY.—THE TEMPORAL BENEFITS OF CHRISTIANITY;
Exemplified in its influence on the Social, Intellectual, and Political Condition of Mankind, from it First Promulgation to the Present Day. By Robert Blakey, Author of the "History of the Philosophy of Mind," etc. 8vo. 9*s.* cloth.

BLOOMFIELD.—THE HISTORY OF THE PELOPONNESIAN WAR.
By Thucydides. A New Recension of the Text, with a carefully amended Punctuation; and copious Notes, Critical, Philological, and Explanatory, almost entirely original, but partly selected and arranged from the best Expositors: accompanied with full Indexes. Illustrated by Maps and Plans. By the Rev. S. T. Bloomfield, D.D. F.S.A. 2 vols. 8vo. 38*s.* cloth.

BLOOMFIELD.—THE HISTORY OF THE PELOPONNESIAN WAR.
By Thucydides. Translated into English, and accompanied with very copious Notes, Philological and Explanatory, Historical and Geographical. By the Rev. S. T. Bloomfield, D.D. F.S.A. 3 vols. 8vo. with Maps and Plates, 2*l.* 5*s.* boards.

BLOOMFIELD.—THE GREEK TESTAMENT:
With copious English Notes, Critical, Philological, and Explanatory. Formed for the use of advanced Students of Divinity and Candidates for Holy Orders. By the Rev. S. T. Bloomfield, D.D. F.S.A. New Edition. 2 vols. 8vo. with a Map of Palestine, 40*s.* cloth.

BLOOMFIELD.—THE GREEK TESTAMENT FOR COLLEGES AND SCHOOLS; with shorter English Notes, Critical, Philological, and Explanatory. By the Rev. S. T. Bloomfield, D.D. New Edition, enlarged, with a New Map and an Index. Foolscap 8vo. 10*s.* 6*d.* cloth.

BLOOMFIELD.—GREEK AND ENGLISH LEXICON TO THE NEW TESTAMENT: especially adapted to the use of Colleges, and the Higher Classes in Public Schools; but also intended as a convenient Manual for Biblical Students in general. By *Dr. Bloomfield.* New Edition, improved. Foolscap 8vo. 10*s.* 6*d.* cloth.

THE BOOK OF RUTH,
From the Holy Scriptures. Embellished with brilliant coloured Borders, selected from some of the finest Illuminated MSS. in the British Museum, the Bibliothèque Nationale, Paris, the Soane Museum, etc.; and with highly-finished Miniatures. The Illuminations executed by H. N. Humphreys, Illuminator of "A Record of the Black Prince," etc. Square foolscap 8vo. uniform in size with "Parables of our Lord," etc.; in deeply embossed leather covers, 21*s*.
[*In the Autumn.*

BORRER.—NARRATIVE OF A CAMPAIGN WITH A FRENCH COLUMN
against the Kabailes of Algeria: with the Mission of M. Suchet to the Emir Abd-el-Kader, for an Exchange of Prisoners. By Dawson Borrer, F.R.G.S. Membre Correspondant de la Société Orientale à Paris, author of "A Journey from Naples to Jerusalem." Post 8vo. 10*s*. 6*d*. cloth.

BRANDE.—A DICTIONARY OF SCIENCE, LITERATURE, AND ART;
Comprising the History, Description, and Scientific Principles of every Branch of Human Knowledge; with the Derivation and Definition of all the Terms in general use. Edited by W. T. Brande, F.R.S.L. and E.; assisted by Dr. J. Cauvin. 8vo. with Woodcuts.
[*New Edition, nearly ready.*

BUDGE (J.)—THE PRACTICAL MINER'S GUIDE.
Comprising a Set of Trigonometrical Tables adapted to all the purposes of Oblique or Diagonal, Vertical, Horizontal, and Traverse Dialling; with their application to the Dial, Exercise of Drifts, Lodes, Slides, Levelling, Inaccessible Distances, Heights, etc. By J. Budge. New Edition, enlarged. 8vo. with Portrait, 12*s*. cloth.

BULL.—HINTS TO MOTHERS,
For the Management of their Health during the Period of Pregnancy and in the Lying-in Room: with an Exposure of Popular Errors in connexion with those subjects, etc.; and Hints upon Nursing. By Thomas Bull, M.D. New Edition, carefully revised and enlarged. Foolscap 8vo. 5*s*. cloth.

BULL.—THE MATERNAL MANAGEMENT OF CHILDREN,
In HEALTH and DISEASE. By Thomas Bull, M.D. late Physician Accoucheur to the Finsbury Midwifery Institution. New Edition, revised and enlarged. Fcap. 8vo. 5*s*. cloth.

BUNSEN.—THE CONSTITUTION OF THE CHURCH OF THE FUTURE.
A practical Explanation of the Correspondence with the Right Hon. William Gladstone, on the German Church, Episcopacy, and Jerusalem. With a Preface, Notes, and the complete Correspondence. By the Chevalier C. C. J. Bunsen, Ph.D., D.C.L. Translated under the superintendence of and with additions by the Author. Post 8vo. 9*s*. 6*d*. cloth.

BUNSEN.—EGYPT'S PLACE IN UNIVERSAL HISTORY:
An Historical Investigation, in Five Books. By C. C. J. Bunsen, D. Ph. and D.C.L. Translated from the German, by C. H. Cottrell, Esq. M.A. Vol. I. containing the First Book, or Sources and Primeval Facts of Egyptian History: with an Egyptian Grammar and Dictionary, and a complete List of Hieroglyphical Signs; an Appendix of Authorities, embracing the complete Text of Manetho and Eratosthenes, Ægyptiaca from Pliny, Strabo, etc.; and Plates representing the Egyptian Divinities. 8vo. with numerous Illustrations, 28*s*. cloth.

BURDER.—ORIENTAL CUSTOMS,
Applied to the Illustration of the Sacred Scriptures. By Dr. Samuel Burder. New Edition, with Additions. Foolscap 8vo. 8*s*. 6*d*. cloth.

BURNS.—THE PRINCIPLES OF CHRISTIAN PHILOSOPHY;
Containing the Doctrines, Duties, Admonitions, and Consolations of the Christian Religion. By John Burns, M.D. F.R.S. 6th Edition. Foolscap 8vo. 6*s*. 6*d*. cloth.

BURNS.—CHRISTIAN FRAGMENTS;
Or, Remarks on the Nature, Precepts, and Comforts of Religion. By John Burns, M.D. F.R.S. Foolscap 8vo. 5*s*. cloth.

BUTLER.—A SKETCH OF MODERN AND ANCIENT GEOGRAPHY,
for the use of Schools. By Samuel Butler, D.D., late Lord Bishop of Lichfield and Coventry; and formerly Head Master of Shrewsbury School. New Edition, revised by the Author's Son. 8vo. 9*s*. boards.

BUTLER.—A GENERAL ATLAS OF MODERN AND ANCIENT GEOGRAPHY.
Consisting of Forty-five coloured Maps, and copious Indices referring to the Latitudes and Longitudes. By the late Bishop Butler. New Edition, re-engraved; with corrections (in the Modern Maps) from the Government Surveys and other recent Sources of Information; and (in the Ancient Maps) from the most approved writers on Ancient Geography. 4to. 24*s*. half-bound.

Separately—The Ancient Atlas, 8vo. 12*s*. half-bound; the Modern Atlas, 8vo. 12*s*. half-bound.

CABINET LAWYER (THE).
A Popular Digest of the Laws of England, Civil and Criminal; with a Dictionary of Law Terms, Maxims, Statutes, and Judicial Antiquities; Correct Tables of Assessed Taxes, Stamp Duties, Excise Licences, and Post-Horse Duties; Post-Office Regulations, and Prison Discipline. Fourteenth Edition, enlarged, and corrected throughout, with the Legal Decisions and Statutes to Michaelmas Term, 10 and 11 Victoria. Fcap. 8vo. 10*s.* 6*d.* cloth.

CALLCOTT.—A SCRIPTURE HERBAL:
With upwards of 120 Wood Engravings. By Lady Callcott. Square crown 8vo, 1*l.* 5*s.* cloth.

CARTOONS.—THE PRIZE CARTOONS EXHIBITED IN WESTMINSTER-HALL, Published under the Sanction and Patronage of Her Majesty's Commissioners on the Fine Arts. Eleven large folio Engravings, in a neat Portfolio, 5*l.* 5*s.*; Proofs before letters, 8*l.* 8*s.*

CATLOW.—POPULAR CONCHOLOGY;
Or, the Shell Cabinet arranged: being an Introduction to the modern System of Conchology; with a sketch of the Natural History of the Animals, an account of the Formation of the Shells, and a complete Descriptive List of the Families and Genera. By Agnes Catlow. Foolscap 8vo. with 312 Woodcuts, 10*s.* 6*d.* cloth.

CHALENOR.—WALTER GRAY,
A Ballad, and other Poems. By Mary Chalenor. 2d Edition, with Additions, including the Author's Poetical Remains. Fcap. 8vo. 6*s.* cloth.

COAD.—A MEMORANDUM
Of the Wonderful Providences of God to a Poor Unworthy Creature (from 12th of June 1685 unto the 24th of November 1690) on and after the Revolution betweene the Duke of Monmouth and King James. By John Coad. Square foolscap 8vo. [*Nearly ready.*

"*The best account of the sufferings of those rebels who were sentenced to transportation is to be found in a very curious narrative written by John Coad, an honest Godfearing carpenter, who joined Monmouth, was badly wounded at Philip's Norton, was tried by Jeffreys, and was sent to Jamaica. The original manuscript was kindly lent to me by Mr. Phippard, to whom it belongs.*" Macaulay's England, vol. i. p. 647 (note.)

*** This work is printed, by permission of Mr. Phippard, from the MS. referred to in the above note by Mr. Macaulay.

COLLINS.—MEMOIRS OF THE LIFE OF WILLIAM COLLINS, ESQ. R.A.
Including Selections from his Journals and Correspondence, Notices of many of his eminent Contemporaries, and a Description of his principal Works. By his Son, W. Wilkie Collins, Esq. With Portrait after Linnell, and 2 Vignettes from Sketches by the Painter. 2 vols. post 8vo. 21*s.* cloth.

COLTON.—LACON; OR, MANY THINGS IN FEW WORDS.
By the Rev. C. C. Colton. New Edition. 8vo. 12*s.* cloth.

CONVERSATIONS ON BOTANY.
New Edition, improved. Foolscap 8vo. with 22 Plates, 7*s.* 6*d.* cloth; with coloured Plates, 12*s.*

CONVERSATIONS ON MINERALOGY.
With Plates, engraved by Mr. and Mrs. Lowry, from Original Drawings. Third Edition, enlarged. 2 vols. foolscap 8vo. 14*s.* cloth.

CONYBEARE AND HOWSON.—THE LIFE AND EPISTLES OF ST. PAUL;
comprising a complete Biography of the Apostle, and a Paraphrastic Translation of his Epistles inserted in Chronological order. Edited by the Rev. W. J. Conybeare, M.A. late Fellow of Trinity College, Cambridge; and the Rev. J. S. Howson, M.A. late Principal of the Collegiate Institution, Liverpool. 2 vols. 4to., richly illustrated by numerous Engravings on Steel and Wood of the Principal Places visited by the Apostle, from Original Drawings made on the spot by W. H. Bartlett; and by Maps, Charts, Coins, etc.

*** *To be published in Monthly Parts, price* 2*s. each; the First of which will appear on January* 1*st*, 1850.

COOPER (THE REV. E.)—PRACTICAL AND FAMILIAR SERMONS.
New Edition. 7 vols. 12mo. 1*l.* 18*s.* boards.

COOPER (THE REV. E.)—SERMONS,
Chiefly designed to elucidate some of the leading Doctrines of the Gospel. By the Rev. Edward Cooper. New Edition. 2 vols. 12mo. 10*s.* boards.

COPLAND.—A DICTIONARY OF PRACTICAL MEDICINE;
Comprising General Pathology, the Nature and Treatment of Diseases, Morbid Structures, and the Disorders especially incidental to Climates, to Sex, and to the different Epochs of Life, with numerous approved Formulæ of the Medicines recommended. By James Copland, M.D., etc. etc. Vols. I. and II., 8vo. 3*l.* cloth; and Parts X. to XIV. 4*s.* 6*d.* each.

COQUEREL.—CHRISTIANITY;
Its perfect adaptation to the Mental, Moral, and Spiritual Nature of Man. By Athanase Coquerel, one of the Pastors of the French Protestant Church in Paris. Translated by the Rev. D. Davison, M.A. With an Introductory Notice of the State of the Protestant Church of France, written by the Author for the English Edition. Post 8vo. 12*s.* cloth.

COSTELLO (MISS)—FALLS, LAKES, AND MOUNTAINS OF NORTH
WALES; being a Pictorial Tour through the most interesting parts of the Country. By Miss Louisa Stuart Costello. Profusely illustrated with Views, from Original Sketches by D. H. M'Kewan, engraved on wood, and lithographed, by T. and E. Gilks. Square 8vo. with Map, 14*s.* cloth.

COULTER.—ADVENTURES ON THE WESTERN COAST OF SOUTH
AMERICA AND IN THE INTERIOR OF CALIFORNIA. Including a Narrative of Incidents at the Kingsmill Islands, New Ireland, New Britain, New Guinea, and other Islands in the Pacific Ocean. With an Account of the Natural Productions, and the Manners and Customs, in Peace and War, of the various Savage Tribes visited. By John Coulter, M.D. author of "Adventures in the Pacific." 2 vols. post 8vo. 16*s.* cloth.

COULTER.—ADVENTURES IN THE PACIFIC;
With Observations on the Natural Productions, Manners and Customs of the Natives of the various Islands; Remarks on the Missionaries, British and other Residents, etc. By John Coulter, M.D. Post 8vo. 7*s.* 6*d.* cloth.

CRESY (E.)—AN ENCYCLOPÆDIA OF CIVIL ENGINEERING, HISTORICAL,
THEORETICAL, and PRACTICAL. By Edward Cresy, F.S.A. C.E. Illustrated by upwards of Three Thousand Engravings on Wood, explanatory of the Principles, Machinery, and Constructions which come under the Direction of the Civil Engineer. One large Volume 8vo. upwards of 1,600 pages, 3*l.* 13*s.* 6*d.* cloth.

CROCKER'S ELEMENTS OF LAND SURVEYING.
Fifth Edition, corrected throughout, and considerably improved and modernised, by T. G. Bunt, Land Surveyor, Bristol. To which are added, TABLES OF SIX-FIGURE LOGARITHMS, etc., superintended by Richard Farley, of the Nautical Almanac Establishment. Post 8vo. 12*s.* cloth.

*** *Mr. Farley's Tables of Six-Figure Logarithms may be had separately, price* 4*s.* 6*d.*

D'AGINCOURT.—THE HISTORY OF ART,
By its Monuments, from its Decline in the Fourth Century to its Restoration in the Sixteenth. Translated from the French of Seroux D'Agincourt, by Owen Jones, architect. With 3,335 Subjects, engraved on 328 Plates. Vol. I. Architecture, 73 plates; vol. II. Sculpture, 51 plates; vol. III. Painting, 204 plates. 3 vols. royal folio, 5*l.* 5*s.* sewed.

DALE (THE REV. THOMAS).—THE DOMESTIC LITURGY AND
FAMILY CHAPLAIN, in Two Parts: the First Part being Church Services adapted for Domestic Use, with Prayers for every Day of the Week, selected exclusively from the Book of Common Prayer. Part II. comprising an appropriate Sermon for every Sunday in the Year. By the Rev. Thomas Dale, M.A. Vicar of St. Pancras. Post 4to. 21*s.* cloth; or, bound by Hayday, 31*s.* 6*d.* calf lettered; 50*s.* morocco.

DE JAENISCH AND WALKER.—DE JAENISCH'S CHESS PRECEPTOR:
A New Analysis of the Openings of Games. By C. F. De Jaenisch, of St. Petersburgh. Translated from the French, with copious Notes, by G. Walker, author of "Chess Studies," and various other Works on the Game of Chess. 8vo. 15*s.* cloth.

DE LA BECHE.—REPORT ON THE GEOLOGY OF CORNWALL, DEVON,
AND WEST SOMERSET. By Henry T. De la Beche, F.R.S. etc., Director of the Ordnance Geological Survey. Published by Order of the Lords Commissioners of H. M. Treasury. 8vo. with Maps, Woodcuts, and 12 large Plates, 14*s.* cloth.

DE LA GRAVIERE.—SKETCHES OF THE LAST NAVAL WAR.
Translated from the French of Captain E. Jurien de la Gravière, with an Introduction, and Explanatory Notes. By the Hon. Captain Plunkett, R. N., author of "The Past and Future of the British Navy." 2 vols. post 8vo. with Plans, 18*s.* cloth.

DE STRZELECKI (P. E.)—PHYSICAL DESCRIPTION OF NEW SOUTH WALES AND VAN DIEMAN'S LAND. Accompanied by a Geological Map, Sections, and Diagrams, and Figures of the Organic Remains. By P. E. De Strzelecki. 8vo. with coloured Map and numerous Plates, 24*s.* cloth.

DIBDIN (THE REV. T. F.)—THE SUNDAY LIBRARY:
Containing nearly One hundred Sermons by eminent Divines. With Notes, etc. by the Rev. T. F. Dibdin, D.D. 6 vols. foolscap 8vo. with 6 Portraits, 30*s.* cloth; neatly half-bound in morocco, with gilt edges, 2*l.* 12*s.* 6*d.*

DISCIPLINE.
By the Author of "Letters to my Unknown Friends," "Twelve Years Ago," and "Some Passages from Modern History." 18mo. 2*s.* cloth.

DISNEY.—MUSEUM DISNEIANUM:
Being a Description of a Collection of Ancient Marbles, Bronzes, and various other Specimens of Ancient Art, in the possession of John Disney, Esq. F.R.S. F.S.A. at the Hyde, near Ingatestone. With numerous Plates and Wood Engravings. 1 vol. 4to. comprising 120 Illustrations, 4*l.* 14*s.* 6*d.* cloth.

Contents:—

Part I. Marbles. Comprising 59 Plates, chiefly Busts, with some whole-length Statues, and some Bas-reliefs.
Part II. Miscellaneous Antiquities, chiefly in Bronze. Comprising Five Statues, many Lamps, Tripods, Patinæ, etc.
Part III. Vases and Fictilia.—Sold separately, only to the Purchasers of the First and Second Parts, price 42*s.*

DOUBLEDAY AND HEWITSON'S BUTTERFLIES.—THE GENERA OF DIURNAL LEPIDOPTERA; comprising their Generic Characters—a Notice of the Habits and Transformations—and a Catalogue of the Species of each Genus. By Edward Doubleday, Esq. F.L.S. etc., Assistant in the Zoological Department of the British Museum. Imperial 4to. uniform with Gray and Mitchell's Ornithology; illustrated with 75 coloured Plates, by W. C. Hewitson, Esq. Author of "British Oology."

*** *Publishing in Monthly Parts, 5*s.* each; each Part consisting of two coloured Plates, with accompanying Letter-press. To be completed in about 40 Parts, 31 of which are now ready.*

DRESDEN GALLERY.—THE MOST CELEBRATED PICTURES OF THE ROYAL GALLERY at DRESDEN, drawn on Stone, from the Originals, by Franz Hanfstaengel: with Descriptive and Biographical Notices, in French and German. Nos. I. to LIV., imperial folio, each containing 3 Plates with accompanying Letter-press, price 20*s.* to Subscribers; to Non-subscribers, 30*s.* Single Plates, 12*s.* each.

*** *To be completed in 8 more numbers, price 20*s.* each, to Subscribers; Nos. LI. to LX. containing each 4 Plates and Letterpress.*

DUNLOP.—TRAVELS IN CENTRAL AMERICA.
With a Journal of nearly Three Years' Residence in the Country. To which are added, a Sketch of the History of the Republic, and an Account of its Climate, Productions, Commerce, etc. By Robert Glasgow Dunlop, Esq. Post 8vo. with Map, 10*s.* 6*d.* cloth.

DUNLOP (JOHN).—THE HISTORY OF FICTION:
Being a Critical Account of the most celebrated Prose Works of Fiction, from the earliest Greek Romances to the Novels of the Present Age. By John Dunlop. New Edition, complete in One Volume. Medium 8vo. 15*s.* cloth.

EASTLAKE.—MATERIALS FOR A HISTORY OF OIL PAINTING.
By Charles Lock Eastlake, Esq. R.A. F.R.S. F.S.A. Secretary to the Royal Commission for Promoting the Fine Arts in connexion with the rebuilding of the Houses of Parliament, etc. 8vo. 16*s.* cloth.

*** *Vol. II. On the Italian Practice of Oil Painting, is preparing for publication.*

ECCLESIASTES; OR, THE PREACHER.
The Words of the Preacher, Son of David, King of Jerusalem, from the Holy Scriptures. Being the Twelve Chapters of the Book of Ecclesiastes, elegantly illuminated, in the Missal Style, by Owen Jones. Imperial 8vo. in a magnificent carved binding, 42*s.*; or handsomely bound in red morocco, 50*s.*

ECCLESTON (JAMES).—AN INTRODUCTION TO ENGLISH ANTIQUITIES.
Intended as a Companion to the History of England. By James Eccleston, B.A. Head Master of Sutton Coldfield Grammar School. 8vo. with numerous Engravings on Wood, 21*s.* cloth.

ELLIOTSON.—HUMAN PHYSIOLOGY:
With which is incorporated much of the Elementary Part of the "Institutiones Physiologicæ" of J. F. Blumenbach, Professor in the University of Gottingen. By John Elliotson, M.D. Cantab. F.R.S. Fifth Edition, 8vo. with numerous Woodcuts, 2*l.* 2*s.* cloth.

THE ENGLISHMAN'S GREEK CONCORDANCE OF THE NEW TESTAMENT; being an attempt at a Verbal Connexion between the Greek and the English Texts; including a Concordance to the Proper Names, with Indexes, Greek-English and English-Greek. 2d Edition, carefully revised, with a new Index, Greek and English. Royal 8vo. 42*s.*

THE ENGLISHMAN'S HEBREW AND CHALDEE CONCORDANCE OF THE OLD TESTAMENT; being an attempt at a Verbal Connexion between the Original and the English Translations: with Indexes, a List of the Proper Names and their occurrences, etc. etc. 2 vols. royal 8vo. 3*l.* 13*s.* 6*d.* cloth; large paper, 4*l.* 14*s.* 6*d.*

EÖTVÖS.—THE VILLAGE NOTARY:
A Romance of Hungarian Life. Translated from the Hungarian of Baron Eötvös, by Otto Wenckstern. With Introductory Remarks, written expressly for the present Translation, by Francis Pulszky. 3 vols. post 8vo. *[Nearly ready.*

EPHEMERA.—A HAND-BOOK OF ANGLING;
Teaching Fly Fishing, Trolling, Bottom Fishing, and Salmon Fishing. With the Natural History of River Fish, and the best Modes of Catching them. By Ephemera (of *Bell's Life in London*). New Edition. Foolscap 8vo. with Wood Engravings, 9*s.* cloth.

ERMAN.—TRAVELS IN SIBERIA:
Including Excursions Northwards, down the Obi, to the Polar Circle, and Southwards, to the Chinese Frontier. By Adolph Erman. Translated by W. D. Cooley, Esq. author of "The History of Maritime and Inland Discovery;" translator and editor of Dr. Parrot's "Journey to Ararat," etc. 2 vols. 8vo. with Map, 31*s.* 6*d.* cloth.

ETHERIDGE.—THE APOSTOLICAL ACTS AND EPISTLES,
From the Peschito, or Ancient Syriac. To which are added, the remaining Epistles, and the Book of Revelation, after a later Syrian Text. Translated, with Prolegomena and Indices, by J. W. Etheridge, M.A. Doctor in Philosophy of the University of Heidelberg, and Member of the Asiatic Society of Paris; author of "The Syrian Churches; their early History, Liturgies, and Literature." Royal 12mo. 7*s.* 6*d.* cloth.

EVANS.—THE SUGAR PLANTER'S MANUAL;
Being a Treatise on the Art of obtaining Sugar from the Sugar Cane. By W. J. Evans, M.D. 8vo. 9*s.* cloth.

FAREY.—TREATISE ON THE STEAM-ENGINE,
Historical, Practical, and Descriptive. By John Farey, Engineer. 4to. illustrated by numerous Woodcuts, and 25 Copper-plates, 5*l.* 5*s.* in boards.

FERGUSSON.—AN HISTORICAL INQUIRY INTO THE TRUE PRINCIPLES OF BEAUTY IN ART, more especially with reference to ARCHITECTURE. By James Fergusson, Esq., author of "An Essay on the Ancient Topography of Jerusalem," "Picturesque Illustrations of Ancient Architecture in Hindostan," etc. Vol. 1. with five Copperplates, a coloured Lithographic Engraving, and upwards of 100 Woodcuts. Imperial 8vo. 30*s.* cloth.

FLOWERS AND THEIR KINDRED THOUGHTS;
A Series of Stanzas—On Hope, Innocence, Modesty, Childhood, Humility, Joy, Love, Constancy, Fascination, Timidity, Fine Taste, Thoughts, Recollection, and Friendship. By Mary Anne Bacon. Illustrated by the Snowdrop, Primrose, Violet, Harebell and Pimpernel, Lily of the Valley, Hawthorn, Rose, Honeysuckle, Carnation, Convolvulus, Fuchsia, Pansy, Forget-me-not, and Holly; designed and printed in Colours by Owen Jones. Imperial 8vo. 31*s.* 6*d.* elegantly bound.

FORSTER (REV. C.)—THE HISTORICAL GEOGRAPHY OF ARABIA;
Or, the Patriarchal Evidences of Revealed Religion. A Memoir, with Illustrative Maps and an Appendix, containing Translations. By the Rev. Charles Forster. 2 vols. 8vo. 30*s.* cloth.

FOSS.—THE JUDGES OF ENGLAND:
With Sketches of their Lives, and Miscellaneous Notices connected with the Courts at Westminster from the time of the Conquest. By Edward Foss, F.S.A., of the Inner Temple. Vols. I. and II. 8vo. 28*s.* cloth.

FOSTER.—A HAND-BOOK OF MODERN EUROPEAN LITERATURE:
British, Danish, Dutch, French, German, Hungarian, Italian, Polish and Russian, Portuguese, Spanish, and Swedish. With a full Biographical and Chronological Index. By Mrs. Foster. Foolscap 8vo. 8*s.* 6*d.* cloth.

*** *The object of this book is, not so much to give elaborate criticisms on the various writers in the languages to whose literature it is intended as a guide, as to direct the student to the best writers in each, and to inform him upon what subjects they have written.*

FROM OXFORD TO ROME: AND, HOW IT FARED WITH SOME WHO LATELY MADE THE JOURNEY. By a Companion Traveller. New Edition, revised and corrected. Fcp. 8vo. with Frontispiece, 6s. cloth.

FRUITS FROM THE GARDEN AND THE FIELD:
A Series of Stanzas. By Mary Anne Bacon, author of "Flowers and their Kindred Thoughts." With beautiful Illustrations of Fruit, designed and printed in colours by Owen Jones. Imperial 8vo. uniform with "Flowers and their Kindred Thoughts," 31s. 6d. elegantly bound. [*Nearly ready.*

GARDINER.—SIGHTS IN ITALY:
With some Account of the Present State of Music and the Sister Arts in that Country. By William Gardiner, author of "Sacred Melodies," etc.; Member of the Academy of St. Cecilia, Rome; and of the Class of Fine Arts of the Institut Historique of France. 8vo. with engraved Music, 16s. cloth.

GIBBON.—HISTORY OF THE DECLINE AND FALL OF THE ROMAN EMPIRE. A new Edition, in One Volume; with an Account of the Author's Life and Writings, by Alexander Chalmers, Esq. F.A.S. 8vo. with Portrait, 18s. cloth.

*** *An Edition in 8 vols. 8vo. 60s. boards.*

GILBART.—A PRACTICAL TREATISE ON BANKING.
By James William Gilbart, F.R.S. General Manager of the London and Westminster Bank. 5th Edition, with Portrait of the Author, and View of the "London and Westminster Bank," Lothbury. 2 vols. 8vo. 24s. cloth.

GOLDSMITH—THE POETICAL WORKS OF OLIVER GOLDSMITH.
Illustrated by Wood Engravings, from Designs by Members of the Etching Club. Edited by Bolton Corney, Esq. Square crown 8vo., uniform with "Thomson's Seasons," 21s. cloth; or 36s. bound in morocco, by Hayday.

GOWER.—THE SCIENTIFIC PHENOMENA OF DOMESTIC LIFE FAMILIARLY EXPLAINED. By Charles Foote Gower. New Edition. Foolscap 8vo. with Engravings on Wood, 5s. cloth.

GRAHAM.—ENGLISH; OR, THE ART OF COMPOSITION
explained in a Series of Instructions and Examples. By G. F. Graham. New Edition, revised and improved. Foolscap 8vo. 6s. cloth.

GRANT (MRS.)—LETTERS FROM THE MOUNTAINS.
Being the Correspondence with her Friends, between the years 1773 and 1803. By Mrs. Grant, of Laggan. 6th Edition. Edited, with Notes and Additions, by her Son, J. P. Grant, Esq. 2 vols. post 8vo. 21s. cloth.

GRANT (MRS., OF LAGGAN).—MEMOIR AND CORRESPONDENCE
of the late Mrs. Grant, of Laggan, author of "Letters from the Mountains," etc. Edited by her Son, J. P. Grant, Esq. New Edition. 3 vols. post 8vo. Portrait, 1*l.* 11s. 6d. cloth.

GRAY (THOMAS).—GRAY'S ELEGY,
Written in a Country Churchyard. Illuminated in the Missal style. By Owen Jones, Architect. Imp. 8vo. 31s. 6d. elegantly bound.

GRAY AND MITCHELL'S ORNITHOLOGY.—THE GENERA OF BIRDS;
Comprising their Generic Characters, a Notice of the Habits of each Genus, and an extensive List of Species, referred to their several Genera. By George Robert Gray, Acad. Imp. Georg. Florent. Soc. Corresp. Senior Assistant of the Zoological Department, British Museum; and author of the "List of the Genera of Birds," etc. 3 vols. Imperial 4to. illustrated with 350 coloured and plain Plates, by David William Mitchell, B.A. Parts I. to XLIX. price 10s. 6d. each. Part L. with Title, Indexes, Tables, etc. completing the Work, in 3 volumes, is *nearly ready*.

GRAY.—TABLES AND FORMULÆ FOR THE COMPUTATION OF LIFE CONTINGENCIES; with copious Examples of Annuity, Assurance, and Friendly Society Calculations. By Peter Gray, F.R.A.S. Associate of the Institute of Actuaries of Great Britain and Ireland. Royal 8vo. 15s. cloth.

GRIMBLOT (P.)—LETTERS OF WILLIAM III. AND LOUIS XIV. AND OF THEIR MINISTERS. Illustrating the Domestic and Foreign Policy of England from the Peace of Ryswick to the Accession of Philip V. of Spain, (1697 to 1700). Edited by P. Grimblot. 2 vols. 8vo. 30s. cloth.

GWILT.—AN ENCYCLOPÆDIA OF ARCHITECTURE;
Historical, Theoretical, and Practical. By Joseph Gwilt, Esq., F.S.A. Illustrated with upwards of 1,000 Engravings on Wood, from Designs by J. S. Gwilt. 8vo. 2*l.* 12s. 6d. cloth.

HALL.—MIDSUMMER EVE:
A Fairy Tale of Love. By Mrs. S. C. Hall. Square crown 8vo. with nearly 300 Wood Engravings, 21*s.* cloth, gilt edges.

HALL'S (SIDNEY) GENERAL LARGE LIBRARY ATLAS OF FIFTY-THREE MAPS (size 20 in. by 76 in.), with the Divisions and Boundaries carefully coloured; and an Alphabetical Index of all the Names contained in the Maps, with their Latitude and Longitude. An entirely New Edition, corrected throughout from the best and most recent Authorities; with all the Railways laid down, and many of the Maps re-drawn and re-engraved. Colombier 4to. 3*l.* 3*s.* half-bound in russia.

"This is one of the very best of the larger collections of maps with which we are acquainted, for clearness and accuracy, as well as its very reasonable cost. Several striking improvements characterise the edition before us. It has again undergone comparison with the best authorities, contains many corrections consequent on the latest government surveys, supplies all the various lines of railway neatly laid down, gives quite new maps where necessary, and is enriched with an alphabetical index of more than seventy thousand *names of places contained in the collection, with their degrees of latitude and longitude. This index, which is quite invaluable, is printed with exquisite clearness; and we have examined a sufficient number of names and places to be convinced of its general and faultless accuracy."* Examiner.

HARRISON.—ON THE RISE, PROGRESS, AND PRESENT STRUCTURE OF THE ENGLISH LANGUAGE. By the Rev. M. Harrison, M.A., late Fellow of Queen's College, Oxford. Post 8vo. 8*s.* 6*d.* cloth.

"An able, enlightened, and philosophical work. From the erudite and scholarly manner in which the author has treated the subject, he has contrived to make his work not only excellent for the special purpose for which it is intended, but from the mass of curious information which it contains, really interesting to all classes of readers."—Sunday Times.

HAWBUCK GRANGE;
Or, the Sporting Adventures of Thomas Scott, Esq. By the Author of "Handley Cross; or the Spa Hunt," "Jorrocks' Jaunts and Jollities," etc. 8vo. with eight Illustrations, by Phiz, 12*s.* cloth.

HAWKER.—INSTRUCTIONS TO YOUNG SPORTSMEN
In all that relates to Guns and Shooting. By Lieut.-Col. P. Hawker. 9th edition, corrected, enlarged, and improved, with Eighty-five Plates and Woodcuts, by Adlard and Branston, from Drawings by C. Varley, Dicks, etc. 8vo. 21*s.* cloth.

HAYDON (B. R.)—LECTURES ON PAINTING AND DESIGN,
Delivered at the London Institution, the Royal Institution, Albermarle Street, to the University of Oxford, etc. By B. R. Haydon, Historical Painter. 2 vols. 8vo. with Portraits of the Author and Sir David Wilkie, and numerous other Illustrations, 24*s.* cloth.

SIR GEORGE HEAD.—ROME: A TOUR OF MANY DAYS.
By Sir George Head. 3 vols. 8vo. 36*s.* cloth.

"The roads, the streets, the palaces, the churches, the fountains, the public buildings, and the private houses of any note, the baths, the fortifications, the arches, the cemeteries, the walls, the villas, the temples, the monuments, the theatres, the forums, the ruins, and the relics of every kind, and the inhabitants also, are all set before us in the best possible order. In short, it is a standard work, to last like Rome!" Literary Gazette.

SIR JOHN HERSCHEL.—OUTLINES OF ASTRONOMY.
By Sir John F. W. Herschel, Bart. etc. etc. etc. 8vo. with Plates and Woodcuts, 18*s.* cloth.

"In the earlier portions more especially much new matter is introduced . . . . To all intents and purposes, indeed, the 'Outlines of Astronomy' must be considered a new work,—so careful has been the revision, correction, and remodelling of the original treatise; so numerous the additions to it; and so important the new trains of inquiry opened up." Examiner.

MRS. HEY.—THE MORAL OF FLOWERS;
Or, Thoughts gathered from the Field and the Garden. By Mrs. Hey. Being a New Edition of "The Moral of Flowers:" and consisting of Poetical Thoughts on Garden and Field Flowers, accompanied by Drawings beautifully coloured after Nature. Square crown 8vo. uniform in size with "Thomson's Seasons illustrated by the Etching Club." 21*s.* cloth.

MRS. HEY.—SYLVAN MUSINGS;
Or, the Spirit of the Woods. By Mrs. Hey. Being a New Edition of "The Spirit of the Woods:" and consisting of Poetical Thoughts on Forest Trees, accompanied by Drawings of Blossoms and Foliage, beautifully coloured after Nature. Square crown 8vo. uniform in size with "Thomson's Seasons illustrated by the Etching Club." 21*s.* cloth.

HINTS ON ETIQUETTE AND THE USAGES OF SOCIETY:
With a Glance at Bad Habits. By Αγωγός. "Manners make the Man." New Edition, revised (with additions) by a Lady of Rank. Foolscap 8vo. 2*s.* 6*d.* cloth.

HISTORICAL PICTURES OF THE MIDDLE AGES,
In Black and White. Made on the spot, from Records in the Archives of Switzerland. By a Wandering Artist. 2 vols. post 8vo. 18*s.* cloth.

HOARE—A PRACTICAL TREATISE ON THE CULTIVATION OF THE GRAPE VINE ON OPEN WALLS. By Clement Hoare. New Edition. 8vo. 7*s.* 6*d.* cloth.

HOARE.—A DESCRIPTIVE ACCOUNT OF A NEW METHOD OF PLANTING AND MANAGING THE ROOTS OF GRAPE VINES. By Clement Hoare, author of "A Treatise on the Cultivation of the Grape Vine on Open Walls." 12mo. 5*s.* cl.

HOLLAND.—MEDICAL NOTES AND REFLECTIONS.
By Henry Holland, M.D. F.R.S. etc. Fellow of the Royal College of Physicians, Physician Extraordinary to the Queen, and Physician in Ordinary to His Royal Highness Prince Albert. New Edition. 8vo. 18*s.* cloth.

HOOK (DR. W. F.)—THE LAST DAYS OF OUR LORD'S MINISTRY;
A Course of Lectures on the principal Events of Passion Week. By Walter Farquhar Hook, D.D., Vicar of Leeds, Prebendary of Lincoln, and Chaplain in Ordinary to the Queen. New Edition. Foolscap 8vo. 6*s.* cloth.

HOOKER.—KEW GARDENS;
Or a Popular Guide to the Royal Botanic Gardens of Kew. By Sir William Jackson Hooker, K.H. D.C.L. F.R.A. & L.S. etc. etc. Director. New Edition. 16mo. with numerous Wood Engravings, 6*d.* sewed.

HOOKER.—THE BRITISH FLORA.
Comprising the Phænogamous or Flowering Plants, and the Ferns. By Sir William Jackson Hooker, K.H. LL.D. F.R.A. and L.S. etc. etc. etc. New Edition, with Additions and Corrections; and 173 Figures, illustrative of the Umbelliferous Plants, the Composite Plants, the Grasses, and the Ferns. Vol. I. 8vo., with 12 Plates, 14*s.* plain; with the Plates coloured, 24*s.* cloth.

Vol. II. in Two Parts, comprising the Cryptogamia and the Fungi, 8vo. 24*s.* boards.

HORNE (THE REV. T. H.)—AN INTRODUCTION TO THE CRITICAL STUDY AND KNOWLEDGE OF THE HOLY SCRIPTURES. By the Rev. Thomas Hartwell Horne, B.D. of St. John's College, Cambridge. New Edition, revised and corrected. 5 vols. 8vo. with Maps and Fac-similes, 3*l.* 3*s.* cloth; or 5*l.* bound in calf by Hayday.

HORNE (THE REV. T. H.)—A COMPENDIOUS INTRODUCTION TO THE STUDY OF THE BIBLE. By the Rev. Thomas Hartwell Horne, B.D. of St. John's College Cambridge. Being an Analysis of his "Introduction to the Critical Study and Knowledge of the Holy Scriptures." New Edition. 12mo. with Maps and Engravings, 9*s.* boards.

HOWITT.—THE CHILDREN'S YEAR.
By Mary Howitt. With Four Illustrations, engraved by John Absolon, from Original Designs by Anna Mary Howitt. Square 16mo. 5*s.* cloth.

HOWITT.—THE BOY'S COUNTRY BOOK:
Being the real Life of a Country Boy, written by Himself; exhibiting all the Amusements, Pleasures, and Pursuits of Children in the Country. Edited by William Howitt, author of "The Rural Life of England," etc. New Edition. Fcap. 8vo. with 40 Woodcuts, 6*s.* cloth.

HOWITT.—VISITS TO REMARKABLE PLACES;
Old Halls, Battle-Fields, and Scenes illustrative of Striking Passages in English History and Poetry. By William Howitt. New Edition. Medium 8vo. with 40 Woodcuts, 21*s.* cloth.

SECOND SERIES, chiefly in the Counties of DURHAM and NORTHUMBERLAND, with a Stroll along the BORDER. Medium 8vo. with upwards of 40 highly-finished Woodcuts, from Drawings made on the spot, 21*s.* cloth.

HOWITT.—THE RURAL LIFE OF ENGLAND.
By William Howitt. New Edition, corrected and revised. Medium 8vo. with Engravings on Wood by Bewick and Williams, uniform with "Visits to Remarkable Places," 21*s.* cloth.

HOWITT.—THE RURAL AND DOMESTIC LIFE OF GERMANY:
With Characteristic Sketches of its chief Cities and Scenery. Collected in a General Tour, and during a Residence in that Country in the Years 1840-42. By William Howitt, author of "The Rural Life of England," etc. Medium 8vo., with above 50 Illustrations, 21*s.* cloth.

HOWITT.—COLONISATION AND CHRISTIANITY:
A Popular History of the Treatment of the Natives, in all their Colonies, by the Europeans. By William Howitt. Post 8vo. 10*s.* 6*d.* cloth.

HOWSON AND CONYBEARE.—THE LIFE AND EPISTLES OF ST. PAUL. By the Rev. J. S. Howson, M.A., and the Rev. W. J. Conybeare, M.A. 2 vols. 4to. richly illustrated. [*See* p. 8.

HUDSON.—THE EXECUTOR'S GUIDE.
By J. C. Hudson, Esq., late of the Legacy Duty Office, London; author of "Plain Directions for Making Wills," and "The Parent's Hand-Book." New Edition. Foolscap 8vo. 5*s.* cloth,

*** *The above two works may be had in One volume, price* 7*s. cloth.*

HUDSON,—PLAIN DIRECTIONS FOR MAKING WILLS
In conformity with the Law, and particularly with reference to the Act 7 Wm. IV. and 1 Vict. c. 26. To which is added, a clear Exposition of the Law relating to the Distribution of Personal Estate in the case of Intestacy; with two Forms of Wills, and much useful Information, etc. By J. C. Hudson, Esq. New Edition, corrected. Fcap. 8vo. 2*s.* 6*d.* cloth.

HUMBOLDT.—ASPECTS OF NATURE,
In Different Lands and in Different Climates. By Alexander Von Humboldt. Translated, with the Author's sanction and co-operation, and at his express desire, by Mrs. Sabine. 2 vols. 16mo. uniform with Mr. Murray's "Home and Colonial Library."

BARON HUMBOLDT'S COSMOS;
Or, a Sketch of a Physical Description of the Universe. Translated, with the Author's sanction and co-operation, under the superintendence of Lieutenant-Colonel Edward Sabine, F.R.S. For. Sec. R.S. New Edition, uniform with Mr. Murray's "Home and Colonial Library." Vols. I. and II. 16mo. price Half-a-crown each.

*** *The authorised "Library Edition," in post* 8vo. *Vols. I. and II. price price* 12*s. each, may still be had.*

HUMPHREYS.—A RECORD OF THE BLACK PRINCE;
Being a Selection of such Passages in his Life as have been most quaintly and strikingly narrated by the Chroniclers of the Period. Embellished with highly-wrought Miniatures and Borderings, selected from various Illuminated MSS. referring to Events connected with English History. By Henry Noel Humphreys. Post 8vo. in a richly carved and deeply pierced binding, 21*s.*

HUNT.—RESEARCHES ON LIGHT:
An Examination of all the Phenomena connected with the Chemical and Molecular Changes produced by the Influence of the Solar Rays; embracing all the known Photographic Processes, and new Discoveries in the Art. By Robert Hunt, Keeper of Mining Records, Museum of Economic Geology. 8vo. with Plate and Woodcuts, 10*s.* 6*d.* cloth.

JAMES.—A HISTORY OF THE LIFE OF EDWARD THE BLACK PRINCE,
and of various Events connected therewith, which occurred during the Reign of Edward III. King of England. By G. P. R. James, Esq. New Edition. 2 vols. foolscap 8vo. with Map, 15*s.*

JAMESON (MRS.)—LEGENDS OF THE MONASTIC ORDERS:
Comprising the History of the Franciscans, as connected with the Revival of Art; Legends of those Royal Personages who died in the Religious Habit; and Notes on the Remains of English Legendary Art. By Mrs. Jameson, Author of "Sacred and Legendary Art," etc. Square crown 8vo. with numerous Illustrations. [*Nearly ready.*

*** *To be followed by "Legends of the Madonna," by the same Author, similarly illustrated.*

JAMESON (MRS.)—SACRED AND LEGENDARY ART.
By Mrs. Jameson. With 16 Etchings by the Author, and numerous Wood Engravings. 2 vols. square crown 8vo. 42*s.* cloth.

JEBB.—A LITERAL TRANSLATION OF THE BOOK OF PSALMS;
Intended to illustrate their Poetical and Moral Structure. To which are added, Dissertations on the word "Selah," and on the Authorship, Order, Titles, and Poetical Features of the Psalms. By the Rev. John Jebb, A.M., Rector of Peterstow. 2 vols. 8vo. 21*s.* cloth.

JEFFREY (LORD).—CONTRIBUTIONS TO THE EDINBURGH REVIEW.
By Francis Jeffrey, now one of the Judges in the Court of Session in Scotland. New Edit. 3 vols. 8vo. 42*s.* cloth.

BISHOP JEREMY TAYLOR'S ENTIRE WORKS:
With the Life of Bishop Heber. Revised and corrected by the Rev. Charles Page Eden, Fellow of Oriel College, Oxford. Vols. II. III. IV. V. and VI. 8vo. 10*s.* 6*d.* each, cloth.

*** *In course of publication in* 10 *vols. price half-a-guinea each. Vol. I. (the last in order of publication) will contain Bishop Heber's Life of Jeremy Taylor, extended by the Editor.* [*Vol. VII. is in the press.*

JOHNSON.—THE WISDOM OF THE RAMBLER, ADVENTURER, AND IDLER. Comprising a Selection of 110 of the best Essays. By Samuel Johnson, LL.D. Foolscap 8vo. 7*s.* cloth.

JOHNSON.—THE FARMER'S ENCYCLOPÆDIA,
And DICTIONARY of RURAL AFFAIRS: embracing all the recent Discoveries in Agricultural Chemistry; adapted to the comprehension of unscientific Readers. By Cuthbert W. Johnson, Esq., F.R.S. Barrister-at-Law, Editor of the "Farmers' Almanack," etc. 8vo. with Wood Engravings, 2*l.* 10*s.* cloth.

SIR ROBERT KANE.—ELEMENTS OF CHEMISTRY,
Theoretical and Practical; including the most Recent Discoveries and Applications of the Science of Medicine and Pharmacy to Agriculture and to Manufactures. By Sir Robert Kane, M.D. M.R.I.A. 2d Edition, corrected and greatly enlarged; illustrated by 230 Wood Engravings. In one large volume, 8vo. of about 1,100 pages, 28*s.* cloth.

"The author's style is clear, and his descriptions are concise and intelligible. For this reason his work is well adapted to the use of students . . . . We can safely recommend this edition to our readers, as containing an accurate account of the most recent improvements and discoveries in chemistry." Medical Gazette.

KEMBLE.—THE SAXONS IN ENGLAND:
A History of the English Commonwealth till the period of the Norman Conquest. By John Mitchell Kemble, M.A. F.C.P.S., etc. 2 vols. 8vo. 28*s.* cloth.

KINDERSLEY.—THE VERY JOYOUS, PLEASANT, AND REFRESHING
HISTORY of the Feats, Exploits, Triumphs, and Achievements of the Good Knight, without Fear and without Reproach, the gentle Lord De Bayard. Set forth in English by Edward Cockburn Kindersley, Esq. With Ornamental Headings, and Frontispiece, by E. H. Wehnert. Square post 8vo. 9*s.* 6*d.* cloth.

KIP.—THE CHRISTMAS HOLYDAYS IN ROME.
By the Rev. W. Ingraham Kip, M.A. Edited by the Rev. W. Sewell, B.D. Fellow and Tutor of Exeter College, Oxford. New Edition. Foolscap 8vo. 5*s.* cloth.

KIRBY AND SPENCE.—AN INTRODUCTION TO ENTOMOLOGY;
Or, Elements of the Natural History of Insects: comprising an account of noxious and useful Insects, of their Metamorphoses, Food, Stratagems, Habitations, Societies, Motions, Noises, Hybernation, Instinct, etc. By W. Kirby, M.A. F.R.S. & L.S. Rector of Barham; and W. Spence, Esq., F.R.S. & L.S. New Edition, enlarged. 2 vols. 8vo. 31*s.* 6*d.* cloth.

LAING.—THE CHRONICLE OF THE KINGS OF NORWAY,
From the Earliest Period of the History of the Northern Sea Kings to the Middle of the Twelfth Century: commonly called the Heimskringla. Translated from the Icelandic of Snorro Sturleson, with Notes, and a Preliminary Discourse, by Samuel Laing, Esq. 3 vols. 8vo. 36*s.* cloth.

LAING.—A TOUR IN SWEDEN
In 1838; comprising Observations on the Moral, Political, and Economical State of the Swedish Nation. By Samuel Laing, Esq. 8vo. 12*s.* cloth.

LANDOR.—THE FOUNTAIN OF ARETHUSA.
By Robert Eyres Landor, M.A., author of "The Fawn of Sertorius," "The Impious Feast," Tragedies, etc. 2 vols. post 8vo. 18*s.* cloth.

L. E. L.—THE POETICAL WORKS OF LETITIA ELIZABETH LANDON;
Comprising the IMPROVISATRICE, the VENETIAN BRACELET, the GOLDEN VIOLET, the TROUBADOUR, and other Poetical Remains. New Edition, uniform with the smaller edition of Mr. Macaulay's "Lays of Ancient Rome," and Moore's "Songs, Ballads, and Sacred Songs." 2 vols. 16mo. with Vignette Titles. [*Nearly ready.*

*** *Also an edition in* 4 *vols. foolscap* 8vo. *with Illustrations by Howard, etc.* 28*s. cloth; or bound in morocco, with gilt edges,* 2*l.* 4*s.*

LATHAM.—ON DISEASES OF THE HEART.
Lectures on Subjects connected with Clinical Medicine; comprising Diseases of the Heart. By P. M. Latham, M.D. Physician Extraordinary to the Queen; and late Physician to St. Bartholomew's Hospital. New Edition. 2 vols. 12mo. 16*s.* cloth.

LARDNER'S CABINET CYCLOPÆDIA;

Being a Series of Original Works on History, Biography, Natural Philosophy, Natural History, Literature, the Sciences, Arts, and Manufactures. By Bishop Thirlwall, Sir James Mackintosh, Sir John Herschel, Sir Walter Scott, Thomas Moore, Robert Southey, and other Eminent Writers. Conducted and edited by Dr. Lardner.

The Series complete in One Hundred and Thirty-three Volumes, 39*l.* 18*s.* The Works separately, 6*s.* per volume.

The Series comprises:—

1. Bell's History of Russia . 3 vols. 18*s.*
2. Bell's Lives of British Poets 2 vols. 12*s.*
3. Brewster's Treatise on Optics 1 vol. 6*s.*
4. Cooley's History of Maritime and Inland Discovery . 3 vols. 18*s.*
5. Crowe's History of France . 3 vols. 18*s.*
6. De Morgan's Treatise on Probabilities . . . . 1 vol. 6*s.*
7. De Sismondi's History of the Italian Republics . . 1 vol. 6*s.*
8. De Sismondi's Fall of the Roman Empire . . . 2 vols. 12*s.*
9. Donovan's Treatise on Chemistry . . . . . 1 vol. 6*s.*
10. Donovan's Domestic Economy, 2 vols. 12*s.*
11. Dunham's History of Spain and Portugal . . . 5 vols. 30*s.*
12. Dunham's History of Denmark, Sweden, and Norway . . . . . 3 vols. 18*s.*
13. Dunham's History of Poland 1 vol. 6*s.*
14. Dunham's History of the Germanic Empire . . 3 vols. 18*s.*
15. Dunham's History of Europe during the Middle Ages . 4 vols. 24*s.*
16. Dunham's Lives of British Dramatists . . . 2 vols. 12*s.*
17. Dunham's Lives of Early Writers of Great Britain . 1 vol. 6*s.*
18. Fergus's History of the United States . . . . 2 vols. 12*s.*
19. Fosbroke's Grecian and Roman Antiquities . . 2 vols. 12*s.*
20. Forster's Lives of the Statesmen of the Commonwealth 5 vols. 30*s.*
21. Forster, Mackintosh, and Courtenay's Lives of British Statesmen . . 7 vols. 42*s.*
22. Gleg's Lives of Military Commanders . . . . 3 vols. 18*s.*
23. Grattan's History of the Netherlands . . . 1 vol. 6*s.*
24. Henslow's Treatise on Botany . . . . . 1 vol. 6*s.*
25. Herschel's Treatise on Astronomy . . . . 1 vol. 6*s.*
26. Herschel's Preliminary Discourse on the Study of Natural Philosophy . . 1 vol. 6*s.*
27. History of Rome . . . 2 vols. 12*s.*
28. History of Switzerland . . 1 vol. 6*s.*
29. Holland's Treatise on the Manufactures in Metal . 3 vols. 18*s.*
30. James's Lives of Foreign Statesmen . . . . 5 vols. 30*s.*
31. Kater and Lardner's Treatise on Mechanics . . . 1 vol. 6*s.*
32. Keightley's Outlines of History . . . . . 1 vol. 6*s.*
33. Lardner's Treatise on Arithmetic . . . . . 1 vol. 6*s.*
34. Lardner's Treat. on Geometry 1 vol. 6*s.*
35. Lardner's Treatise on Heat . 1 vol. 6*s.*
36. Lardner's Treatise on Hydrostatics and Pneumatics . 1 vol. 6*s.*
37. Lardner and Walker's Electricity and Magnetism . 2 vols. 12*s.*
38. Mackintosh, Wallace, and Bell's History of England, 10 vols. 60*s.*
39. Montgomery and Shelley's Lives of Italian, Spanish, and Portuguese Authors . 3 vols. 18*s.*
40. Moore's History of Ireland . 4 vols. 24*s.*
41. Nicolas's Chronology of History . . . . . 1 vol. 6*s.*
42. Phillips's Treat. on Geology 2 vols. 12*s.*
43. Powell's History of Natural Philosophy . . . 1 vol. 6*s.*
44. Porter's Treatise on the Manufacture of Silk . . 1 vol. 6*s.*
45. Porter's Treatise on the Manufacture of Porcelain and Glass . . . . 1 vol. 6*s.*
46. Roscoe's Lives of British Lawyers . . . . 1 vol. 6*s.*
47. Scott's History of Scotland . 2 vols. 12*s.*
48. Shelley's Lives of French Authors . . . . 2 vols. 12*s.*
49. Shuckard and Swainson's Treatise on Insects . . 1 vol. 6*s.*
50. Southey's Lives of British Admirals . . . . 5 vols. 30*s.*
51. Stebbing's History of the Church . . . . 2 vols. 12*s.*
52. Stebbing's History of the Reformation . . . 2 vols. 12*s.*
53. Swainson's Preliminary Discourse on Natural History, 1 vol. 6*s.*
54. Swainson's Natural History and Classification of Animals . . . . 1 vol. 6*s.*
55. Swainson's Habits and Instincts of Animals . . 1 vol. 6*s.*
56. Swainson's Quadrupeds . 1 vol. 6*s.*
57. Swainson's Birds . . . 2 vols. 12*s.*
58. Swainson's Fish, Reptiles, etc. . . . . 2 vols. 12*s.*
59. Swainson's Shells and Shellfish . . . . . 1 vol. 6*s.*
60. Swainson's Animals in Menageries . . . . 1 vol. 6*s.*
61. Swainson's Taxidermy and Bibliography . . . 1 vol. 6*s.*
62. Thirlwall's History of Greece 3 vols. 18*s.*

LEE.—TAXIDERMY;
Or, the Art of Collecting, Preparing, and Mounting Objects of Natural History. For the use of Museums and Travellers. By Mrs. R. Lee. New Edition, improved; with an account of a Visit to Walton Hall, and Mr. Waterton's Method of Preserving Animals. Fcap. 8vo. with Woodcuts, 7s.

LEE.—ELEMENTS OF NATURAL HISTORY,
For the Use of Schools and Young Persons: comprising the Principles of Classification, interspersed with amusing and instructive Accounts of the most remarkable Animals. By Mrs. R. Lee. 12mo. with 85 Woodcuts, 7s. 6d. bound.

LESLIE (C.R.)—MEMOIRS OF THE LIFE OF JOHN CONSTABLE, ESQ.
R.A. Composed chiefly of his Letters. By C.R. Leslie, R.A. Second Edition, with further Extracts from his Correspondence. Small 4to. with two Portraits (one from a new Sketch, by Mr. Leslie,) and a plate of "Spring," engraved by Lucas, 21s. cloth.

LETTERS TO MY UNKNOWN FRIENDS.
By a Lady. New Edition. Foolscap 8vo. 6s. 6d. cloth.

LINDLEY.—AN INTRODUCTION TO BOTANY.
By Prof. J. Lindley, Ph.D. F.R.S. L.S. etc. New Edition, with Corrections and numerous Additions. 2 vols. 8vo. with Six Plates and numerous Woodcuts, 24s. cloth.

LINDLEY.—A SYNOPSIS OF THE BRITISH FLORA,
Arranged according to the Natural Orders. By Professor John Lindley, Ph. D., F.R.S., etc. New Edition, with numerous Additions and Improvements. 12mo. 10s. 6d. cloth.

LINDLEY.—THE THEORY OF HORTICULTURE;
Or, an Attempt to Explain the Principal Operations of Gardening upon Physiological Principles. By John Lindley, Ph.D. F.R.S. 8vo. with Illustrations on Wood, 12s. cloth.

LINDLEY.—GUIDE TO THE ORCHARD AND KITCHEN GARDEN;
Or, an Account of the most valuable Fruits and Vegetables cultivated in Great Britain: with Kalendars of the Work required in the Orchard and Kitchen Garden during every Month in the Year. By George Lindley, C.M.H.S. Edited by Professor Lindley. 8vo. 16s. boards.

LINWOOD (W.)—ANTHOLOGIA OXONIENSIS;
Sive, Florilegium e lusibus poeticis diversorum Oxoniensium Græcis et Latinis decerptum· Curante Gulielmo Linwood, M.A. Ædis Christi Alummo. 8vo. 14s. cloth.

LORIMER.—LETTERS TO A YOUNG MASTER MARINER
On some Subjects connected with his Calling. By the late Charles Lorimer. A New Edition. Foolscap 8vo. 5s. 6d. cloth.

"This edition has been carefully revised, and some improvements and additions made to it. Nautical matters are not so much the subject of the book, as the commercial duties and legal powers or responsibilities of the master mariner, under the critical circumstances in which he may continually find himself." Spectator.

LOUDON (MRS.)—THE AMATEUR GARDENER'S CALENDAR;
Being a Monthly Guide, as to what should be avoided as well as what should be done in a Garden in each Month: with plain Rules *how to do* what is requisite; Directions for laying out and planting Kitchen and Flower Gardens, Pleasure Grounds, and Shrubberies; and a short account, in each Month, of the Quadrupeds, Birds, and Insects, then most injurious to Gardens. By Mrs. Loudon. 16mo. with numerous Wood Engravings, 7s. 6d. cloth.

LOUDON (MRS.)—THE LADY'S COUNTRY COMPANION;
Or, How to Enjoy a Country Life Rationally. By Mrs. Loudon, author of "Gardening for Ladies," etc. New Edition. Foolscap 8vo., with Plate and Woodcuts, 7s. 6d. cloth.

LOUDON (J. C.)—SELF-INSTRUCTION FOR YOUNG GARDENERS,
Foresters, Bailiffs, Land Stewards, and Farmers; in Arithmetic, Book-keeping, Geometry, Mensuration, Practical Trigonometry, Mechanics, Land-Surveying, Levelling, Planning and Mapping, Architectural Drawing, and Isometrical Projection and Perspective; with Examples shewing their applications to Horticultural and Agricultural Purposes. By the late J. C. Loudon, F.L.S. H.S. etc. With a Portrait of Mr. Loudon, and a Memoir by Mrs. Loudon. 8vo. with Wood Engravings, 7s. 6d. cloth.

LOUDON.—AN ENCYCLOPÆDIA OF TREES AND SHRUBS;
Being the "Arboretum et Fruticetum Britannicum" abridged: containing the Hardy Trees and Shrubs of Great Britain, Native and Foreign, scientifically and popularly described: with their Propagation, Culture, and Uses in the Arts. By J. C. Loudon, F.L.S. etc. 8vo. with upwards of 2,000 Engravings on Wood, 2l. 10s. cloth.

LOUDON.—AN ENCYCLOPÆDIA OF GARDENING;
Presenting in one systematic view, the History and Present State of Gardening in all Countries, and its Theory and Practice in Great Britain: with the Management of the Kitchen Garden, the Flower Garden, Laying-out Grounds, etc. By J. C. Loudon, F.L.S. etc. A new Edition. 8vo. with nearly 1,000 Engravings on Wood, 2*l.* 10*s.* cloth.

LOUDON.—AN ENCYCLOPÆDIA OF AGRICULTURE;
Comprising the Theory and Practice of the Valuation, Transfer, Laying-out, Improvement, and Management of Landed Property, and of the cultivation and economy of the Animal and Vegetable Productions of Agriculture, including all the latest improvements. By J. C. Loudon, F.L.G.Z. and H.S. etc. Fifth Edition. 8vo. with upwards of 1,100 Engravings on Wood, by Branston, 2*l.* 10*s.* cloth.

LOUDON.—AN ENCYCLOPÆDIA OF PLANTS;
Including all the Plants which are now found in, or have been introduced into, Great Britain; giving their Natural History, accompanied by such Descriptions, Engraved Figures, and Elementary Details, as may enable a beginner, who is a mere English reader, to discover the name of every Plant which he may find in flower, and acquire all the information respecting it which is useful and interesting. By J. C. Loudon, F.L.S., etc. The Specific Characters by an Eminent Botanist; the Drawings by J. D. C. Sowerby, F.L.S. A new Edition, with a new Supplement and a new Index. 8vo. with nearly 10,000 Wood Engravings, 73*s.* 6*d.* cloth.

LOUDON.—AN ENCYCLOPÆDIA OF COTTAGE, FARM, AND VILLA ARCHITECTURE and FURNITURE. Containing Designs for Cottages, Villas, Farm Houses, Farmeries, Country Inns, Public Houses, Parochial Schools, etc.; with the requisite Fittings-up, Fixtures, and Furniture, and appropriate Offices, Gardens, and Garden Scenery: each Design accompanied by Analytical and Critical Remarks. By J. C. Loudon, F.L.S. etc. New Edition, Edited by Mrs. Loudon. 8vo. with more than 2,000 Engravings on Wood, 63*s.* cloth.

LOUDON.—HORTUS BRITANNICUS:
A Catalogue of all the Plants indigenous to or introduced into Britain. New Edition, with a Supplement, prepared, under the direction of J. C. Loudon, by W. H. Baxter, and revised by George Don, F.L.S. 8vo. 31*s.* 6*d.* cloth.

LOUDON.—HORTUS LIGNOSUS LONDINENSIS;
Or, a Catalogue of all the Ligneous Plants cultivated in the neighbourhood of London. To which are added their usual Prices in Nurseries. By J. C. Loudon, F.L.S. etc. 8vo. 7*s.* 6*d.*

LOW.—ON LANDED PROPERTY, AND THE ECONOMY OF ESTATES;
Comprehending the Relations between Landlord and Tenant, and the Principles and Forms of Leases; of Farm Buildings, Enclosures, Drains, Embankments, Roads, and other Rural Works, Minerals, and Woods. By David Low, Esq. F.R.S.E. etc., author of "Elements of Practical Agriculture," etc. 8vo. with numerous Wood Engravings, 21*s.* cloth.

LOW.—AN INQUIRY INTO THE NATURE OF THE SIMPLE BODIES OF CHEMISTRY. By D. Low, F.R.S.E. Professor of Agriculture in the University of Edinburgh; author of "Elements of Practical Agriculture," "A Treatise on Landed Property and the Economy of Estates," "A Treatise on the Breeds of the British Domesticated Animals," "The Breeds of the Domesticated Animals of Great Britain Illustrated and Described." 2d Edition, enlarged and improved. 8vo. 9*s.* cloth.

LOW.—ON THE DOMESTICATED ANIMALS OF GREAT BRITAIN,
Comprehending the Natural and Economical History of the Species and Breeds; Illustrations of the Properties of External Form; and Observations on the Principles and Practice of Breeding. By David Low, Esq., F.R.S.E., Professor of Agriculture in the University of Edinburgh, etc.; author of "Elements of Practical Agriculture," etc. 8vo. with Engravings on Wood, 28*s.* cloth.

LOW.—THE BREEDS OF THE DOMESTICATED ANIMALS OF GREAT BRITAIN described. By David Low, Esq. F.R.S.E., Professor of Agriculture in the University of Edinburgh, etc. The Plates from drawings by W. Nicholson, R.S.A., reduced from a Series of Oil Paintings, executed for the Agricultural Museum of the University of Edinburgh, by W. Shiels, R.S.A. 2 vols. atlas quarto, with 56 Plates of Animals, beautifully coloured after Nature, 16*l.* 16*s.* half-bound in morocco.

Or in four separate portions, as follow: —

The OX. 1 Vol. With 22 Plates, price 6*l.* 16*s.* 6*d.* half-bound morocco.
The SHEEP. 1 Vol. With 21 Plates, price 6*l.* 16*s.* 6*d.* half-bound morocco.
The HORSE. 1 Vol. With 8 Plates, price 3*l.* half-bound morocco.
The HOG. 1 Vol. With 5 Plates, price 2*l.* 2*s.* half bound morocco.

LOW.—ELEMENTS OF PRACTICAL AGRICULTURE;
Comprehending the Cultivation of Plants, the Husbandry of the Domestic Animals, and the Economy of the Farm. By David Low, Esq. F.R.S.E., Professor of Agriculture in the University of Edinburgh. New Edition. 8vo. with an entirely new set of above 200 Woodcuts, 21*s.* cloth.

MACAULAY.—THE HISTORY OF ENGLAND,
From the Accession of James II. By Thomas Babington Macaulay. Fifth Edition. Vols. I. and II. 8vo. 32*s.* cloth.

MACAULAY.—CRITICAL AND HISTORICAL ESSAYS CONTRIBUTED TO THE EDINBURGH REVIEW. By the Right Hon. Thomas Babington Macaulay, M.P. Sixth Edition. 3 vols. 8vo. 36*s.* cloth.

MACAULAY.—LAYS OF ANCIENT ROME.
With "Ivry" and "The Armada." By the Right Honorable Thomas Babington Macaulay, M.P. New Edition. 16mo. 4*s.* 6*d.* cloth; morocco, 10*s.* 6*d.* (*by Hayday*).

MR. MACAULAY'S LAYS OF ANCIENT ROME.
With numerous Illustrations, Original and from the Antique, drawn on Wood by George Scharf, jun.; and engraved by Samuel Williams. New Edition. Fcp. 4to. 21*s.* boards; morocco, 42*s.* (*bound by Hayday*).

MACKAY (CHARLES).—THE SCENERY AND POETRY OF THE ENGLISH LAKES: a Summer Ramble. By Charles Mackay, Esq. LL.D. author of "Legends of the Isles," "The Salamandrine," "The Thames and its Tributaries," etc. 8vo. with beautiful Wood Engravings from Original Sketches, 14*s.* cloth.

MACKINTOSH (SIR JAMES).—THE LIFE OF SIR THOMAS MORE.
By the Right Hon. Sir James Mackintosh. Reprinted from the Cabinet Cyclopædia. Foolscap 8vo. with Portrait, 5*s.* cloth; or bound in vellum, 8*s.*

MACKINTOSH'S (SIR JAMES) MISCELLANEOUS WORKS;
Including his contributions to The EDINBURGH REVIEW. Edited by Robert James Mackintosh, Esq. 3 vols. 8vo. 42*s.* cloth.

M'CULLOCH.—A DICTIONARY, GEOGRAPHICAL, STATISTICAL, AND HISTORICAL, of the various Countries, Places, and Principal Natural Objects in the World. By J. R. M'Culloch, Esq. New Edition (1849), revised and enlarged; including new articles on Australia, Austria, the British Empire, France, etc.: in two thick and closely-printed volumes, illustrated with Six large Maps. 8vo. 4*l.* cloth.

*** A SUPPLEMENT *to the edition published in* 1846, *embodies the latest information with respect to the Australian Colonies, New Zealand, Natal, Labuan, etc. Price Half-a-crown.*

M'CULLOCH.—A DICTIONARY, PRACTICAL, THEORETICAL, AND HISTORICAL, OF COMMERCE, AND COMMERCIAL NAVIGATION. By J. R. M'Culloch, Esq. A New Edition (1849), corrected, enlarged, and improved; with a Supplement. 8vo. with Maps and Plans, 50*s.* cloth; or 55*s.* strongly half-bound in russia.

*** A SUPPLEMENT *to the last Edition, published in* 1847, *may be had separately, price* 4*s.* 6*d. sewed.*

M'CULLOCH.—A TREATISE ON THE SUCCESSION TO PROPERTY VACANT BY DEATH: including Inquiries into the influence of Primogeniture, Entails, the Law of Compulsory Partition, Foundations, etc. over the Public Interests. By J. R. M'Culloch, Esq. 8vo. 6*s.* 6*d.* cloth.

M'CULLOCH.—AN ACCOUNT, DESCRIPTIVE, AND STATISTICAL, OF the BRITISH EMPIRE; exhibiting its Extent, Physical Capacities, Population, Industry, and Civil and Religious Institutions. By J. R. M'Culloch, Esq. 3d Edition, corrected, enlarged, and greatly improved. 2 thick vols. 8vo. 42*s.* cloth.

M'CULLOCH.—THE LITERATURE OF POLITICAL ECONOMY:
Being a Classified Catalogue of the principal Works in the different departments of Political Economy, interspersed with Historical, Critical, and Biographical Notices. By J. R. M'Culloch, Esq. 8vo. 14*s.* cloth.

M'CULLOCH.—A TREATISE ON THE PRINCIPLES AND PRACTICAL INFLUENCE OF TAXATION AND THE FUNDING SYSTEM. By J. R. M'Culloch, Esq. 8vo. 10*s.* cloth.

MADAME DE MALCUET:
A Tale of 1820. 3 vols. post 8vo. 31*s.* 6*d.* boards.

MAITLAND.—THE APOSTLES' SCHOOL OF PROPHETIC INTERPRETATION: with its History to the Present Time. By Charles Maitland, author of "The Church in the Catacombs." 8vo. 12*s.* cloth.

"We have no hesitation in recommending it to the consideration of all students of the prophetical writings, as one of the most valuable works that has ever appeared on the subject."
British Magazine.

MAITLAND.—THE CHURCH IN THE CATACOMBS:
A Description of the Primitive Church of Rome, illustrated by its Sepulchral Remains. By Charles Maitland. New Edition, revised. 8vo. with numerous Engravings on Wood. 14*s.*

MARCET.—CONVERSATIONS ON CHEMISTRY;
In which the Elements of that Science are familiarly Explained and Illustrated by Experiments. By Jane Marcet. New Edition, corrected. 2 vols. foolscap 8vo. 14*s.* cloth.

MARCET.—CONVERSATIONS ON NATURAL PHILOSOPHY;
In which the Elements of that Science are familiarly explained, and adapted to the comprehension of Young Persons. By Jane Marcet. New Edition, enlarged and corrected. Fcap. 8vo. with 23 Plates, 10*s.* 6*d.* cloth.

MARCET.—CONVERSATIONS ON POLITICAL ECONOMY;
In which the Elements of that Science are familiarly explained. By Jane Marcet. New Edition, revised and enlarged. Foolscap 8vo. 7*s.* 6*d.* cloth.

MARCET.—CONVERSATIONS ON VEGETABLE PHYSIOLOGY;
Comprehending the Elements of Botany, with their application to Agriculture. By Jane Marcet. New Edition. Foolscap 8vo. with Four Plates, 9*s.* cloth.

MARCET.—CONVERSATIONS ON LAND AND WATER.
By Jane Marcet. New Edition revised and corrected. Foolscap 8vo. with coloured Map shewing the comparative Altitude of Mountains, 5*s.* 6*d.* cloth.

THE MARRIAGE SERVICE, ILLUMINATED.—THE FORM OF SOLEMNIZATION OF MATRIMONY. From "The Book of Common Prayer." Illuminated, in the Missal style, by Owen Jones. Square 18mo. 21*s.* elegantly bound. [*Nearly ready.*

MARRYAT.—BORNEO AND THE EAST INDIAN ARCHIPELAGO.
By Francis S. Marryat, late Midshipman of H.M.S. Samarang, Surveying Vessel. With many Drawings of Costume and Scenery, from Original Sketches made on the spot by Mr. Marryat. Imperial 8vo. with numerous Lithographic Plates and Wood Engravings, 31*s.* 6*d.*

MARRYAT (CAPT.)—MASTERMAN READY;
Or, the Wreck of the Pacific. Written for Young People. By Captain Marryat, C.B. author of "Peter Simple," etc. 3 vols. fcap. 8vo. with numerous Engravings on Wood, 22*s.* 6*d.* cloth.

MARRYAT.—THE PRIVATEER'S-MAN ONE HUNDRED YEARS AGO.
By Captain F. Marryat, C.B. author of "Peter Simple," "Masterman Ready," etc. 2 vols. fcap. 8vo. 12*s.* cloth.

MARRYAT.—THE MISSION;
Or, Scenes in Africa. Written for Young People. By Captain Marryat. C.B., author of "Peter Simple," "Masterman Ready," etc. 2 vols. fcap. 8vo. 12*s.* cloth.

MARRYAT.—THE SETTLERS IN CANADA.
Written for Young People. By Captain Marryat, C.B. author of "Peter Simple," "Masterman Ready," etc. New Edition. Fcap. 8vo. with two Illustrations, 7*s.* 6*d.* cloth.

MATTEUCCI.—LECTURES ON THE PHYSICAL PHŒNOMENA OF LIVING BEINGS. By Signor Carlo Matteucci, Professor of the University of Pisa. Translated under the superintendence of J. Pereira, M.D. F.R.S. Vice-President of the Royal Medical and Chirurgical Society. 12mo. 9*s.* cloth.

MAUNDER.—THE SCIENTIFIC AND LITERARY TREASURY:
A New and Popular Encyclopædia of Science and the Belles Lettres; including all Branches of Science, and every Subject connected with Literature and Art. The whole written in a familiar style, adapted to the comprehension of all persons desirous of acquiring information on the subjects comprised in the work, and also adapted for a Manual of convenient Reference to the more instructed. By Samuel Maunder. New Edition. Fcap. 8vo. 10*s.* cloth; bound in roan, 12*s.*

MAUNDER.—THE TREASURY OF HISTORY;
Comprising a General Introductory Outline of Universal History, Ancient and Modern, and a Series of separate Histories of every principal Nation that exists; developing their Rise, Progress, and Present Condition, the Moral and Social Character of their respective Inhabitants, their Religion, Manners, and Customs, etc. etc. By Samuel Maunder. New Edit. Fcap. 8vo. 10*s.* cloth; bound in roan, 12*s.*

MAUNDER.—THE TREASURY OF NATURAL HISTORY;
Or, a Popular Dictionary of Animated Nature: in which the Zoological Characteristics that distinguish the different Classes, Genera, and Species are combined with a variety of interesting Information illustrative of the Habits, Instincts, and General Economy of the Animal Kingdom. To which are added, a Syllabus of Practical Taxidermy, and a Glossarial Appendix. Embellished with 900 Engravings on Wood, from Drawings made expressly for this Work. By Samuel Maunder. New Edition. Fcp. 8vo. 10*s.* cloth; bound in roan, 12*s.*

MAUNDER.—THE TREASURY OF KNOWLEDGE,
And LIBRARY of REFERENCE: Comprising an English Grammar; Tables of English Verbal Distinctions; Proverbs, Terms, and Phrases, in Latin, Spanish, French, and Italian, translated; new and enlarged English Dictionary; Directions for Pronunciation; new Universal Gazetteer; Tables of Population and Statistics; List of Cities, Boroughs, and Market Towns in the United Kingdom; Regulations of the General Post-Office; List of Foreign Animal, Vegetable, and Mineral Productions; compendious Classical Dictionary; Scripture Proper Names accented, and Christian Names of Men and Women; with Latin Maxims translated; List of Abbreviations; Chronology and History; compendious Law Dictionary; Abstract of Tax Acts; Interest and other Tables; Forms of Epistolary Address; Tables of Precedency; Synopsis of the British Peerage; and Tables of Number, Money, Weights and Measures. By Samuel Maunder. 18th Edition, revised throughout and greatly enlarged. Foolscap 8vo. 10*s.* cloth; bound in roan, 12*s.*

MAUNDER.—THE BIOGRAPHICAL TREASURY:
Consisting of Memoirs, Sketches, and brief Notices of above 12,000 Eminent Persons of all Ages and Nations, from the Earliest Period of History; forming a new and complete Dictionary of Universal Biography. By Samuel Maunder. New Edition, revised throughout; with a copious Supplement. Foolscap 8vo. 10*s.* cloth; bound in roan, 12*s.*

MAXIMS AND PRECEPTS OF THE SAVIOUR:
Being a Selection of the most beautiful Christian Precepts contained in the Four Gospels; illustrated by a series of Illuminations of original character, founded on the Passages—"Behold the Fowls of the Air," "Consider the Lilies of the Field," etc. In a rich binding, in the style of the celebrated opus Anglicum. Square foolscap 8vo. 21*s.*; or 30*s.* bound in morocco.

MEMOIRS OF THE GEOLOGICAL SURVEY OF GREAT BRITAIN,
And of the Museum of Economic Geology in London. Published by order of the Lords Commissioners of Her Majesty's Treasury. Vol. I. royal 8vo. with Woodcuts and 9 Plates, (seven coloured), 21*s.* cloth; and Vol. II. in two thick Parts, with 63 Plates (three coloured) and numerous Woodcuts, 42*s.* cloth, or, separately, 21*s.* each Part.——Also,

BRITISH ORGANIC REMAINS; consisting of Plates and Figures engraved on Steel, with descriptive Letterpress, and forming a portion of the Memoirs of the Geological Survey. Decades I. and II. royal 8vo. 2*s.* 6*d.* each, or royal 4to. 4*s.* 6*d.* each.

MERIVALE.—A HISTORY OF ROME UNDER THE EMPERORS.
Book the First, "Julius Cæsar." By the Rev. Charles Merivale. 2 vols. 8vo.
[*Nearly ready.*

MILNER (REV. J. AND I.)—THE HISTORY OF THE CHURCH OF CHRIST. By the Rev. Joseph Milner, A.M. With Additions and Corrections by the late Rev. Isaac Milner, D.D. F.R.S. A New Edition, revised, with additional Notes, by the Rev. Thomas Grantham, B.D., Chaplain to the Bishop of Kildare. 4 vols. 8vo. 52*s.* cloth.

MIRACLES OF OUR SAVIOUR.
With rich and appropriate Borders of Original Design, a series of Illuminated Figures of the Apostles from the Old Masters, six Illuminated Miniatures, and other Embellishments. By the Illuminator of the "Parables." Square fcap. 8vo. in massive carved covers, 21*s.*; or bound in morocco, in the missal style, 30*s.*

MITCHELL.—JOURNAL OF AN EXPEDITION INTO THE INTERIOR OF TROPICAL AUSTRALIA, in Search of a Route from Sydney to the Gulf of Carpentaria. By Lieut.-Colonel Sir T. L. Mitchell, Knt. D.C.L. Surveyor-General of New South Wales, and late elective Member of the Legislative Council of that Colony. 8vo. with Maps, Views, and Engravings of Objects of Natural History, 21*s.* cloth.

MONTGOMERY'S (JAMES) POETICAL WORKS.
New and only complete Edition. With some additional Poems, and Autobiographical Prefaces. Collected and edited by Mr. Montgomery. 4 vols. foolscap 8vo. with Portrait, and seven other Plates, 20*s.* cloth; bound in morocco, 1*l.* 16*s.*

MOORE.—THE POWER OF THE SOUL OVER THE BODY,
Considered in relation to Health and Morals. By George Moore, M.D. Member of the Royal College of Physicians, London, etc. New Edition. Post 8vo. 7*s.* 6*d.* cloth.

MOORE.—THE USE OF THE BODY IN RELATION TO THE MIND.
By George Moore, M.D. Member of the Royal College of Physicians, London, etc. New Edition. Post 8vo. 9*s.* cloth.

MOORE.—MAN AND HIS MOTIVES.
By George Moore, M.D. Member of the Royal College of Physicians, London, etc.; author of "The Power of the Soul over the Body," and "The Use of the Body in relation to the Mind." New Edition. Post 8vo. 8*s.* cloth.

MOORE'S POETICAL WORKS;
Containing the Author's recent Introduction and Notes. Complete in one volume, uniform with Lord Byron's Poems. Medium 8vo. with Portrait and Vignette, 1*l.* 1*s.* cloth; or 42*s.* bound in morocco, by Hayday.

*** Also, an Edition in 10 vols. foolscap 8vo. with Portrait, and 19 Plates, 2*l.* 10*s.* cloth; morocco, 4*l.* 10*s.*

MOORE.—SONGS, BALLADS, AND SACRED SONGS.
By Thomas Moore, author of "Lalla Rookh," "Irish Melodies," etc. First collected Edition, uniform with the new Edition of Moore's "Irish Melodies" and "Lalla Rookh," 16mo. with Vignette Title. [*In October.*

MOORE'S IRISH MELODIES.
New and cheaper Edition, uniform in size with the smaller Edition of Mr. Macaulay's "Lays of Ancient Rome." With the Autobiographical Preface from the Collective Edition of Mr. Moore's Poetical Works, and a Vignette by D. Maclise, R.A., Engraved on Wood by J. Thompson. 16mo. 5*s.* cloth, or 12*s.* 6*d.* bound in morocco, by Hayday.

MOORE'S IRISH MELODIES.
Illustrated by D. Maclise, R.A. Imp. 8vo. with 161 Designs, engraved on Steel, 3*l.* 3*s.* boards; or 4*l.* 14*s.* 6*d.* bound in morocco, by Hayday. Proof Impressions (only 200 copies printed, of which a few remain), 6*l.* 6*s.* boards.

MOORE'S IRISH MELODIES.
New Edition. Fcap. 8vo. with Vignette Title, 10*s.* cloth; bound in morocco, 13*s.* 6*d.*

MOORE'S LALLA ROOKH: AN ORIENTAL ROMANCE.
New and cheaper Edition, uniform in size with the smaller Edition of Mr. Macaulay's "Lays of Ancient Rome." With the Autobiographical Preface from the Collective Edition of Mr. Moore's Poetical Works, and a Vignette by D. Maclise, R.A., Engraved on Wood by J. Thompson. 16mo. 5*s.* cloth; or 12*s.* 6*d.* bound in morocco, by Hayday.

MOORE'S LALLA ROOKH: AN ORIENTAL ROMANCE.
New Edition. Medium 8vo. illustrated with 13 fine Engravings, 21*s.* cloth; morocco, 35*s.*; with India Proof Plates, 42*s.* cloth.

MOORE'S LALLA ROOKH: AN ORIENTAL ROMANCE.
New Edition. Foolscap 8vo. with 4 Plates, by Westall, 10*s.* 6*d.* cloth; or 14*s.* bound in morocco.

MORELL.—THE PHILOSOPHY OF RELIGION.
By J. D. Morell, M.A., author of an Historical and Critical "View of the Speculative Philosophy of Europe in the Nineteenth Century." 8vo. 12*s.* cloth.

MOSELEY.—ILLUSTRATIONS OF PRACTICAL MECHANICS.
By the Rev. H. Moseley, M.A., Professor of Natural Philosophy and Astronomy in King's College, London; author of "The Mechanical Principles of Engineering and Architecture." New Edition. Fcap. 8vo. with Woodcuts, 8*s.* cloth.

MOSELEY.—THE MECHANICAL PRINCIPLES OF ENGINEERING AND ARCHITECTURE. By the Rev. H. Moseley, M.A. F.R.S., Professor of Natural Philosophy and Astronomy in King's College, London; and author of "Illustrations of Practical Mechanics," etc. 8vo. with Woodcuts and Diagrams, 1*l.* 4*s.* cloth.

MOSHEIM'S ECCLESIASTICAL HISTORY,
Ancient and Modern. Translated, with copious Notes, by James Murdock, D.D. New Edition, revised, and continued, by the Rev. Henry Soames, M.A. 4 vols. 8vo. 48*s.* cloth.

MURE.—A CRITICAL HISTORY OF THE LANGUAGE AND LITERATURE OF ANCIENT GREECE, from the Earliest Period to the Death of Solon. By William Mure, M.P., of Caldwell. 3 vols. 8vo. [*In the press.*

MURRAY.—AN ENCYCLOPÆDIA OF GEOGRAPHY;
comprising a complete Description of the Earth: exhibiting its Relation to the Heavenly Bodies, its Physical Structure, the Natural History of each Country, and the Industry, Commerce, Political Institutions, and Civil and Social State of all Nations. By Hugh Murray, F.R.S.E. New Edition. 8vo. with 82 Maps, and upwards of 1,000 other Wood Engravings, 3*l.* cloth.

NECKER DE SAUSSURE.—PROGRESSIVE EDUCATION;
Or, Considerations on the Course of Life. Translated and Abridged from the French of Madame Necker De Saussure, by Miss Holland. 3 vols. foolscap 8vo. 19*s.* 6*d.* cloth.

*** *Separately*—Vols. I. and II. 12*s.*; Vol. III. 7*s.* 6*d.*

NEALE.—THE CLOSING SCENE;
Or, Christianity and Infidelity contrasted in the Last Hours of Remarkable Persons. By the Rev. Erskine Neale, M.A., Rector of Kirton, Suffolk; author of "The Bishop's Daughter," "Self-Sacrifice," "The Life-Book of a Labourer," etc. 2 vols. fcap. 8vo. 13*s.* cloth.

*** Separately—Vol. I. (First Series), 6*s.*; Vol. II. (Second Series), 7*s.*

OWEN.—LECTURES ON THE COMPARATIVE ANATOMY AND PHYSIOLOGY OF THE INVERTEBRATE ANIMALS, delivered at the Royal College of Surgeons in 1843. By Richard Owen, F.R.S. Hunterian Professor to the College. From Notes taken by William White Cooper, M.R.C.S. and revised by Professor Owen. With Glossary and Index. 8vo. with nearly 140 Woodcuts, 14*s.* cloth.

OWEN.—LECTURES ON THE COMPARATIVE ANATOMY AND PHYSIOLOGY of the VERTEBRATE ANIMALS, delivered at the Royal College of Surgeons in 1844 and 1846. By Richard Owen, F.R.S. Hunterian Professor to the College. In 2 vols. Vol. I. 8vo. with numerous Woodcuts, 14*s.* cloth.

PARABLES OF OUR LORD.
Richly illuminated with appropriate Borders, printed in Colours, and in Black and Gold; with a Design from one of the early German engravers. Square foolscap 8vo., uniform in size with the "Sermon on the Mount," 21*s.*, in a massive carved binding; morocco, 30*s.*, bound by Hayday.

PARKES.—DOMESTIC DUTIES;
Or, Instructions to Young Married Ladies on the Management of their Households and the Regulation of their Conduct in the various Relations and Duties of Married Life. By Mrs. W. Parkes. New Edition. Foolscap 8vo. 9*s.* cloth.

PARNELL.—A TREATISE ON ROADS,
Wherein the Principles on which Roads should be made are explained and illustrated by the Plans, Specifications, and Contracts, made use of by Thomas Telford, Esq., on the Holyhead Road. By Sir Henry Parnell, Bart. New Edition, enlarged. 8vo. with Plates, 21*s.* cloth.

PARROT.—THE ASCENT OF MOUNT ARARAT.
By Dr. Friedrich Parrot, Professor of Natural Philosophy in the University of Dorpat, Russian Imperial Councillor of State, etc. Translated and Edited by W. D. Cooley, Esq. author of the "History of Maritime and Inland Discovery," etc. 8vo. with a Map by Arrowsmith, and Woodcuts, 14*s.* cloth.

PASCAL.—THE MISCELLANEOUS WRITINGS OF PASCAL.
Consisting of Correspondence with Relatives and Friends; Letter on the Death of his Father, in a complete state, from original Sources; Philosophical Treatises; Discourse on the "Passion of Love" (lately discovered); Essay on the Art of Persuasion, and Notes on Eloquence and Style; Conversations—on the Condition of the Great, etc.; Detached Thoughts and Notes, etc. etc.: the greater Part never before published in this Country, and large Portions from original Manuscripts. Arranged and Translated from the French Edition of M. P. Faugère, with Introduction, Editorial Notices, Notes, etc., by George Pearce, Esq. Post 8vo. 8*s.* 6*d.* cloth.

PASCAL.—THE PROVINCIAL LETTERS OF PASCAL:
With an "Essay on Pascal, considered as a Writer and Moralist." By M. Villemain, Peer of France, late Minister of Public Instruction, etc. Newly Translated from the French, with Memoir, Notes, and Appendix, by George Pearce, Esq. Post 8vo. 8*s.* 6*d.* cloth.

PEREIRA.—A TREATISE ON FOOD AND DIET:
With Observations on the Dietetical Regimen suited for Disordered States of the Digestive Organs; and an Account of the Dietaries of some of the principal Metropolitan and other Establishments for Paupers, Lunatics, Criminals, Children, the Sick, etc. By Jon. Pereira, M.D. F.R.S., author of "Elements of Materia Medica." 8vo. 16*s.* cloth.

PESCHEL (C. F.)—ELEMENTS OF PHYSICS,
By C. F. Peschel, Principal of the Royal Military College, Dresden, etc. etc. Translated from the German, with Notes, by E. West. 3 vols. fcap. 8vo. with Woodcuts, 21*s.* cloth.

Separately { Part I. The Physics of Ponderable Bodies. Fcap. 8vo. 7*s.* 6*d.* cloth.
Part II. Imponderable Bodies (Light, Heat, Magnetism, Electricity, and Electro-Dynamics). 2 vols. fcap. 8vo. 13*s.* 6*d.* cloth.

PHILLIPS.—FIGURES & DESCRIPTIONS OF THE PALÆOZOIC FOSSILS OF CORNWALL, DEVON, and WEST SOMERSET; observed in the course of the Ordnance Geological Survey of that District. By John Phillips, F.R.S. F.G.S. etc. Published by Order of the Lords Commissioners of H. M. Treasury. 8vo. with 60 Plates, comprising very numerous Figures, 9*s.* cloth.

PHILLIPS.—AN ELEMENTARY INTRODUCTION TO MINERALOGY;
Comprising a Notice of the Characters, Properties, and Chemical Constitution of Minerals: with Accounts of the Places and Circumstances in which they are found. By William Phillips, F.L.S. M.G.S. etc. A New Edition, corrected, enlarged, and improved, by W. H. Miller, M.A. F.R.S. Professor of Mineralogy in the University of Cambridge. 8vo. with numerous Wood Engravings. *[In the press.*

PLUNKETT.—THE PAST AND FUTURE OF THE BRITISH NAVY.
By Captain the Hon. E. Plunkett, R.N. 2d Edition, corrected and enlarged; with Notes, and New Information communicated by several Officers of Distinction. Post 8vo. 8*s.* 6*d.*

THE POCKET AND THE STUD;
Practical Hints on the Management of the Stable. By Harry Hieover, author of "Stable-Talk and Table-Talk; or, Spectacles for Young Sportsmen." With a Portrait of the Author on his favourite Horse "Harlequin." Foolscap 8vo. 5*s.* half-bound.

PORTLOCK.—REPORT ON THE GEOLOGY OF THE COUNTY OF LONDONDERRY, and of Parts of Tyrone and Fermanagh, examined and described under the Authority of the Master-General and Board of Ordnance. By J. E. Portlock, F.R.S. etc. 8vo. with 48 Plates, 24*s.* cloth.

POWER.—SKETCHES IN NEW ZEALAND,
with Pen and Pencil. By W. Tyrone Power, D.A.C.G. From a Journal kept in that Country, from July 1846 to June 1848. With 8 Plates and 2 Woodcuts, from Drawings made on the spot. Post 8vo. 12*s.* cloth.

"The book is very pleasantly written, crowded with picturesque sketches, by both pen and pencil, and exhibits, with brevity and clearness, a complete review of the past and present relations, complicated enough in their origin and progress, between the native tribes, the New Zealand Company, the British Government, and the settlers. We have not seen the case of New Zealand stated so fairly or so intelligibly elsewhere. Mr. Power's personal narrative considerably enhances the interest and value of his statements. His journeys up rivers and mountains, and in various directions across a trackless country, his intercourse with the natives, and the incidents of savage life which every now and then rose upon his course, are full of excitement, and bring out in their details an effective picture of the colony."
Bentley's Miscellany.

PYCROFT.—THE COLLEGIAN'S GUIDE;
Or, Recollections of College Days; setting forth the Advantages and Temptations of a University Education. By the Rev. James Pycroft, B.A., author of "A Course of English Reading," etc. Post 8vo. 10*s.* 6*d.* cloth.

PYCROFT.—A COURSE OF ENGLISH READING;
Adapted to every Taste and Capacity. With Anecdotes of Men of Genius. By the Rev. James Pycroft, B.A., author of "The Collegian's Guide," etc. Foolscap 8vo. 6*s.* 6*d.* cloth.

RANKE (PROFESSOR).—RANKE'S HISTORY OF THE REFORMATION.
Translated by Sarah Austin, translator of Ranke's "History of the Popes." Vols. I. and II. 8vo. 30*s.*; Vol. III. 18*s.* cloth.

READER (THOMAS).—TIME TABLES.
On a New and Simplified Plan; to facilitate the Operation of Discounting Bills, and the Calculation of Interest on Banking and Current Accounts, etc.: shewing, without calculation, the Number of Days from every Day in the Year to any other Day, for any Period not exceeding 365 Days. By Thomas Reader. Post 8vo. 14*s.* cloth, or 17*s.* calf lettered.

REID (DR.)—ILLUSTRATIONS OF THE THEORY AND PRACTICE OF VENTILATION: with Remarks on Warming, Exclusive Lighting, and the Communication of Sound. By D. B. Reid, M.D. F.R.S.E. etc. 8vo. with Engravings on Wood, 16*s.* cloth.

REST IN THE CHURCH.
By the Author of "From Oxford to Rome; and, How it Fared with Some who lately made the Journey." New Edition. Fcap. 8vo. 6*s.* 6*d.* cloth.

RICH.—THE ILLUSTRATED COMPANION TO THE LATIN DICTIONARY AND GREEK LEXICON: forming a Glossary of all the Words respecting Visible Objects connected with the Arts, Manufactures, and Every-day Life of the Ancients. With Representations of nearly Two Thousand Objects from the Antique. By Anthony Rich, jun. B.A. late of Caius College, Cambridge. Post 8vo. with about 2,000 Woodcuts, 21*s.* cloth.

RICHTER.—LEVANA; OR, THE DOCTRINE OF EDUCATION.
Translated from the German of Jean Paul Fr. Richter. Post 8vo. 10*s.* 6*d.* cloth.

RIDDLE.—LETTERS FROM AN ABSENT GODFATHER;
Or, a Compendium of Religious Instruction for Young Persons. By the Rev. J. E. Riddle, M.A. Foolscap 8vo. 6*s.* cloth.

RIDDLE.—A COPIOUS AND CRITICAL LATIN-ENGLISH LEXICON,
founded on the German-Latin Dictionaries of Dr. William Freund. By the Rev. J. E. Riddle, M.A., author of "A Complete Latin-English and English-Latin Dictionary," "Ecclesiastical Chronology," etc. Post 4to. uniform with "Liddell and Scott's Greek Lexicon," 50s. cloth.

RIDDLE.—A COMPLETE LATIN-ENGLISH AND ENGLISH-LATIN DICTIONARY, for the use of Colleges and Schools. By the Rev. J. E. Riddle, M.A. New Edition. 8vo. 31s. 6d. cloth.

*** Separately—The English-Latin Dictionary, 10s. 6d.; the Latin-English Dictionary, 21s.

RIDDLE.—A DIAMOND LATIN-ENGLISH DICTIONARY,
A Guide to the Meaning, Quality, and right Accentuation of Latin Classical Words. By the Rev. J. E. Riddle, M.A. New Edition. Royal 32mo. 4s. bound.

RIDDLE.—ECCLESIASTICAL CHRONOLOGY;
Or, Annals of the Christian Church, from its Foundation to the present Time. Containing a View of General Church History, and the Course of Secular Events; the Limits of the Church and its Relations to the State; Controversies; Sects and Parties; Rites, Institutions, and Discipline; Ecclesiastical Writers, etc. By the Rev. J. E. Riddle, M.A. 8vo. 15s. cloth.

RITCHIE (ROBERT.)—RAILWAYS: THEIR RISE AND PROGRESS, AND CONSTRUCTION, with Remarks on Railway Accidents, and Proposals for their Prevention. By Robert Ritchie, Esq., F.R.S., S.A., Civil Engineer, Associate of the Institution of Civil Engineers, etc. Fcap. 8vo. with Woodcuts and Diagrams, 9s. cloth.

RIVERS.—THE ROSE AMATEUR'S GUIDE:
Containing ample Descriptions of all the fine leading varieties of Roses, regularly classed in their respective Families; their History and Mode of Culture. By T. Rivers, Jun. Fourth Edition, corrected and improved. Foolscap 8vo. 5s. cloth.

ROBINSON.—THE WHOLE ART OF MAKING BRITISH WINES, CORDIALS, AND LIQUEURS, IN THE GREATEST PERFECTION; AS ALSO STRONG AND CORDIAL WATERS. To which is added, a Collection of Valuable Recipes for Brewing Fine and Strong Ales, and Miscellaneous Articles connected with the Practice. By James Robinson. Fcap. 8vo. 5s. cloth.

ROBINSON (JAMES).—THE WHOLE ART OF CURING, PICKLING, and SMOKING MEAT and FISH, both in the British and Foreign Modes. With many useful Miscellaneous Recipes, and full Directions for the Construction of an Economical Drying-Chimney and Apparatus, on an entirely new Plan. By James Robinson, Eighteen Years a Practical Curer. Fcap. 8vo. 4s. 6d. cloth.

ROGERS.—THE VEGETABLE CULTIVATOR;
Containing a plain and accurate Description of all the different Species of Culinary Vegetables, with the most approved Method of Cultivating them by Natural and Artificial Means, and the best Modes of Cooking them. By John Rogers, author of "The Fruit Cultivator." New Edition. Foolscap 8vo. 7s. cloth.

ROWTON.—THE FEMALE POETS OF GREAT BRITAIN,
Chronologically arranged: with copious Selections, and Critical Remarks. By Frederic Rowton, author of "The Debater," etc. Square crown 8vo. 14s. cloth.

ROWTON (F.)—THE DEBATER;
Being a Series of complete Debates, Outlines of Debates, and Questions for Discussion. With ample references to the best sources of information upon each particular topic. By Frederic Rowton, Lecturer on General Literature. Foolscap 8vo. 5s. cloth.

SANDFORD (REV. JOHN).—PAROCHIALIA,
Or Church, School, and Parish. By the Rev. John Sandford, B.D. Vicar of Dunchurch, Chaplain to the Lord Bishop of Worcester, Hon. Canon of Worcester, and Rural Dean. 8vo. with numerous Woodcuts, 16s. cloth.

SANDFORD.—WOMAN IN HER SOCIAL AND DOMESTIC CHARACTER.
By Mrs. John Sandford. 6th Edition. Foolscap 8vo. 6s. cloth.

SANDFORD.—FEMALE IMPROVEMENT.
By Mrs. John Sandford. New Edition. Foolscap 8vo. 7s. cloth.

SCHLEIDEN.—PRINCIPLES OF SCIENTIFIC BOTANY;
or, Botany as an Inductive Science. By Dr. M. J. Schleiden, Extraordinary Professor of Botany in the University of Jena. Translated by Edwin Lankester, M.D., F.L.S., Lecturer on Botany at the St. George's School of Medicine, London. 8vo. with Plates and Woodcuts, 21*s.* cloth.

"We congratulate our readers on the appearance of an English edition of this remarkable work, by a gentleman so capable to do full justice to it as Dr. Lankester. It cannot fail to interest deeply all true lovers of Botanical Science, and we believe it will be considered a valuable addition to our Botanical literature." Jameson's Philosophical Journal.

SCOFFERN.—THE MANUFACTURE OF SUGAR,
in the Colonies and at Home, chemically considered. By John Scoffern, M.B. Lond., late Professor of Chemistry at the Aldersgate School of Medicine. 8vo. with Illustrations (one coloured), 10*s.* 6*d.* cloth.

SEAWARD.—SIR EDWARD SEAWARD'S NARRATIVE OF HIS SHIPWRECK,
and consequent Discovery of certain Islands in the Caribbean Sea: with a Detail of many extraordinary and highly interesting Events in his Life, from 1733 to 1749, as written in his own Diary. Edited by Miss Jane Porter. New Edition. 2 vols. post 8vo. 21*s.* cloth.

SENIOR.—CHARLES VERNON:
A Transatlantic Tale. By Lieut.-Colonel Henry Senior. 2 vols. post 8vo. 21*s.* boards.

THE SERMON ON THE MOUNT.
Intended as a Birthday-Present, or Gift-Book for all Seasons. Printed in Gold and Colours, in the Missal Style; with Ornamental Borders by Owen Jones, Architect, and an Illuminated Frontispiece by W. Boxall, Esq. A new edition. Foolscap 4to. in a rich brocaded silk cover, 21*s.*; or bound in morocco, by Hayday, 25*s.*

SEWELL.—AMY HERBERT.
By a Lady. Edited by the Rev. William Sewell, B.D., Fellow and Tutor of Exeter College, Oxford. New Edition. 2 vols. foolscap 8vo. 9*s.* cloth.

SEWELL.—GERTRUDE.
A Tale. By the author of "Amy Herbert." Edited by the Rev. William Sewell, B.D., Fellow and Tutor of Exeter College, Oxford. New Edition. 2 vols. foolscap 8vo. 9*s.* cloth.

SEWELL.—LANETON PARSONAGE:
A Tale for Children, on the practical use of a portion of the Church Catechism. By the author of "Amy Herbert." Edited by the Rev. W. Sewell, B.D., Fellow and Tutor of Exeter College, Oxford. New Edition. 3 vols. fcap. 8vo. 16*s.* cloth.

SEWELL.—MARGARET PERCIVAL.
By the Author of "Amy Herbert." Edited by the Rev. W. Sewell, B.D., Fellow and Tutor of Exeter College, Oxford. New Edition. 2 vols. foolscap 8vo. 12*s.* cloth.

SHAKSPEARE, BY BOWDLER.
THE FAMILY SHAKSPEARE, in which nothing is added to the Original Text; but those Words and Expressions are omitted which cannot with propriety be read aloud. By T. Bowdler, Esq. F.R.S. New Edition. 8vo. with 36 Illustrations after Smirke, etc., 21*s.* cloth; or, without Illustrations, 6 vols. 8vo. 4*l.* 14*s.* 6*d.* boards.

SHORT WHIST:
Its Rise, Progress, and Laws; with the recent Decisions of the Clubs, and Observations to make any one a Whist Player. Containing also the Laws of Piquet, Cassino, Ecarte, Cribbage, Backgammon. By Major A * * * * * New Edition. To which are added, Precepts for Tyros. By Mrs. B * * * * * Foolscap 8vo. 3*s.* cloth, gilt edges.

THE GOOD SHUNAMMITE.
From the Scriptures. With 6 Original Designs by A. Klein, and an Ornamental Border to each page, in the Missal style, by L. Gruner. Printed in Colours and Gold. Square fcap. 8vo. 21*s.* in massive carved covers; or 30*s.* bound in morocco.

SINCLAIR.—SIR EDWARD GRAHAM;
Or, Railway Speculators. By Catherine Sinclair, author of "Modern Accomplishments," etc. 3 vols. post 8vo. *[Nearly ready.*

SINCLAIR.—THE BUSINESS OF LIFE.
By Catherine Sinclair, author of "The Journey of Life," "Jane Bouverie," "Modern Accomplishments," "Modern Society," etc. 2 vols. fcap. 8vo. 10*s.* cloth.

SINCLAIR.—THE JOURNEY OF LIFE.
By Catherine Sinclair, author of "The Business of Life," "Modern Society," "Jane Bouverie," etc. New Edition, corrected and enlarged. Fcap. 8vo. 5*s.* cloth.

SINNETT.—BY-WAYS OF HISTORY, FROM THE TWELFTH TO THE SIXTEENTH CENTURY. By Mrs. Percy Sinnett. 2 vols. post 8vo. 18*s.* cloth.

SIR ROGER DE COVERLEY.
From the Spectator. With Notes and Illustrations, and Engravings on Wood from Designs by Frederick Tayler, Member of the Society of Painters in Water Colours.
[*Nearly ready.*

THE SKETCHES;
Three Tales. By the Authors of "Amy Herbert," "The King's Messengers," and "Hawkstone." New Edition. Fcap. 8vo. with six Plates, 8*s.* cloth.

THE WORKS OF THE REV. SYDNEY SMITH.
Comprising the Author's Miscellaneous Writings, and Contributions to the Edinburgh Review. New Edition, with Additions. 3 vols. 8vo. with Portrait, 36*s.* cloth.

SMITH.—SERMONS PREACHED AT ST. PAUL'S CATHEDRAL,
the Foundling Hospital, and several Churches in London; together with others addressed to a Country Congregation. By the late Rev. Sydney Smith, Canon Residentiary of St. Paul's Cathedral. 8vo. 12*s.* cloth.

SMITH.—THE VOYAGE AND SHIPWRECK OF SAINT PAUL:
with Dissertations on the Sources of the Writings of St. Luke, and the Ships and Navigation of the Antients. By James Smith, Esq. of Jordanhill, F.R.S. etc. 8vo. with illustrative Views, Charts, and Woodcuts, 14*s.* cloth.

SMITH.—SACRED ANNALS:
Or, Researches into the History and Religion of Mankind, from the Creation of the World to the Death of Isaac: deduced from the Writings of Moses and other Inspired Authors, copiously illustrated and confirmed by the ancient Records, Traditions, and Mythology of the Heathen World. By George Smith, F.S.A. etc. author of "The Religion of Ancient Britain," etc. Crown 8vo. 10*s.* cloth.

*** *Vol. II. comprising the History and Religion of the Hebrew People, from the origin of the Nation to the time of Christ, is* nearly ready.

THE RELICION OF ANCIENT BRITAIN HISTORICALLY CONSIDERED:
Or, a Succinct Account of the several Religious Systems which have obtained in this Island from the Earliest Times to the Norman Conquest: including an Investigation into the Early Progress of Error in the Christian Church, the Introduction of the Gospel into Britain, and the State of Religion in England till Popery had gained the Ascendancy. By George Smith, F.A.S. New Edition. 8vo. 7*s.* 6*d.* cloth.

PERILOUS TIMES:
Or, the Agressions of Anti-Christian Error on Scriptural Christianity: considered in reference to the Dangers and Duties of Protestants. By George Smith, F.A.S. Member of the Royal Asiatic Society, and of the Royal Society of Literature. Foolscap 8vo. 6*s.* cloth.

SOAMES.—THE LATIN CHURCH DURING ANGLO-SAXON TIMES.
By the Rev. Henry Soames, M.A., Editor of "Mosheim's Institutes of Ecclesiastical History." 8vo. 14*s.* cloth.

SOME PASSAGES FROM MODERN HISTORY.
By the Author of "Letters to My Unknown Friends," and "Twelve Years Ago." Foolscap 8vo. 6*s.* 6*d.* cloth.

THE SONG OF SONGS, WHICH IS SOLOMON'S.
From the Holy Scriptures. Being the Six Chapters of the Book of the Song of Solomon, richly illuminated, in the Missal Style, by Owen Jones. Elegantly bound in relievo leather Imperial 16mo. 21*s.*

SONGS, MADRICALS, AND SONNETS:
A Gathering of some of the most pleasant Flowers of old English Poetry. Set in Borders of coloured Ornaments and Vignettes. Square foolscap 8vo. 10*s.* 6*d.* ornamental boards, or 17*s.* bound in morocco.

SOUTHEY.—THE LIFE AND CORRESPONDENCE OF THE LATE ROBERT SOUTHEY. Edited by his Son, the Rev. Charles Cuthbert Southey, M.A. Post 8vo.
[*In the press.*

SOUTHEY.—THE LATE MR. SOUTHEY'S COMMON-PLACE BOOK.

Edited by his Son-in-Law, the Rev. John Wood Warter. *First Series*, comprising CHOICE PASSAGES, Moral, Religious, Political, Philosophical, Historical, Poetical, and Miscellaneous; and COLLECTIONS for the History of Manners and Literature in England. Forming a volume complete in itself. With a Medallion Portrait of Southey. Square crown 8vo. 18*s.* cloth.

"Such a collection of 'Choice Passages' we have never previously met with. They are drawn from works of all classes, and from every age of our literature, and bespeak an acquaintance, at once minute and comprehensive, with the whole range of English authorship. It is a book to be taken up for the hour, and the more frequently its companionship is sought, the higher will be the opinion formed of its vast treasures. An ample Index is happily supplied, which serves the purpose of a skilful guide in what would otherwise be a trackless though rich wilderness. The literateur and the general reader will be alike gratified by its pages, in which wit and logic, humour and grave discourse, poetry and science, the facts of history and the lessons of philosophy, are happily mingled in due proportions."
Eclectic Review.

*** *The Second Series, being* SPECIAL COLLECTIONS, *is in the press.*

SOUTHEY—THE DOCTOR, ETC.

By the late Robert Southey. Complete in One Volume. Edited by the Author's Son-in-Law, the Rev. John Wood Warter. With Portrait, Vignette Title-page, and Bust of the Author. New Edition. Square crown 8vo. 21*s.* cloth.

SOUTHEY.—THE LIFE OF WESLEY,

And Rise and Progress of Methodism. By Robert Southey, Esq. LL.D. New Edition, with Notes by the late Samuel Taylor Coleridge, Esq., and Remarks on the Life and Character of John Wesley, by the late Alexander Knox, Esq. Edited by the Rev. Charles Cuthbert Southey, A.M. Curate of Cockermouth. 2 vols. 8vo. with two Portraits, 1*l.* 8*s.* cloth.

ROBERT SOUTHEY'S COMPLETE POETICAL WORKS:

Containing all the Author's last Introductions and Notes. Complete in One Volume, 24*s.* 6*d.*, with Portrait and Vignette, uniform with Byron's and Moore's Poetical Works. Medium 8vo. 21*s.* cloth; or 42*s.* bound in morocco, by Hayday.

Also, an Edition in 10 vols. foolscap 8vo. with Portrait and 19 Plates, 2*l.* 10*s.*; morocco, 4*l.* 10*s.*

SOUTHEY.—SELECT WORKS OF THE BRITISH POETS:

From Chaucer to Withers. With Biographical Sketches, by R. Southey, LL.D. Medium 8vo. 30*s.* cloth; or, with gilt edges, 31*s.* 6*d.*

STABLE TALK AND TABLE TALK; OR, SPECTACLES FOR YOUNG SPORTSMEN.

By Harry Hieover. 2 vols. 8vo. with Portrait, 24*s.* cloth.

STEEL'S SHIPMASTER'S ASSISTANT.

Compiled for the use of Merchants, Owners and Masters of Ships, Officers of Customs, and all Persons connected with Shipping or Commerce; containing the Law and Local Regulations affecting the Ownership, Charge, and Management of Ships and their Cargoes; together with Notices of other Matters, and all necessary Information for Mariners. New Edition, rewritten throughout. Edited by Graham Willmore, Esq. M.A. Barrister-at-Law; George Clements, of the Customs, London, and William Tate, author of "The Modern Cambist." 8vo. 28*s.* cloth; or 29*s.* bound.

STEPHEN.—ESSAYS IN ECCLESIASTICAL BIOGRAPHY.

By the Right Hon. Sir James Stephen, K.C.B. 2 vols. 8vo. 24*s.* cloth.

"As a complete treasury of biography of men whose lives deserve to be known, we heartily recommend these volumes to all who can admire talent, love healthy reading, and are desirous, not only of rich amusement, but of being furnished with instruction worth the remembering."
Church and State Gazette.

STEPHEN.—THE HISTORY OF THE CHURCH OF SCOTLAND,

From the Reformation to the Present Time. By Thomas Stephen, author of "The Book of the Constitution," "Spirit of the Church of Rome," etc. 4 vols. 8vo. with 24 highly-finished Portraits, engraved on Steel, 32*s.* cloth.

STEPHENS.—A MANUAL OF BRITISH COLEOPTERA;

Or, BEETLES: containing a Description of all the Species of Beetles hitherto ascertained to inhabit Great Britain and Ireland, etc. By J. F. Stephens, F.L.S. Post 8vo. 14*s.* cloth.

THE STUD, FOR PRACTICAL PURPOSES AND PRACTICAL MEN:

Being a Guide to the Choice of a Horse for use more than for show. By Harry Hieover. Uniform with "The Pocket and the Stud." With Two Plates, one representing "A pretty good sort for most purposes;" the other, "'Rayther' a bad sort for any purpose." Fcap. 8vo. 5*s.* half-bound.

"This little volume contains excellent advice to those who are desirous of becoming possessed of a good and sound horse, and cannot rely upon their own judgment. The author's name is a guarantee for his thorough knowledge in all that relates to horse-flesh."—Weekly Dispatch.

THE SUITOR'S INSTRUCTOR IN THE PRACTICE OF THE COUNTY COURTS: containing all the Information necessary for Conducting or Defending a Suit; the Fees payable on each Step; Definitions of the Legal Terms used in the Proceedings; an Abstract of the Act of Parliament; the Rules of Practice, etc. etc. Also a District Directory, giving the Names of all the Streets (and the number of Houses in each Street) which form the Boundaries of the Metropolitan Districts; made from an actual Perambulation around each: and a List of the Country Districts. By a County Court Assistant Clerk. 12mo. 4*s.* 6*d.* cloth.

SWAIN.—ENGLISH MELODIES.
By Charles Swain, author of "The Mind, and other Poems." Fcap. 8vo. 6*s.* cloth.
"A volume of lyrics which will be read with avidity . . . The diversity of subjects—the harmony of rhythm—the feeling and kindliness of heart—the pathos manifested,—must render this book deservedly popular. There is in numbers of the songs a striking originality that cannot fail to charm the reader and rivet his attention." Sunday Times.

TATE.—THE CONTINUOUS HISTORY OF THE LIFE AND WRITINGS OF ST. PAUL, on the basis of the Acts; with Intercalary Matter of Sacred Narrative, supplied from the Epistles, and elucidated in occasional Dissertations: with the Horæ Paulinæ of Dr. Paley, in a more correct edition, subjoined. By James Tate, M.A. 8vo. Map, 13*s.* cloth.

TAYLER (REV. CHARLES B.)—MARGARET;
Or, the Pearl. By the Rev. Charles B. Tayler, M.A., author of "Lady Mary; or, Not of the World;" etc. New Edition. Foolscap 8vo. 6*s.* cloth.

TAYLER (REV. CHARLES B.)—LADY MARY; OR, NOT OF THE WORLD.
By the Rev. Charles B. Tayler, author of "Margaret, or the Pearl," etc. New Edition. Foolscap 8vo. with Frontispiece, 6*s.* 6*d.* cloth.

TAYLOR.—LOYOLA AND JESUITISM:
In its Rudiments. By Isaac Taylor, author of "Natural History of Society." With medallion Portrait. Post 8vo. 10*s.* 6*d.* cloth.
"Various books on individual Jesuits, or on the constitutions of their order, have lately appeared, but nothing at all approaching in interest or merit to Loyola: and Jesuitism in its Rudiments. . . . *a book that must be carefully read by any one who wishes to form a true idea of Loyola, and an idea of Jesuitism."* Spectator.

THIRLWALL.—THE HISTORY OF GREECE.
By the Right Rev. the Lord Bishop of St. David's. A new Edition, revised; with Notes. Vols. I. to V. 8vo. with Maps, 12*s.* each cloth. To be completed in 8 volumes.
"We are glad to receive another volume of this edition of Bishop Thirlwall's 'History,' and are quite satisfied, on an inspection of its contents, at the delay which has occurred in its appearance. The work is one of which English scholarship may well be proud—uniting sound erudition with elegant taste, an intimate knowledge of the sources of Greek history, with a discriminating judgment, and a very felicitous style of composition." Eclectic Review.
**** Also, an Edition in 8 vols. fcap. 8vo. with Vignette Titles, 2l. 8s. cloth.*

THOMSON'S SEASONS,
Edited by Bolton Corney, Esq. Illustrated with Seventy-seven Designs drawn on Wood by the Members of the Etching Club. Engraved by Thompson and other eminent Engravers. Square crown 8vo. uniform with "Goldsmith's Poems," 21*s.* cloth; bound in morocco, by Hayday, 36*s.*

THOMSON'S SEASONS.
Edited, with Notes, Philosophical, Classical, Historical, and Biographical, by Anthony Todd Thomson, M.D. F.L.S., Professor of Materia Medica and Therapeutics, and of Forensic Medicine, in University College, London, etc. Fcap. 8vo. 7*s.* 6*d.* cloth.

THOMSON.—THE DOMESTIC MANAGEMENT OF THE SICK ROOM,
Necessary, in Aid of Medical Treatment, for the Cure of Diseases. By Anthony Todd Thomson, M.D. F.L.S. etc. New Edition. Post 8vo. 10*s.* 6*d.* cloth.

THOMSON (JOHN).—TABLES OF INTEREST,
At Three, Four, Four-and-a-half, and Five per Cent., from One Pound to Ten Thousand, and from One to Three Hundred and Sixty-five Days, in a regular progression of Single Days; with Interest at all the above Rates, from One to Twelve Months, and from One to Ten Years. Also, Tables shewing the Exchange on Bills, etc. etc. etc. By John Thomson, Accountant. New Edition. 12mo. 8*s.* bound.

THOMSON.—EXPERIMENTAL RESEARCHES ON THE FOOD OF ANIMALS, AND THE FATTENING OF CATTLE: with Remarks on the Food of Man. By Robert Dundas Thomson, M.D. author of "School Chemistry, or Practical Rudiments of the Science." Fcap. 8vo. 6*s.* cloth.

THOMSON.—SCHOOL CHEMISTRY;
Or Practical Rudiments of the Science. By Robert Dundas Thomson, M.D. Master in Surgery in the University of Glasgow; Lecturer on Chemistry in the same University; and formerly in the Medical Service of the Honourable East India Company. Foolscap 8vo. with Woodcuts, 7*s.* cloth.

THE THUMB BIBLE;
Or, Verbum Sempiternum. By J. Taylor. Being an Epitome of the Old and New Testaments in English Verse. Printed from the Edition of 1693, by C. Whittingham, Chiswick. 64mo. 1*s.* 6*d.* bound and clasped.

TOMLINE (BISHOP).—AN INTRODUCTION TO THE STUDY OF THE BIBLE:
Being the First Volume of the Elements of Christian Theology; containing Proofs of the Authenticity and Inspiration of the Holy Scriptures; a Summary of the History of the Jews; an Account of the Jewish Sects; and a brief Statement of the Contents of the several Books of the Old Testament. By the late George Tomline, D.D.F.R.S. New Edition. Foolscap 8vo. 5*s.* 6*d.* cloth.

TOOKE.—THE HISTORY OF PRICES;
With reference to the Causes of their principal Variations, from the year 1792 to the year 1838, inclusive. Preceded by a Sketch of the History of the Corn Trade in the last Two Centuries. By Thomas Tooke, Esq. F.R.S. 3 vols. 8vo. 2*l.* 8*s.* cloth.

TOOKE.—THE HISTORY OF PRICES,
And of the State of the Circulation, from 1839 to 1847, inclusive: with a General Review of the Currency Question, and Remarks on the Operation of the Act 7 and 8 Vict. c. 32: being a continuation of "The History of Prices from 1792 to 1839." By Thomas Tooke, Esq. F.R.S. 8vo. 18*s.* cloth.

TOWNSEND (CHARLES).—THE LIVES OF TWELVE EMINENT JUDGES
OF THE LAST AND OF THE PRESENT CENTURY. By W. Charles Townsend, Esq., A.M. Recorder of Macclesfield, author of "Memoirs of the House of Commons." 2 vols. 8vo. 28*s.* cloth.

TURNER.—THE SACRED HISTORY OF THE WORLD,
Attempted to be Philosophically considered, in a Series of Letters to a Son. By Sharon Turner, F.S.A. and R.A.S.L. Eighth Edition, edited by the Rev. Sydney Turner. 3 vols. post 8vo. 31*s.* 6*d.* cloth.

TURNER.—THE HISTORY OF ENGLAND,
From the Earliest Period to the Death of Elizabeth. By Sharon Turner, Esq. F.A.S.R.A.S. New Editions. 12 vols. 8vo. 8*l.* 8*s.* cloth; or, separately—

THE HISTORY of the ANGLO-SAXONS. 3 vols. 8vo. 2*l.* 8*s.*

THE HISTORY of ENGLAND during the MIDDLE AGES. 5 vols. 8vo. 3*l.*

THE HISTORY of the REIGN of HENRY VIII. 2 vols. 8vo. 26*s.*

THE REIGNS of EDWARD VI., MARY, and ELIZABETH. 2 vols. 8vo. 32*s.*

TURTON'S (DR.) MANUAL OF THE LAND AND FRESHWATER SHELLS OF
THE BRITISH ISLANDS. A new Edition, thoroughly revised, with Additions. By John Edward Gray. Post 8vo. with Woodcuts, and 12 coloured Plates, 15*s.* cloth.

TWELVE YEARS AGO:
A Tale. By the Author of "Letters to My Unknown Friends." Foolscap 8vo. 6*s.* 6*d.* cloth.

"These 'Passages' are excellent specimens of a flowing and agreeable style, free from all pedantry. The author says that no new facts are brought forward, and no new truths elicited. This is true so far as a well-read student of history is concerned; but even he will find a great charm in the telling. The notes, too, are valuable, as suggestive of other fields of history, or stores of pleasant knowledge yet to be acquired by the young student. The manner in which the author parallels, as it were, characteristics or tastes in men whose countries and careers were far remote, yet in the bent of whose minds there was much resemblance, is one of the most recommendable things in the book." Weekly News.

TWINING.—ON THE PHILOSOPHY OF PAINTING:
A Theoretical and Practical Treatise; comprising Æsthetics in reference to Art—the Application of Rules to Painting—and General Observations on Perspective. By H. Twining, Esq. Imperial 8vo. with numerous Plates and Wood Engravings, 21*s.* cloth.

URE.—DICTIONARY OF ARTS, MANUFACTURES, AND MINES:
Containing a clear Exposition of their Principles and Practice. By Andrew Ure, M.D. F.R.S. M.G.S. M.A.S. Lond., M. Acad. N.S. Philad.; S. Ph. Soc. N. Germ. Hanov.; Mulhl, etc. etc. 3d Edition, corrected. 8vo. with 1,240 Woodcuts 50*s.* cloth.

By the same Author,

SUPPLEMENT OF RECENT IMPROVEMENTS. 2d Edition. 8vo. 14*s.* cloth.

VON ORLICH (CAPT.)—TRAVELS IN INDIA,
And the adjacent Countries, in 1842 and 1843. By Capt. Leopold Von Orlich. Translated from the German by H. Evans Lloyd, Esq. 2 vols. 8vo. with coloured Frontispieces, and numerous Illustrations on Wood, 28*s.* cloth.

WALFORD (J. E.)—THE LAWS OF THE CUSTOMS,
Compiled by Direction of the Lords Commissioners of Her Majesty's Treasury, and published under the Sanction of the Commissioners of Her Majesty's Customs; with Notes and a General Index. Edited by J. G. Walford, Esq. Solicitor for the Customs. Printed for Her Majesty's Stationery Office, and published by Authority. 8vo. 10*s.* 6*d.* cloth.

WALKER.—ELEMENTA LITURGICA;
Or, the Churchman's *Primer*, for the Scholastic Study of the Book of Common Prayer. By G. A. Walker, A.M., of Christ College, Cambridge. New Edition, entirely rearranged and considerably enlarged. Fcap. 8vo. 4*s.* 6*d.* cloth.

WALKER (GEO.)—CHESS STUDIES:
Comprising 1,000 Games actually Played during the last Half Century; presenting a unique Collection of Classical and Brilliant Specimens of Chess Skill in every stage of the Game, and forming an Encyclopædia of Reference. By George Walker. 8vo. 10*s.* 6*d.* sewed.

WARDLAW.—DISCOURSES ON THE PRINCIPAL POINTS OF THE SOCINIAN CONTROVERSY—the Unity of God, and the Trinity of Persons in the Godhead—the Supreme Divinity of Jesus Christ—the Doctrine of the Atonement,—the Christian Character, etc. By Ralph Wardlaw, D.D. New Edition. 8vo. 15*s.* cloth.

WATERTON.—ESSAYS ON NATURAL HISTORY,
Chiefly Ornithology. By Charles Waterton, Esq., author of "Wanderings in South America." With an Autobiography of the Author, and Views of Walton Hall. New Editions. 2 vols. foolscap 8vo. 14*s.* 6*d.* cloth.

*** Separately—Vol. I. (First Series), 8*s.*; Vol. II. (Second Series), 6*s.* 6*d.*

WEBSTER.—AN ENCYCLOPÆDIA OF DOMESTIC ECONOMY;
Comprising such subjects as are most immediately connected with Housekeeping; as, The Construction of Domestic Edifices, with the Modes of Warming, Ventilating, and Lighting them—A Description of the various Articles of Furniture, with the Nature of their Materials—Duties of Servants, etc. etc. By Thomas Webster, F.G.S., etc. etc.; assisted by the late Mrs. Parkes. New Edition. 8vo. with nearly 1,000 Woodcuts, 50*s.* cloth.

WESTWOOD (J. O.)—AN INTRODUCTION TO THE MODERN CLASSIFICATION OF INSECTS; founded on the Natural Habits and comparative Organisation of the different Families. By J. O. Westwood, F.L.S. etc. 2 vols. 8vo. with numerous Illustrations, 2*l.* 7*s.* cloth.

WILBERFORCE (W.)—A PRACTICAL VIEW OF THE PREVAILING RELIGIOUS SYSTEMS OF PROFESSED CHRISTIANS, in the Higher and Middle Classes in this Country, contrasted with Real Christianity. By William Wilberforce, Esq. M.P. for the County of York. New Editions. 8vo. 8*s.* boards. 12mo. 4*s.* 6*d.* cloth.

WILSON.—THE LANDS OF THE BIBLE VISITED AND DESCRIBED,
In an Extensive Journey undertaken with special reference to the Promotion of Biblical Research and the Advancement of the Cause of Philanthropy. By John Wilson, D.D. F.R.S. Honorary President of the Bombay Branch of the Royal Asiatic Society, etc. 2 vols. 8vo. with Maps and numerous Illustrations, 1*l.* 16*s.* cloth.

WILLOUGHBY (LADY)—SO MUCH OF THE DIARY OF LADY WILLOUGHBY as relates to her Domestic History, and to the Eventful Period of the reign of King Charles the First, the Protectorate, and the Restoration (1635 to 1663). Printed, ornamented, and bound in the style of the period to which *The Diary* refers. New Editions. Parts I. and II. Square foolscap 8vo. 8*s.* each, boards; or 18*s.* each, bound in morocco, *by Hayday*.

WOOD.—A PRACTICAL TREATISE ON RAILROADS,
And Interior Communication in General; containing numerous Experiments on the Powers of the Improved Locomotive Engines, and Tables of the comparative Cost of Conveyance on Canals, Railways, and Turnpike Roads. By Nicholas Wood, Memb. Inst. Civ. Eng. etc. 3d Edition. 8vo. with Plates and Woodcuts, 31*s.* 6*d.* cloth.

WOODCOCK.—SCRIPTURE LANDS:
Being a Visit to the Scenes of the Bible. By the Rev. W. J. Woodcock, St. Agnes, Nassau, New Providence. With 4 coloured Plates. Post 8vo. 10*s.* 6*d.* cloth,

"The author is a true pilgrim in spirit,—treading the lands of the Bible with the reverence due to 'Holy ground.' His style is pleasing,—his descriptions nicely worded,—and his criticism, when he ventures on it, sound and intelligent . . . The volume beams with knowledge of both the word and spirit of Scripture." Britannia.

ZUMPT—A GRAMMAR OF THE LATIN LANGUAGE.
By C. G. Zumpt, Ph. D. Professor in the University, and Member of the Royal Academy of Berlin. Translated from the 9th Edition of the original, and adapted to the use of English Students, by Leonhard Schmitz, Ph. D., Rector of the High School of Edinburgh; with numerous Additions and Corrections by the Author. New Edition. 8vo. 14*s.* cloth.

London: Printed by M. Mason, Ivy Lane, Paternoster Row.

MAUNDER's POPULAR TREASURIES.

Opinions of the Press.

I. On the General Series.

"These works are, indeed, locomotives on the railroad of the mind, to bring with speed and profit the eager traveller to the terminus he must long seek in vain by any other course." ATLAS.

"Works which, though of pygmy stature, comprise each within its limits, the cream of a well-stored library. The type, though small, is exquisitely clear; and the pages are so closely packed, that many a large folio contains less matter than one of these extraordinary volumes."
MORNING ADVERTISER.

"What a terrestrial globe is to a multitude of maps, these four little books are to an ordinary library. They are the accumulation and condensation of knowledge upon almost every subject; and they offer, in a compact and portable form, as much real instruction as is usually scattered through many hundred volumes." SUN.

II. On "The Treasury of Natural History."

"The book is equally adapted for, and ought to have a place on, the library shelf, the drawing-room table, and the *nursery floor*; but there is another place where, of all others, it is loudly called for,—namely, in EVERY *zoological museum*, where there should be a copy for every *case*."
CAMBRIAN.

*** *For the Titles, &c. of* MAUNDER's "Popular Treasuries," *see the beginning of this Book.*

LONDON: [illegible] ROBERTS, GREEN, AND LONGMANS.